



AMEE LYON2022

HYBRID CONFERENCE | 27-31 AUGUST

REDEFINING HEALTH PROFESSIONS EDUCATION TOGETHER

Abstract Book



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Plenary 1A (4820)

Date of presentation: Sunday 28th August

Time of session: 18:40 - 19:30

Location of presentation: Amphitheatre

You Can't Assess What You Haven't Defined: Climbing the Evolutionary Mountain of OBE Transformation

Bill Spady¹

Moderators: Ronald Harden², Jason Frank³

¹ *International Network for Outcome Based Education (IN4OBE), Florida, USA* ² *AMEE, Dundee, UK* ³ *University of Ottawa, Ottawa, Canada*

Although Outcome-Based Education has been around for countless millennia, modern education systems overlook its straightforward meaning and intent: *Basing* education on the clearly defined qualities and abilities societies want all graduates to embody and consistently apply in their careers and lives. Instead, most systems Base their Outcomes on limiting paradigms of human existence, obsolete curriculum structures, and misleading assessment practices, credentialing systems, and accreditation standards – all needing fundamental transformation. Dr. Spady explains the key concepts and breakthroughs in authentic OBE's five decades of paradigm-shifting evolution and invites medical educators to join him in climbing its mountain of personal and professional empowerment.

Bio

Bill Spady has been the visionary leader, creative catalyst, and "Father" of the OBE Movement and its ongoing evolution since the 1970s. A PhD Sociologist from the University of Chicago and former Harvard University faculty member, Bill's approach to OBE is comprehensively spiritual, technical, operational, strategic, systemic, and global – all integrated and reflected in his latest of ten books: Outcome Based Education's Empowering Essence (2020). He has lectured and consulted widely on four continents and the Middle East; founded the International Network for Outcome Based Education (IN4OBE); and has had three doctoral dissertations written about his life and career.



Symposium 2A (1083)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Amphitheatre

New international insights for widening access in medical school admissions.

[Fiona Patterson](#)¹, [Phillip Chan](#)², [Julia Blitz](#)³, [Michelle You](#)⁴, [Saleem Razack](#)⁵, [Jennifer Cleland](#)⁶

¹ *Work Psychology Group, Derby, UK* ² *Kent and Medway Medical School, Kent, UK* ³ *Stellenbosch University, Stellenbosch, South Africa* ⁴ *Peking University, Beijing, China* ⁵ *McGill University, Montreal, Canada* ⁶ *Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore*

Background

Internationally, there is intense scrutiny of how best to address social justice in medical school admissions. Despite various interventions, people from groups under-represented in medicine (relating to factors such as ethnicity and/or low-income backgrounds) continue to experience disadvantage in selection. Reasons for this are multifaceted, and linked with societal issues including: ethnic inequities, parental education, personal aspirations, and educational disadvantage.

Selection policy is influenced by both an individual institution's history and mission, and the geopolitical context in which they operate. Our symposium comprises international speakers presenting learnings from their locality to offer new insights to inform research and practice.

Topic Importance

Research demonstrates that having a diverse workforce benefits patients and healthcare systems, yet there continues to be several under-represented groups entering medical education.

Given the multitude of influencing factors involved, there is no one best approach to tackle the issues. We take a holistic approach to acknowledge the complex structural and contextual issues involved, showing how to reconceptualize selection system design and how local institutional selection policy is influenced by unique geopolitical contexts.

Format and Plans

Patterson (UK) will introduce the session outlining current research evidence (5 minutes). There are four presentations (10 minutes each) showing how widening access is addressed:



- New metrics to equalize educational advantage which contextualizes all individual's academic attainment relative to average attainment for their (high) school (Chan, UK).
- New methods to widening access for majority ethnicities rather than minority ethnic groups (Blitz, South Africa).
- Analyzing the impacts of different admissions methods and channels on the diversity among medical students in China (You, China)
- The role of critical theories which centre the voices of structurally marginalised persons in answering the “why” questions behind continued inequities (Razack, Canada).

Cleland (Singapore) will lead a plenary by summarizing key insights (5 minutes) and framing questions for discussion (35 minutes) to engage participants & share learnings.

Take Home Messages

People from groups under-represented in medicine continue to experience disadvantage at point of selection to medical school.

A holistic approach is required to frame the influencing factors, including levels of analysis regarding selection method design (micro), recruitment system design (meso) and several institutional and geopolitical influencing factors (macro).



Symposium 2B (1084)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Auditorium Lumiere

What makes medical education research good? Challenging current thinking.

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¹ *Copenhagen University Hospital Rigshospitalet, Dept. of Obstetrics, Rigshospitalet, Denmark* ² *Copenhagen Academy for Medical Education and Simulation, Rigshospitalet, Denmark* ³ *Chair of the Department of Educational Development and Research at the Faculty of Health, Medicine and Life Sciences of Maastricht University, Maastricht, The Netherlands* ⁴ *Professor of Medical Education in Community Health Sciences and Co-Director of the Office of Health and Medical Education Scholarship at the Cumming School of Medicine at the University of Calgary, Calgary, Canada*

Background

Medical education and the research that supports it is a field facing rapid change and development. Not surprisingly, the concept of research quality is continuously interrogated and debated. Some have raised concerns over the large number of studies with low methodological rigor, whereas others have criticised the lack of theory in medical education research. Adding to these issues, the representativeness of medical education research on a global scale where a handful of western countries produce majority of all published research is a cause for concern both for generalizability and epistemic injustice.

Topic Importance

Clearly we need to be able to define what high-quality research is, as well as its audiences, and the underlying values it reflects and supports. In that sense, quality is not a unitary concept but reflects the epistemic and axiological perspectives of those who both produce and use research. It is also important that research quality should not be considered fixed or purely ideological.

Format and Plans

The format includes three short presentations by the panelists, in which examples of different challenges and problems relating to research quality will be presented. Participants will then be guided through a socratic discourse with interactive exercises to help them reflect on controversial or particularly challenging issues. Finally, the session will finish with a 10 minute open discussion between the audience and the panellists.

Take Home Messages

Research quality is an elusive but critical concern for everyone in the field.



Not only do we need to improve our research quality and utility, we need to be more sophisticated in appraising and guiding quality in research whatever its paradigm or purpose.



Research Papers - Assessment and Feedback

2C1 (0761)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:20

Location of presentation: Bellecour 1

Distinguishing supportive and collaborative interdependence to better understand individuals' contributions to the healthcare team

Lorelei Lingard¹, Michael Panza², Caroline Rassbach, MD, MAEd³, Tamara Van Hooren⁴, Stefanie S Sebok-Syer, PhD⁵

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Introduction

Collaboration is well-recognized as a central feature of effective patient care, but assessments focus on either the group or the individual, which fails to capture the interdependence between the two.¹ Until we assess interdependence – defined as the ways in which individuals enable or constrain one another's performance in collaborative work – we cannot give trainees feedback on their contributions to the performance of the team. The absence of such feedback limits our ability to support trainees' development as competent collaborators. Recent work conceptualized trainee performances on a spectrum from independence to interdependence,² but a linear, developmental trajectory oversimplifies this phenomenon. A more robust conceptualization of interdependence is necessary if we are going to meaningfully assess and provide feedback to trainees.³

Methods

A constructivist grounded theory approach was used, sensitized by an existing theory of interdependence. We recruited 47 participants for individual interviews from the specialties of Emergency Medicine and Pediatrics in Canada and the United States, purposively sampling interprofessional healthcare team members (i.e., faculty, residents, allied health professionals, and patients/parents) who interact with trainees in clinical settings. Data collection and analysis proceeded iteratively, allowing for theoretical sampling to explore both recurring patterns and discrepant instances that were identified in the data. For instance, our initial sample of parents was extended to explore families'/caregivers' unique perspectives of trainee interdependence.



Results

Participants did not straightforwardly view interdependence as part of a linear spectrum where early interdependence becomes independence with experience. Rather, greater interdependence might come with greater experience: as one nurse explained, residents are “more team players by the time they become more senior because they realize the importance of interdependent work.” Analysis of interdependence examples suggested two types: supportive and collaborative. Supportive interdependence was triggered by a lack of expertise and often described in relation to trainee encounters, such as an attending verbally instructing a trainee to apply more pressure during an intubation. Supportive interdependence was not unique to trainees, however; expert team members also encountered new knowledge or tasks that required supportive interdependence. Collaborative interdependence was triggered by recognition that patient care entails resources outside a single individual’s scope of practice. A staff physician describing their interdependence with a social worker to ensure home supports for discharge reported that “with experience, you come to realize that people actually do specific things better than you ever could”. Similarly, a senior trainee described that, with increasing expertise, they “involve other members of the team earlier...I think I had either more direct questions for them or would almost provide suggestions and want feedback from them”. These examples suggest a nonlinear relationship between supportive and collaborative interdependence where team members find themselves in situations requiring supportive or collaborative interdependence. A sign of collaborative competence was recognizing both situations. As one of our nurse participants stated, the important aspect is “knowing when to work as a team and fill knowledge gaps before practicing independently”.

Discussion And Conclusion

These results challenge a 'linear spectrum' conceptualization of interdependence, because trainees do not necessarily graduate from interdependence to independence as they gain expertise. Instead, trainees and other team members cycle in and out of two kinds of interdependence – supportive and collaborative – depending on the needs of the situation, and collaborative interdependence may increase as expertise increases. This refined conceptualization has implications for measurement. Interdependence instruments need to be robust enough to capture the situational complexity of interdependent performances, characterize the relationship between independent and interdependence as nonlinear, and identify whether interdependence is supportive or collaborative. With such instruments we can advance our ability to assess when trainees are appropriately performing independently or interdependently.

References

- Sebok-Syer, SS., et al. (2018). Considering the interdependence of clinical performance. *MedEd*, 52(9), 970-980.
- Sebok-Syer, SS., et al. (2021). A scoping review of approaches for measuring ‘interdependent’ collaborative performances. *MedEd*. 55(10):1123-1130 .
- Almoghirah, H., Nazar, H., & Illing, J. (2021). Interdependence is one of many factors that influences collaborative health care practice. *MedEd*, 55(10), 1112-1114.



2C2 (0860)

Date of presentation: Monday 29th August

Time of session: 08:20 - 08:40

Location of presentation: Bellecour 1

Using Resident Sensitive Quality Measures derived from electronic health record data to assess residents' performance in pediatric emergency medicine.

Alina Smirnova¹, Saad Chahine², Christina Milani³, Abigail Schuh⁴, Stefanie S Sebok-Syer, PhD⁵, Jordan Swatz⁶, Jeffrey Wilhite⁷, Adina Kalet⁸, Steven J. Durning⁹, Kiki Lombarts¹⁰, Cees van der Vleuten¹¹, Daniel Schumacher¹²

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Introduction

Traditional quality metrics do not adequately represent the clinical work done by residents and thus cannot be used to link residency training to health care quality. Although electronic health records (EHR) have the potential to link care quality to individual residents, the success of this approach depends on the availability of metrics with reliability and validity evidence.¹ This study aimed to determine whether electronic health records (EHRs) can reliably assess residents' clinical performance in the pediatric emergency department (ED) using resident-sensitive quality measures (RSQMs) for two common acute conditions: bronchiolitis and asthma exacerbation.²

Methods

EHR data on asthma and bronchiolitis RSQMs from a quaternary children's hospital between July 1, 2017-June 30, 2019 was analysed by ranking residents based on composite scores calculated using raw, unadjusted and case-mix adjusted latent score models with lower percentiles indicating a lower quality of care and performance. Reliability and associations between the scores produced by the three scoring models were compared. Resident and patient characteristics associated with performance in the highest and lowest tertiles and changes in residents' rank after case-mix adjustments were also identified.



Results

274 residents and 1963 individual encounters of patients with bronchiolitis aged 0-1, and 270 residents and 1752 individual encounters of patients with acute asthma exacerbations aged 2-21 were included in the analysis. The minimum reliability requirement to create a composite score was met for asthma data ($\alpha=0.77$), but not bronchiolitis ($\alpha=0.17$). The asthma composite scores showed high correlations ($r=0.90-0.99$) between raw, latent and adjusted composite scores. After case-mix adjustments, residents' absolute percentile rank shifted on average 10 percentiles. Residents who dropped by 10 or more percentiles were likely to be more junior, have seen fewer patients, cared for less acute and younger patients, or had patients with a longer ED stay.

Discussion And Conclusion

This retrospective cohort study provides validity evidence towards scoring, generalizability and extrapolation for RSQMs in asthma, but not bronchiolitis, management for measures that can be easily derived from the EHR. EHR data can also provide direct information for program directors on the levels of exposure of individual residents to various clinical scenarios. While consistently high performance on bronchiolitis RSQMs does not allow for creation of composite scores or performance ranking, such measures can identify outliers. On the other hand, asthma RSQM composite scores showed more variability in resident performance, and therefore, may be more useful for differentiating performance between residents. Our findings suggest that, in the context of a CBME program of assessment, meaningful RSQMs should include both criterion-based as well as valid and reliable performance differentiating measures to capture a wider range of resident performance in practice. In conclusion, it is possible to use EHR data, adjusted for patient complexity, to meaningfully assess residents' clinical performance and identify opportunities for quality improvement.

References

1. Smirnova A, Sebok-Syer SS, Chahine S, et al. Defining and Adopting Clinical Performance Measures in Graduate Medical Education: Where Are We Now and Where Are We Going? *Acad Med.* 2019;94(5):671-677.
2. Schumacher DJ, Holmboe ES, van der Vleuten C, Busari JO, Carraccio C. Developing Resident-Sensitive Quality Measures: A Model From Pediatric Emergency Medicine. *Acad Med.* 2018;93(7):1071-1078.



2C3 (0802)

Date of presentation: Monday 29th August

Time of session: 08:40 - 09:00

Location of presentation: Bellecour 1

A qualitative evaluation of a program of assessment: supporting holistic assessment and confidence in defensibility of assessment decisions

Janeane Dart¹, Cliona Twohig¹, Amanda Anderson¹, Lisa Barker¹, Jorja Collins¹, Simone Gibson¹, Sue Kleve¹, Evelyn Volders¹, Claire Palermo¹

¹ *Faculty of Medicine, Nursing & Health Sciences, Monash University, Melbourne, Victoria, Australia*

Introduction

Preparing the health workforce for safe and effective practice presents challenges for those involved in assessment decisions¹ – assessors and students alike. Programmatic assessment, in the context of competency based assessment relates to a connection of interdependent elements of learning and assessment that are used holistically to inform competency based assessment decisions.² The focus is on assessment for learning, rather than of learning³ and is especially relevant for programs with assessment occurring across academic and work integrated learning settings. There is a scarcity of literature describing implementation and evaluation of programs of assessment and stakeholder experiences.⁴

Methods

This research is situated within an interpretivist paradigm and uses a qualitative evaluation methodology. In-depth, semi-structured interviews were conducted with graduates (n=8), and placement educators (n=12) and two focus groups conducted with academic assessors (n=9) from one postgraduate health professional program at an Australian university. Sampling was guided using maximum variation. Data were analysed using a framework analysis approach.⁵

Results

We identified 5 key themes indicating that programmatic assessment: 1. increased confidence in defensibility of assessment decisions; 2. reduced emotional burden of assessment; 3. increased the value of assessment; 4. identified and remediated at-risk students earlier; and 5. philosophical and practice shifts in approaches to assessment were embraced.

Discussion And Conclusion

Programmatic assessment supports a holistic approach to competency development and benefits all stakeholder groups involved in assessment including enhancing the learning experience. Reduced emotional burden and corresponding increases in confidence in decision making around assessments



had positive outcomes for assessors and earlier intervention and remediation supported students' success. A shared mental model of competency and responsive teaching practices required engagement and philosophical and practice shifts for assessors.

Evaluation of a programmatic assessment approach across a postgraduate health professional program indicates mutual benefits and more holistic approaches for learners and assessors, and supports students' success when a programmatic philosophy is embraced.

References

1. Norcini J, Anderson B, Bollela V, et al. Criteria for good assessment: consensus statement and recommendations from the Ottawa 2010 Conference. *Med Teach*. 2011;33:206-214.
 2. Palermo C, Gibson SJ, Dart J, Whelan K, Hay M. Programmatic assessment of competence in dietetics: a new frontier. *J Acad Nutr Diet*. 2017;117:175-179.
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2D (1616)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Bellecour 2

Lessons learnt from BEME reviews during COVID Pandemic: Evolution or Revolution?

Madalena Patricio¹, Morris Gordon^{2,3}, Michelle Daniel⁴

¹ *University of Lisbon, School of Medicine, Lisbon, Portugal* ² *Blackpool Victoria Hospital, Blackpool, UK* ³ *School of Medicine, University of Central Lancashire, Preston, UK* ⁴ *School of Medicine, University of California San Diego, San Diego, USA*

The pandemic has produced a seismic shift in medical education not witnessed on this global scale in living memory. From medical students working as early graduates to virtual clinical skill assessments, no area of the field remains unaffected.

The clinical teaching and educational research community responded in a similarly unprecedented manner with an exponential explosion in published works to report on these changes. Within this BEME collaborative symposium, the faculty will present the iterative series of highly cited BEME reviews produced over the last 2 years to synthesise this evidence base. They will seek to consider how much of what has been done over this period to change the health educational landscape in ways that could not have been foreseen and may lead to permanent changes moving forward.

Professor Patricio, chair of the BEME board, will discuss the earliest COVID response educational reports produced, the nature of these exploratory and timely studies, the main tips to undertake a rapid review and the advantages of the rapid review strategy deployed in 2020 to produce this review.

Professor Gordon, chair of the BEME executive, will present the result of a scoping review from early 2021 that synthesised the rapidly expanding body of works, the strategic direction of these works and therefore areas for future works.

Professor Daniel, chair of the BEME editorial committee, will present the results of a series of reviews focussing on the shifts in clinical teaching to remote means in a number of settings and contexts as this particular body of research matured in the later stages of 2021. The speakers will explore their own interpretations of how this body of research has developed and consider where there has been evolution and where we have seen real revolution for the new normal in medical education.

The content will be of interest to all participants and the context of reviews will also provide some insights into different methodological traditions.

The last portion of the session will be saved for an interactive and hopefully challenging open discussion with the session concluding with a summary of key take-home messages.



PechaKucha 1

2E1 (1249)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:10

Location of presentation: Bellecour 3

I'm safe, you're safe, everybody's safe: Achieving psychological safety in the learning environment

[Sara Krzyzaniak](#)¹

¹ *Stanford University School of Medicine, Palo Alto, USA*

Psychological safety (PS) refers to the perception that there are no negative consequences to self, status, or career for taking interpersonal risks, such as reporting mistakes or problems. Specifically in medicine, PS creates a non-threatening team environment in which clinicians can ask questions and seek help with unfamiliar clinical scenarios. When psychological safety is present, the team dynamic encourages interpersonal risk-taking, improves learning, and increases the likelihood that team members will suggest new ideas. PS has been shown to be highly related to increased team engagement, increased rates of medical error reporting, personal work engagement, and quality system improvement. A culture of openness where people feel accepted and respected plays a vital role in helping people thrive in challenging and high-stakes work environments. Furthermore, providers are more willing to admit/discuss errors when they don't fear punishment.

This presentation will review 5 practical strategies to help clinicians achieve psychological safety on their clinical teams:

- Discuss Mistakes
 1. Normalize that physicians are humans and make errors
 2. Foster learning around mistakes
 3. Non-judgemental
 4. Leaders: Model fallibility "I may miss something, please share your thoughts"
- Provide frequent updates and seek feedback
 - Transparency
 - Consistency
- Foster creativity, seek new ideas
 1. Promote curiosity (motivation to learn and seek new ideas)
 2. Attempt to see things from another person's perspective
- Build connection and trust
 1. Belief that others will act for the good of the team
 2. Clear expectations → allows people to focus on learning
 3. Inclusive



4. Model good behaviors
 5. Create connections: shared experiences, share stories & coping strategies, debriefing
 6. Impact of our work on patients, society
- Make team members feel valued
 1. Recognition of effort
 2. Appreciate individual strengths of each team member
-



2E2 (1574)

Date of presentation: Monday 29th August

Time of session: 08:10 - 08:20

Location of presentation: Bellecour 3

Medical Ethics at St. Luke's Medical Center College of Medicine, Philippines: Then and Now

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This paper accounts for the historical evolution of the medical ethics curriculum at St. Luke's Medical Center College of Medicine-William H. Quasha Memorial in the Philippines, from its foundation in 1994 through the present. The inaugural medical ethics course offered in 1994 aimed to sensitize students to ethical problems in clinical practice. It encouraged a sense of mature reasoning and critical thinking on specific clinical and interprofessional ethical issues expected to be encountered by students. However, several challenges borne out by a range of limitations included insufficient teaching time allocation and few faculty experts available. As a result, ethics-related topics were, at best, incorporated across clinical subjects, with content and instruction being dependent on the faculty in charge. There was not yet a standard curriculum at that time, resulting in diverse, non-uniform content, teaching-learning experience, and assessment methods. Through the years, with the consensus and support of medical professionals from various clinical specialties, the medical ethics course progressively advanced but required meticulous pedagogical attention. Previously called the Section of Medical Ethics, the unit was expanded to become the Department of Professionalism, Medical Ethics and Humanities in 2019, now providing a wider scope of ethical concepts and applications, including courses in medical professionalism and service-learning. Medical ethics continued as its flagship course and was offered as an elective to clinical clerks and interns. With the current curriculum, expected outcomes are augmented to offer students opportunities to further their foundational ethical knowledge and its potential in health care. The course aims to support the growth of students' ethical sensitivity alongside cogent moral reasoning. Simultaneously, the value of medical humanities in supporting ethics and development is being explored. Together with meticulous content curation, improvements on pedagogy were implemented to encourage student participation (e.g. Socratic discussions, online discussion forums, case studies, formal essays and Pecha Kucha). Profound favorable outcomes within the institution's medical ethics program have been significantly observed after the implementation of a well-designed, fit-for-purpose, 21st-century curriculum. We conclude by suggesting a thorough evaluation of the medical ethics program as a whole and a sum of its component courses.



2E3 (2388)

Date of presentation: Monday 29th August

Time of session: 08:20 - 08:30

Location of presentation: Bellecour 3

Is there an association between the bedside performance of students and their success in the French computerized National Ranking Tests ?

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Introduction

Before attending residency, 6th-year French medical students must validate a final examination that must include a practical clinical test. However, the national ranking that determines their future specialty and region solely relies on a computerized test, assessing their knowledge with multiples choice questions. The question arises to what extent the national ranking of students predict their clinical performance.

Materials and methods

In our faculty, the final examination includes a computerized theoretical test (similar to the national ranking test) and a practical test: a standardized evaluation of semiology skills at the bedside; and a standardized assessment of relational and communication skills with role plays based on clinical vignettes. The agreements between the three tests (faculty computerized test, faculty practical test, and computerized national test) were analyzed by intraclass correlation coefficients (ICC).

Results

Data from 1069 students who took the three examinations from 2017 to 2019 were analyzed. There was a good agreement between the ranks in the faculty and national computerized tests: ICC 0.84 (95% CI 0.82-0.86). By contrast, the agreement between the ranks in the faculty practical test and the national computerized test was poor: ICC 0.12 (95% CI 0.06-0.17). Results were stable over the years. The ranks in the national test according to the ranks in the faculty computerized and practical tests are shown in the **figure**.

Conclusion

The outcome of the current national test is unrelated with clinical skills as assessed by our faculty test. This could relate to a true independence between the acquisition of practical skills and theoretical knowledge, or to different levels of motivation to perform well. Indeed, the result of the national test is the most important one as it determines their professional future. Incorporating a



clinical assessment into the national ranking test will motivate students to acquire clinical skills and value students who are as able in this practical dimension as in theoretical learning.

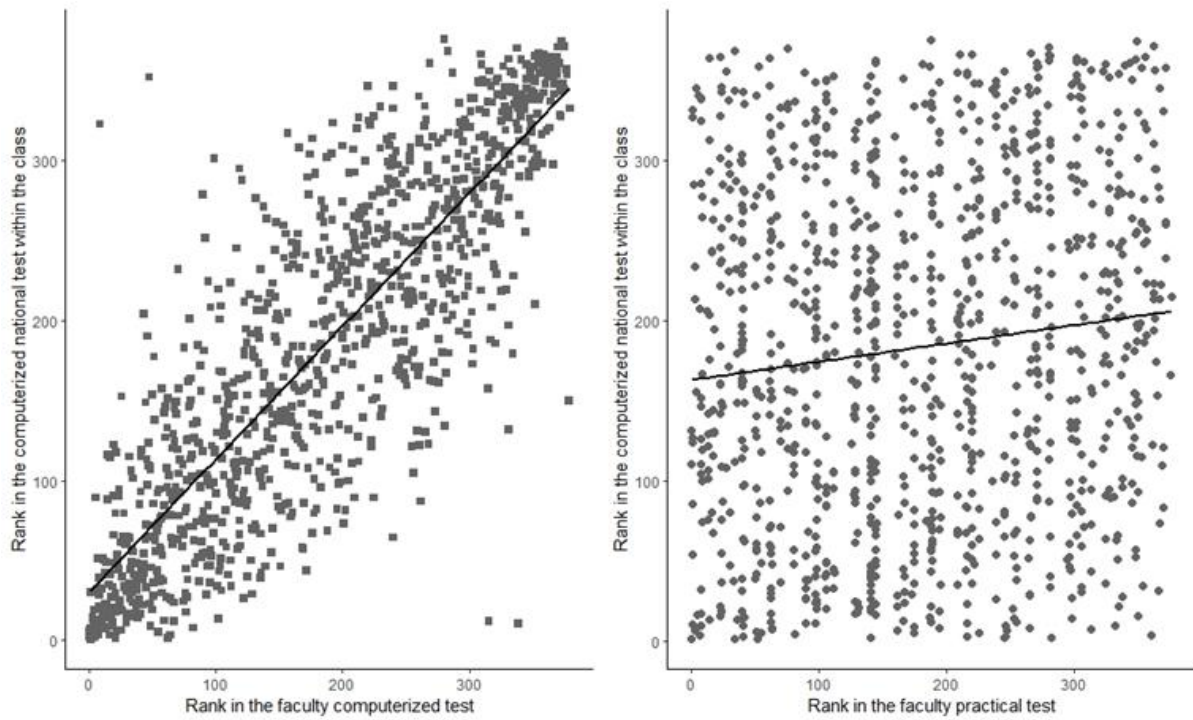


Figure : rank in the computerized national test within the class according to the rank in the faculty computerized and practical test.



2E4 (2849)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:40

Location of presentation: Bellecour 3

Empowering medical students with peer-to-peer learning: case studies in medical AI education

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We've seen an explosion of AI in medicine curriculum development across continents, driven by medical students organically. Why have we seen this explosion? We think it results from myriad factors: pre-existing expertise from students, growing climate of concern for technology misuse, and desire for medical education to evolve with changing pedagogy and technology. Today's 'non-traditional' medical students have diverse backgrounds, and many enter medical school with prior expertise. We've seen how medical students can be a source of expertise for their colleagues, especially in areas like technology where changes outpace traditional curricula.

We share 3 case studies from New York City, Atlanta, and Lyon of AI in medicine curriculum. In New York City (USA), Mount Sinai students organized a bi-annual speaker series inviting experts from academia and industry to present on topics in AI in medicine, aiming to enable non-technical medical students to build frameworks for evaluating medical AI in research literature and clinical practice. In Atlanta (USA), Med AI at Emory hosts annual "Introduction to ML" workshops to allow first-year students to get their hands dirty with model training. A 1-month project-based elective is also offered to fourth-year students with a deeper interest in AI/ML. Finally, in Lyon (France), we have surveyed physicians about their desires for future MOOCs to meet their continuing medical education needs and collaborated with clinicians with experience implementing AI to share their expertise.

Overall, we've learned a few things across our endeavors; there's tremendous demand for this content among medical students, and we have a lot to learn about evaluating medical-adjacent skills not traditionally incorporated in medical education, and to not let perfect get in the way of progress.

We still see many opportunities for improvement, particularly in growing a larger network/ecosystem for shared learning, in professional sponsorship, and especially to acknowledge medical student expertise in this area and to involve medical students in co-creation. Medical students have traditionally been seen as recipients of knowledge rather than also a source, but our endeavors in developing AI in medicine curriculum illustrate ways in which medical students have specialized knowledge to contribute.



2E5 (3201)

Date of presentation: Monday 29th August

Time of session: 08:40 - 08:50

Location of presentation: Bellecour 3

Implementing a Systems Approach to Establish an I-DARE Curriculum

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The Mayo Clinic College of Medicine and Science (MCCMS) is comprised of five schools that encompass the continuum of medical and health professions education. To promote a unified and agile process^{1,2}, a systems approach to curriculum was established for Inclusion, Diversity, Anti-Racism, and Equity (I-DARE) topics. The primary outcome is to prepare MCCMS learners to think, act, and feel like an I-DARE practitioner upon completion of their program.

Early outcomes: The utilization of a systems approach promoted the examination of current curriculum across all five schools³, completion of an external environmental audit, and established a unified process to curate and create additional I-DARE curriculum housed within a curriculum repository. An I-DARE steering committee was formed to establish a community of subject matter experts, to share and explore best practices, and to establish strategic direction for MCCMS⁴. With the advancement of new curriculum and a systems approach, support for faculty became a priority⁵ and led to the creation of an I-DARE curriculum foundations faculty development series.

Next steps: As we continue to solidify a systems approach to I-DARE curriculum, exploration of technology to optimize curriculum mapping and content management will be needed to establish dashboards and tracking of progress. In addition, standardization of education methods, tools, and resources to support our faculty and learners on their I-DARE journey will be essential to promote and maintain a brave learning environment and culture⁶.

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2E6 (3454)

Date of presentation: Monday 29th August

Time of session: 08:50 - 09:00

Location of presentation: Bellecour 3

The hospital as complex system: Factors inhabiting engagement in interprofessional feedback dialogues

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Background: Stimulating medical residents to engage in interprofessional feedback dialogues with other healthcare professionals (HPs) has several advantages: it provides different perspectives on residents' performance than the feedback from their medical supervisors and it can improve cooperation in the workplace. This benefits both the development of the resident and the quality of patient care (van Schaik et al., 2016; Vesel et al., 2016). However, interprofessional feedback is affected by the context and not self-evident. The hospital offers a complex context existing of different systems: 1) the settings in which residents and HPs work together one on one, 2) formal systems such as the training curriculum and HR policy, and 3) norms, values and culture (Ajjawi et al., 2017). This study explores which factors from the context affect residents' and HPs' engagement in interprofessional feedback dialogues.

Methods: To gain insight into these factors, residents and HPs (N=18) were interviewed at a regional hospital in the Netherlands. These interviews were transcribed and coded using a thematic analysis.

Results: Findings show there is little collaboration in the outpatient clinics. Settings that do allow for interprofessional feedback are the OR and the wards. Currently, however, respondents report little feedback exchange. This is, among others, due to factors in the formal systems. Firstly, the residents' portfolio only recognizes 360-degree feedback, but does not offer opportunity to record other feedback of HPs. Consequently, residents give less priority to this feedback and HPs do not feel invited to provide feedback. Secondly, the job description of HPs does not include responsibilities regarding the development of other professions. Therefore, the feedback they currently provide to residents only concerns aspects necessary for efficient work processes at the ward, enhancing efficiency or patient care. Factors related to the informal systems were also mentioned, such as the primacy of patient care over learning, perceptions of hierarchy between professions and the absence of an overall feedback culture.

Conclusion: Several factors inhabit engagement in interprofessional feedback dialogues. This study shows the complexity to stimulate these dialogues. At the same time, many respondents indicated that they certainly saw the added value of interprofessional feedback.



2E7 (2289)

Date of presentation: Monday 29th August

Time of session: 09:00 - 09:10

Location of presentation: Bellecour 3

Freecn.io, a free online training platform developed by medical students for medical students

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Nowadays in France, a medical student will train for three years, from his 4th to his 6th year, the National Ranking Examination (ECN).

This competition is very important: it will determine their medical specialty and his future city of training.

However, to train for the ECNi, they have only two options: to pay for a private preparatory course or to train on SIDES, a university platform that is free of charge but with uneven content (some outdated, sometimes a lack of correction details). Many students prefer to take out a loan to have the choice of their specialty.

This is why, in August 2020, we created freecn.io, the first free ECNi training platform in France.

We have developed an artificial intelligence algorithm that allows us to semi-automatically generate updated and corrected MCQs (or IQs) based on the current recommendations and official medical references. In addition, our content is reviewed and corrected by our pedagogical team composed of senior physicians (university hospital based or not) and residents.

Our solution integrates many features that meet the needs of students: 4000 IQs, 363 course sheets, 150 mnemonics, support via the "Petit Tutorat" ("The Little Tutoring"), a medical student community, etc.

Our solution is unique because we offer free, corrected, qualitative and up-to-date content. Through our action, we promote equal opportunities for all and address a problem not solved by the French state.

We thus respond to a triple challenge: educational, social, and economic.

Currently, we have +10,000 students registered, with a rating of 4.5/5 on +40 App Store & Google Play reviews.



In the coming months, we plan to deploy new features and accelerate our development, first in France and then in French-speaking countries in Europe, North Africa and West Africa.

Freecn can count on a team of 30 committed and involved volunteers in France and on many supporters including companies, associations, institutions, influencers such as Synapse, the City of Toulouse, etc.

We will present the detailed functioning of our solution!



2E8 (3339)

Date of presentation: Monday 29th August

Time of session: 09:10 - 09:20

Location of presentation: Bellecour 3

Building Pandemic Resilience Silicon Valley style. Interdisciplinary approach focusing on innovation.

Milana Boukhman¹

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Here is an opportunity to get a five-minute version of a quarter-long, interdisciplinary Stanford course on BioSecurity and Pandemic Resilience. This course has been taught at Stanford for the past twelve years and has been attracting hundreds of students even before pandemics were “cool”. The course explores topics such as what happens if a COVID-19 variant emerges against which the current vaccines are powerless? Or if we get an outbreak of a novel infectious organism for which we don’t yet have vaccines? How do we live in a crowded and globalized world that is increasingly vulnerable to pandemics? How do we live with a rise in synthetic biology that has democratized people’s ability to make organisms which are more infectious and deadly? And how do we put together the flood of information and figure out solutions? Are we doomed to more lockdowns, school closures, and travel restrictions until vaccines become available? There is another way, and it has to do with engineering (of course – the class is taught in Silicon Valley, after all!). Making our environments safer through engineering controls which interrupt transmission of infectious organisms can be an alternative to traditional public health control measures such as lockdowns. BioSecurity now is like cybersecurity was in the 1980s - nascent. However, this may be the future of our world as we fight with infectious organisms for survival. What’s exciting about the engineering approach is that they can also help with protection against bioterrorism and bioweapons. In this medicine meets Silicon Valley meets policy and defense talk, gain insights on the systems and engineering approaches to building biothreat resilience, and how we can find our way out of the broader biothreat doom and gloom.

Here is a link to the Stanford

course: [https://explorecourses.stanford.edu/search?view=catalog&filter-coursestatus-](https://explorecourses.stanford.edu/search?view=catalog&filter-coursestatus-Active=on&page=0&catalog=&q=BIOE+122%3A+BioSecurity+and+Pandemic+Resilience&collapse=)

[Active=on&page=0&catalog=&q=BIOE+122%3A+BioSecurity+and+Pandemic+Resilience&collapse=](https://explorecourses.stanford.edu/search?view=catalog&filter-coursestatus-Active=on&page=0&catalog=&q=BIOE+122%3A+BioSecurity+and+Pandemic+Resilience&collapse=)

And here are the links to a couple of instructor’s essays on the topic, if you wanted a more in-depth summary: one pre-pandemic and one intra-pandemic. <https://www.hoover.org/research/covid-19-and-future-pandemics>

<https://www.hoover.org/research/potential-pandemics>



Short Communications - Empathy

2F1 (3934)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:15

Location of presentation: Gratte Ciel 1

The Covid-19 pandemic impact on medical students' professional identity development

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Background

Since 2019, COVID-19 has struck the world with successive waves of cases that burden the healthcare system and its professionals. Medical educators and students struggle to adapt the learning and professional activities to this new reality. Often, these strategies ask medical students for different levels of personal and professional sacrifices. This study explores how these sacrifices impact medical students' professional identity formation.

Summary Of Work

This is a qualitative study carried out during the first wave of the COVID-19 pandemic in Brazil. The authors applied constructivist grounded theory to audio diaries (total time=5h38 min) and interviews (total time=11h57min) performed with 18 last-year medical students.

Summary Of Results

The perspective of making sacrifices to join the pandemic effort caused initial emotional distress in medical students, followed by a negotiation process revolving around three themes -predisposition to sacrifice, sense of competence, and sense of belonging. This negotiation process led to three different response patterns (A, B, C), involving attitudinal, emotional, and behavioral aspects. Pattern A: "No sense of duty" - students found it meaningless to engage in the COVID-19 effort and showed intense anger and a desire to flee. Pattern B: "Sense of duty with hesitation to act" – students acknowledged the relevance of helping in the pandemic but felt unprepared to contribute and struggled to transform this willingness into concrete actions. These students perceived this hesitation as a failure and felt frustrated, anxious, and ashamed. Pattern C: "Sense of duty with readiness to act" - students found meaning in making the sacrifices and spontaneously engaged in the COVID-19 effort, feeling proud and fulfilled.



Discussion And Conclusion

Students ready to engage with the COVID-19 effort experienced identity consonance, reinforcing their professional identities. Students who felt incompetent or found the sacrifice meaningless experienced identity dissonance, which led to negative emotions and a desire to flee. Monitoring students' diverse emotional reactions facing professional challenges create opportunities to reflect on and scaffold professional identity development.

Take Home Messages

The perspective of sacrifice can impact medical students' professional identity formation and need different educational approaches.



2F2 (2716)

Date of presentation: Monday 29th August

Time of session: 08:15 - 08:30

Location of presentation: Gratte Ciel 1

Clinical empathy - a sliding scale rather than a recipe?

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Background

Clinical empathy is regarded as an essential requirement in the doctor-patient consultation, however, it is a multifaceted concept that is neither easy to define nor practice. The definition of clinical empathy has evolved from a predominantly cognitive, to a more holistic understanding, including attitudes and behaviour. Undergraduate medical curricula include empathy in consultations skills training. In postgraduate (specialist training) curricula, it is less clear how much attention is given to this topic, or how such trainees view the place and practice of empathy in patient care.

Summary Of Work

We set out to explore how postgraduate surgery trainees understood clinical empathy and also how they practiced it. We followed an interpretive, multi case study design to generate qualitative data from in-depth, semi-structured interviews. Senior surgery registrars from two academic institutions were approached using convenience sampling. The interviews were recorded and transcribed verbatim, and the data thematically analysed.

Summary Of Results

Nine interviews provided four main cross case themes that categorised the understanding and actions of the surgery trainees with regards to their practice of clinical empathy: History/background of the registrar, Understanding of empathy, Modifying factors and Enactment of empathy.

Discussion And Conclusion

Registrars defined clinical empathy as putting yourself in someone else's shoes. In describing their practice of empathy, examples extended beyond what is typically defined as empathy-related processes and actions, to displaying respect, building rapport, and sharing information with their patients. The latter are more commonly viewed as important patient-centred communication skills, rather than empathic skills. This highlights the complex nature of clinical empathy and how it is placed within other interactions between the doctor and the patient. It would seem that the practice of clinical empathy comprises skills and dispositions that extend from basic communication skills to



advanced empathic responses. A clinician's practice of empathy will also be influenced by several factors.

Take Home Messages

We suggest that the practice of empathy is a continuum of processes and actions, not a single way of engaging with a patient. Educators should be careful not to teach empathy as a recipe, but rather see it as nuanced and contextual, a sliding scale that needs to be adjusted per patient and situation.



2F3 (2902)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:45

Location of presentation: Gratte Ciel 1

How does our Learning Environment measure up? - residents' perspective

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Background

Learning environment (LE) assessment is an accreditation standard for academic institutions in North America.

Professional identity formation (PIF) is a life long process and largely depends on role modeling with clinical interactions.

Summary Of Work

The Learning Environment for Professionalism (LEP) survey consists of 11 balanced questions (5 positive, 6 less desirable), rated with 4 point Likert scale.

Trainees can evaluate fellow trainees and teaching faculty in an anonymous manner, not focused on individual.

LEP results have been validated at University of Arkansas.

Aim of this project was to further expand to diverse programs for more broadly defined data base and to examine longitudinal evolution of LE.

Summary Of Results

The sample consisted of 3783 survey responses over 7 years from clinical programs affiliated with University of Ottawa, Canada.

Learning environments were assessed longitudinally using univariate linear regression.

To control for increase in error that occurs with multiple comparisons a p-value ≤ 0.004 (i.e. $p \leq 0.05/11$) was considered statistically significant (Norman and Streiner, 2000).

The data were analyzed using R version 4.0.3.



There were several statistically significant but small changes in ranking over time across items.

Frequency of negative professional behaviour observed for residents and attending physicians significantly decreased (-0.02 to -0.05 per year) $p < 0.001$ overall on 4/6 negative items.

For 3/7 programs one negative item relating to treating patients unfairly because of their financial status, ethnic background, sexual or religious preferences worsened although did not reach statistical significance (range $p = 0.005-0.18$).

While overall ratings on all 5 positive items were highly satisfactory, no significant improvement was observed for residents and attending physicians.

Discussion And Conclusion

Results showed that applying the LEP longitudinally across a diverse set of training programs is feasible and could provide useful information to program directors and curriculum planners to identify patterns of professionalism that may need attention.

At our institution efforts across the faculty are in place currently to address awareness around EDI (Equity, Diversity and Inclusion).

Take Home Messages

The LEP being anonymous and balanced tool can be used by programs to celebrate successes and address areas for further efforts to provide a safe and rich environment for PIF and to optimize learning.



2F4 (2653)

Date of presentation: Monday 29th August

Time of session: 08:45 - 09:00

Location of presentation: Gratte Ciel 1

Evolution of empathy and altruism in French medical students during their medical studies: a longitudinal evaluation between 2017 and 2022

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Background

Empathy and altruism are major soft skills in medical art. Several studies indicate that the level of empathy declines throughout the medical education course. However, no research has ever been carried out on French military medical students. That is why a prospective study was performed between 2017 and 2022 in order to evaluate levels of empathy and altruism among a whole promotion during the six first years of their medical education course.

Summary Of Work

Levels of empathy and altruism were determined using validated scales (JPES, and GFAS respectively). Students had to fill the questionnaires on their smartphones during the second semester of each academic year, i.e., between January and April. The promotion initially consisted of 144 cadets (62 males and 82 females), but only forty-nine cadets (19 males and 30 females) fully participated to the study. Results were analysed by a repeated measure ANOVA and post-hoc tests.

Summary Of Results

Levels of empathy were greater in female than in male students (111.5 ± 1.5 vs. 104.9 ± 2.0 , $p = 0.01$), especially for the 'compassionate care' component (46.3 ± 0.8 vs. 43.0 ± 1.0 , $p = 0.012$). Levels of empathy declined progressively between 2017 and 2022 ($p = 0.0003$), especially for the 'perspective taking' component ($p = 5.5 \cdot 10^{-9}$). A significant gender x year interaction was observed ($p = 0.02$), especially for the 'perspective taking' component ($p = 0.001$), indicating that the decrease was more important in male than in female students, with minimal values being observed in 2021 and 2022. A similar pattern of results was observed for altruism levels, but without any significant gender x year interaction.

Discussion And Conclusion

We found out that a decrease of empathy and altruism occurred amongst military medical students during their medical studies and before internship in accordance with previous published data.



Additionally, we showed that the decrease of empathy was more important among male students, particularly in 2021 and 2022. This last result indicates that vulnerability to pandemic may be gender-dependant.

Take Home Messages

These results encourage to conduct further evaluations among medical students on a larger scale. The use of questionnaires filled via smartphones seems to be a simple and valuable method.



2F5 (3694)

Date of presentation: Monday 29th August

Time of session: 09:00 - 09:15

Location of presentation: Gratte Ciel 1

Experiential factors affecting the empathy of pre-clinical healthcare students across 21 international universities

Lisl Tudor¹, Adedeji Adeniyi², Joseph Vigoda³, Cecilia Brassett¹, Sean McWatt⁴, Mandeep Gill Sagoo⁵, Richard Wingate⁵, Chung-Liang Chien⁶, Hannes Traxle⁷, Jens Waschke⁸, Franziska Vielmuth⁸, Anna Sigmund⁸, Takeshi Sakurai⁹, Yukari Yamada⁹, Mina Zeroual⁴, Jorgen Olsen¹⁰, Salma El-Batti¹¹, Suvi Viranta-Kovanen¹², Kevin Keay¹³, Shuji Kitahara¹⁴, Neus Martinez-Abadias¹⁵, Maria Esther Esteban-Torne¹⁵, Jill Helms¹⁶, Chiarella Sforza¹⁷, Nicoletta Gagliano¹⁷, Madeleine Norris¹⁸, Derek Harmon¹⁸, Masato Yasui¹⁹, Midori Ichiko¹⁹, Sammi Lee²⁰, Shaina Reid²¹, Ariella Lang²², Carol Kunzel³, Michael Joseph²¹, Leo Buhler²³, Mark Hardy²⁴, Snehal Patel²⁵, Paulette Bernd², Heike Kielstein²⁶, William Stewart²⁷, Anne Kellett²⁷, Geoffroy Noel²⁸, Anette Wu²

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Background



Cadaveric dissection, a feature of many pre-clinical curricula, often requires students to navigate between clinical detachment and empathy. However, little is known about how this transformative experience, or the teaching practices surrounding it, might impact students' empathy levels.

Summary Of Work

Our study aimed to identify any significant relationships between empathy, demography, and anatomical education delivery to pre-clinical medical and dental students from around the world. Using a questionnaire validated for this study, demographic data as well as the total hours of hands-on cadaveric dissection experience (and/or prosection interactions), and curricular opportunities for reflection and empathy were gathered from 530 students from 21 international universities who took part in the International Collaboration and Exchange Program (ICEP) in 2021. The questionnaire also quantified their empathy levels using both the Santa Clara Brief Compassion (SCBC) and Toronto Empathy Questionnaire (TEQ) scales.

Summary Of Results

There were statistically significant differences in empathy on both scales between Asia and any other region studied ($p < 0.05$); between those under 20, and 20-25 year olds ($p < 0.01$); and between males and females ($p < 0.001$). The only education factor associated with a significant difference in empathy was hands-on cadaveric dissection ($p < 0.01$); both scales showed empathy varied between those with 40-90 hours dissection experience and those with none ($p < 0.05$); while TEQ also demonstrated an empathy difference between 20-40 hours of experience and none ($p < 0.05$).

Discussion And Conclusion

Our data supports the use of cadaveric dissection to increase pre-clinical healthcare students' empathy, and highlights >40 hours experience as the most impactful duration. Opportunities surrounding dissection, such as memorial services and reflection seemingly impact empathy no further, suggesting hands-on cadaveric dissection experience is a key, standalone factor in empathy development. Prosection use had no significant impact on empathy, which suggests it could be the act of dissecting or the completeness of a body that increases empathy through cadaveric dissection. Interestingly, regional empathy variation does not correlate with regional differences in dissection provision, implying factors not studied here, potentially cultural, could interact with dissection in affecting empathy levels.

Take Home Messages

The learning opportunities afforded by hands-on cadaveric dissection extend outwith formal anatomy, contributing to significantly increased empathy levels in pre-clinical healthcare students.



2F6 (2454)

Date of presentation: Monday 29th August

Time of session: 09:15 - 09:30

Location of presentation: Gratte Ciel 1

Empathy profile of medical students in Singapore during the transition from pre-clinical to clinical years: a cohort study

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Background

Equipping students with empathy during their undergraduate years is crucial in developing empathetic physicians which has an impact on clinical outcomes. Empathy has been observed to often decrease when medical undergraduates move to the clinical years, particularly in Western countries. However, empathy either remain similar or increases in many Asian medical schools. This study investigated the longitudinal empathy profile of medical students in Singapore.

Summary Of Work

Two cohorts of medical students who enrolled in 2013 and 2014 to the National University of Singapore were tracked for 5 years. The Jefferson Scale of Empathy - Student Version was used. Analyses on the mean of the empathy level and individual factors, year-wise and gender comparison were conducted.

Summary Of Results

Average response rates for Cohort 1 and 2 were 68.1% (n=181 - 263) and 55.4% (n= 81 - 265) respectively. For both cohorts, there was no significant change across year of study in the mean empathy score. Average scores were 113.94 and 115.66 and ranged from 112.74 to 118.42 for both cohorts. Though not significant, we observed mean empathy to be lowest at the end of Year 5 (112.74) and highest in Year 2 (114.72) for Cohort 1 while for Cohort 2, the lowest level of empathy was observed in Year 5 (114.20) and highest in Year 4 (118.42). Analysis of subcomponents of empathy only showed a significant difference for Cohort one Factor 1 (Perspective Taking) and Factor 3 (Standing in Patients' Shoes) across the study years.

Discussion And Conclusion

Possible explanations for the findings include the socio-cultural factors in Singapore such as the inherent cultural values and deep-rooted heritage. This might have led to the confluence of Asian



and Western cultures which resulted in mean empathy scores that hover between most medical schools in the West and East.

Educational interventions such as the Longitudinal Patient Experience programme in Year 1, clerkships in certain specialties in Year 4 (e.g. geriatrics, rehabilitation) might have also enhanced students' empathy.

Take Home Messages

Schools can consider planning appropriate and timely interventions aligned with the cultural values, as culture can shape an individual's empathy level.



Short Communications - Curriculum Content 1: Clinical Reasoning

2G1 (1532)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:15

Location of presentation: Gratte Ciel 2

Developing a virtual patient collection to train clinical reasoning

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Background

Virtual patients (VPs) are suitable for medical students to train their clinical reasoning abilities. However, VP collections often neither adequately represent the diversity of a patient collection nor the frequency of key symptoms and diagnoses.

To create such a multilingual collection and publicly share it among European medical schools, we successfully initiated an Erasmus+ Strategic Partnership funded by the EU with a consortium of six partners from France, Germany, Poland, Portugal, and Spain.

Summary Of Work

At the beginning of the project in spring 2021 we set up a process to develop a blueprint with a description of the 200 VPs we plan to create. We followed a four-step Delphi-like approach including (1) Literature-based definition of blueprint criteria, (2) Identification of data sources for assessing the representativeness of the collection (3) Population of the blueprint with VP metadata in several rounds including interim analyses, and (4) continued analysis during the creation of the VPs. Overall, 21 physicians and healthcare educators from all partner countries were involved in the process.

Summary Of Results

The final version of the blueprint includes (1) patient-related factors, such as age, gender, migration background, or ethnicity, (2) disease-related aspects such as key symptoms and final diagnoses, (3)



encounter-related aspects such as location the VP consultation takes place, and (4) mapping of key symptoms and diagnoses with national competency frameworks. Based on this consented blueprint, we started the VP creation process and the first VPs are already available.

Discussion And Conclusion

Our interdisciplinary and international approach allows us to consider very different perspectives on the development of a VP collection. Thus, we believe that medical schools across Europe will be able to apply this collection to train students in clinical reasoning. Moreover, providing the VPs in six major European languages allows using the VP collection to prepare exchange students for a stay abroad.

Take Home Messages

Discussing the details of our VPs was a time-consuming process, but we learned a lot from each other. We believe that this approach increases the applicability of the VPs across Europe. We want to encourage healthcare professionals and educators to make such joint efforts and work on sharing online teaching material.



2G2 (2193)

Date of presentation: Monday 29th August

Time of session: 08:15 - 08:30

Location of presentation: Gratte Ciel 2

Pilot implementation and evaluation of clinical reasoning train-the-trainer courses by the European project DID-ACT

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Background

Clinical reasoning (CR) is a key ability for health professionals that affects the quality of patient care. Despite its importance, many curricula lack explicit learning activities to support the development of CR. One barrier is a lack of familiarity with CR teaching methods among faculty members (Sudacka et al., 2021).

Summary Of Work

As part of the EU-funded, multinational project DID-ACT (<https://did-act.eu>), we developed a series of train-the-trainer (TTT) learning units (LUs) on CR teaching and assessment. These covered topics like putting CR theories into practice; teaching of information gathering, differential diagnoses generating, decision-making, and treatment planning; person-centred approaches; health professionals' roles in CR; and application of CR teaching and assessment methods. We piloted these topics in nine short blended learning courses conducted by six European higher education institutions. We assessed course quality using the adapted ETELM questionnaires (Cook & Ellaway, 2015) and monitored online activities using learning analytics.

Summary Of Results

In autumn 2021, 98 clinical teachers and faculty members from 13 institutions across Europe participated in our TTT courses. We received n=56 feedback forms from participants and n=9 from facilitators and analysed online activities. Most courses were synchronous, but one course effectively used online activities around a discussion board. Participants evaluated the courses positively with an average score of 5.8/7 on a Likert scale, agreeing with the statement that the courses improved their teaching of CR. Small group activities and interprofessional collaboration were praised in the free



text comments. Despite the overall positive impression, there is room for improvement, e.g. in terms of ease of navigation in the learning platform or availability of more focused examples.

Discussion And Conclusion

Our TTT courses fill a gap in the availability of training materials for faculty development at a unique interprofessional and international scale. Adequately trained teachers are needed to effectively incorporate explicit CR learning activities in curricula. The challenge is to balance the complexity of CR teaching with the limited time clinicians have specifically allocated for developing new teaching skills. CME certification of the TTT CR curriculum could be part of the solution.

Take Home Messages

The DID-ACT LUs prove useful in improving CR teaching skills among health professionals.



2G3 (4164)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:45

Location of presentation: Gratte Ciel 2

Recommendations for enhancing clinical reasoning in health professions education: an analysis of national learning objective catalogues

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Background

Clinical reasoning (CR) is a complex but essential skill for health professionals. The purpose of the present work was to explore how CR is addressed in existing national health professions education (HPE) learning objective (LO) catalogues and propose recommendations for its enhancement.

Summary Of Work

Recommendations were developed by researchers and educators within different healthcare professions from seven countries following a four-step consensus approach: identification of a sample of the most relevant and applied national LO catalogues (N=9); extraction of CR-related LOs and translation into English; mapping of LOs into predefined categories; synthesis into recommendation statements. We included eight LO catalogues applied within HPE (medicine, nursing, physiotherapy) in Sweden, Poland, Germany, Switzerland and USA as by December 31st, 2020.

Summary Of Results

CR was addressed at varying extent in the catalogues, and was only sporadically made explicit. The heterogeneous structure across catalogues made comparisons across catalogues burdensome. With the purpose of addressing the need of enhancing learning, teaching and assessment of CR in HPE, three distinct recommendations were formulated: (i) make CR explicit; (ii) emphasize interprofessional and collaboration aspects of CR; (iii) include aspects of teaching and assessment of



CR. Additionally, translation of catalogues into English was advocated towards lower heterogeneity regarding amount, structure, and level of granularity of CR-related LOs across countries.

Discussion And Conclusion

While CR-related LOs exist in catalogues, subsuming and flagging relevant LOs in curricula or including LOs related to selected basic theories of CR may help make CR explicit. Making collaboration and interprofessional aspects of CR explicit would help address cultural barriers, including profession-specific perspectives on CR. LOs addressing CR in LO catalogues should be complemented by LOs addressing how achievement and assessment of the intended outcomes can be facilitated e.g., in train-the-trainer courses.

Take Home Messages

CR is rarely explicitly addressed in HPE curricula. We recommend that CR should be made explicit in national LO catalogues, including aspects of its teaching and assessment, and that collaboration aspects within and across professions, as well as with patients, should be emphasized. Hopefully, these recommendations will motivate and guide initiatives towards the implementation of CR-related LOs in future catalogues.



2G4 (3530)

Date of presentation: Monday 29th August

Time of session: 08:45 - 09:00

Location of presentation: Gratte Ciel 2

A student perspective on learning clinical reasoning in the workplace

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Background

Clinical-reasoning skills are important to train for every (future) physician. This research provides insight into the perspective of medical students on their clinical-reasoning learning process within the Master's curriculum. Research questions were: (1) What do students understand as clinical reasoning? (2) What helps and hinders their clinical-reasoning learning process in practice?

Summary Of Work

Three semi-structured focus groups were organised at the Radboud University Medical Center in Nijmegen (Netherlands) between August and December 2019. A workplace learning lens was used with a constructivist approach to analyse the data with template analysis.

Summary Of Results

The study included 18 participants who (1) defined and interpreted clinical reasoning, (2) assessed the teaching methods and (3) discussed how they used their context in order to learn and perform clinical reasoning during their clinical rotations. Students referred to a variety of contexts, including the clinical environment and various actors within it (e.g. supervisors, patients and peers). Results were divided using three categories: clinical reasoning as cognitive activity, clinical reasoning as contextually situated activity and clinical reasoning as socially mediated activity. Supervisors were responsible for making the process visible as well as creating a learning environment (whether safe or unsafe). Patients play an implicit (passive) role but could play a more explicit (active) role as well. Peers are used for comparison and as sparring partners, provided there was no competition.

Discussion And Conclusion

With regard to the process by which medical students learn clinical reasoning in practice, this research stresses the importance of integrating context into the clinical reasoning process and the



manner in which it is learnt. Students can be more empowered to, among other things, start conversations with their supervisors and increase engagement in peer and patient learning. Follow-up research is focussed on understanding how students use peer-assisted learning in their clinical-reasoning learning process at the workplace and how this can be more supported.

Take Home Messages

- The student perspective is necessary to understand their own clinical reasoning learning process.
 - Next to their supervisors and patients, students actively use each other for their own learning process and this could be stimulated more.
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2G5 (1323)

Date of presentation: Monday 29th August

Time of session: 09:00 - 09:15

Location of presentation: Gratte Ciel 2

Clinical reasoning and cognitive dispositions to respond (CDR): development and implementation of an online workshop for residents

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Background

Errors occur frequently in medicine, mainly due to cognitive biases. There are many biases or “cognitive dispositions to respond” (CDR) that influence the diagnostic process, and there is a need for interventions to improve knowledge and skills about them in residency education. The objective of this study was to develop an online workshop about clinical reasoning and CDR and test it in medical residents.

Summary Of Work

Kern’s model for online curriculum development and Kolb’s experiential learning model were used for workshop design. Croskerry’s conceptual framework was used for course contents. A one-group pre-post study was performed in Internal Medicine residents at the National Autonomous University of Mexico (UNAM) Faculty of Medicine. Outcomes: knowledge, self-reported skills, and satisfaction. Instruments: pre and post-test multiple-choice question exams (25 items) to measure knowledge; course opinion survey; retrospective pre-post questionnaire to assess skills. Psychometric analysis was done with Itean, using classical measurement theory. Pre-post comparisons were done with paired Student’s t-test.

Summary Of Results

The workshop had three two-hour synchronic sessions via Zoom, over a three-week period, with asynchronous activities for case preparation in Canvas. 22 Internal medicine residents took the workshop (13 M/9 F), average age 27.5 years. Pre-test exam average score was 12.8 (51.2% correct), post-test 14.6 (58.4% correct), $p=0.038$. The retrospective pre-post questionnaire had substantial positive increases in all areas ($p<0.001$). The satisfaction questionnaire showed positive responses. Small groups analyzed real-life clinical cases, identifying cognitive biases, their impact on the patients’ clinical course and proposed strategies to mitigate CDR.



Discussion And Conclusion

An online educational intervention for residents about clinical reasoning, cognitive biases and strategies to cope with CDR, was developed and implemented. The workshop showed an increase in knowledge and self-reported skills and was satisfactory for the residents. The research design cannot exclude several validity threats, so studies in other populations, with larger sample size and control groups, using more robust research designs are needed.

Take Home Messages

The acquisition of abilities in clinical reasoning and the management of cognitive biases is fundamental in residency education, online workshops using distributed learning schemes could be useful for this purpose.



2G6 (2760)

Date of presentation: Monday 29th August

Time of session: 09:15 - 09:30

Location of presentation: Gratte Ciel 2

Reasoning like a doctor or a nurse? An integrative review using a layered analysis

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Background

Different clinicians looking at the same patient might not see the same. If they assume that clinical reasoning approaches of other professions are alike, they could miss significant aspects of the patient.

Clinical reasoning is a multi-faceted, complex, invisible, multi-termed and conceptualized process, which has been defined and studied within each profession. We aimed to compare and contrast multiple facets of clinical reasoning between physicians and nurses based on simultaneous layered analysis of the literature.

Summary Of Work

Through the stepwise integrative review method [1] 67 articles were identified and used for analysis. We adapted and combined the layered analysis of an educational intervention of Cianciolo and Regehr [2] and concept analysis. The three layers philosophy, principles and techniques were refined into paradigms, underpinning theories, intentions, content, antecedents, attributes, outcomes and contextual factors. The data were organized in validity matrices to make them suitable for comparing and contrasting.

Summary Of Results

This detailed layered analysis led to an overview of differences and commonalities. By breaking down the concept of clinical reasoning in detailed layers we could establish major differences in the



philosophical layer. The professional paradigms differ on two continuums of care-cure and objectivity-subjectivity, in patient involvement and in expressions indicating more or less autonomy and initiative. In the layer of principles we found four paradoxes; a broader versus sharper focus, the patient versus the patient in his system, the goal of hypotheses to declare versus to understand and causality versus association. In the layer of techniques dissimilar concepts of diagnosis and the place of patient factors in the reasoning approach are remarkable.

Discussion And Conclusion

The differences 'between' professionals in reasoning are larger in diagnostic reasoning and smaller in management reasoning. Clinical reasoning needs debate, in education and in the interprofessional professional teams. Knowing the reasoning of the other profession enriches 'the picture of the patient'. Ultimately, the patient can benefit from the complementary value of both medical and nursing reasoning.

Take Home Messages

Detailed, simultaneous layered analysis makes the concept of clinical reasoning accessible for debate, education and research.



Short Communications - Stress & Wellbeing 1

2H1 (1649)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:15

Location of presentation: Gratte Ciel 3

Strategies for supporting senior medical students with difficulties: a qualitative study of tutors at the Department of general practice in Clermont-Ferrand

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Background

General practice students encounter different kinds of difficulties and are particularly exposed to psychosocial risks. The tutors are the student's closest pedagogical chaperons and have a pedagogical role in supporting them. The objective of this study was to analyse tutors strategies when dealing with senior medical students with difficulties.

Summary Of Work

We conducted a qualitative study with tutors from the Department of general practice in Clermont-Ferrand. After full transcription, the verbatims were analysed using a method derived from grounded theory: open analysis, axial coding, and integration. The triangulation of the researchers was respected and the results were validated by the participants.

Summary Of Results

Seven semi-directed interviews and two focus groups made it possible to model a three-step support strategy. The first stage was the identification of difficulties based on practice exchange groups, tutoring interviews, written learning records and placement evaluations. Warning signs enabled the tutors to identify interns having difficulties.

The second stage was an exploration through exchanges between tutor and student on the one hand, and with training supervisors or other tutors on the other.



The third stage was the search for solutions by gradually calling on the personal resources of the student and the tutor, then on external resources (peers from the student, other tutors, department, university, carers).

Discussion And Conclusion

Our results show the importance of a tutor's structured strategy to support students in difficulties. Personal support by the same tutor during all the internships was a central element.

Tutors had to deal with two principal ambiguities in their role. They feel an ambiguity between their mentorship and evaluator roles. The problem may be in the distinction between normative and formative evaluation. Supporting and orienting rather than offering plain psychological aid represented another challenge for the tutors.

This study led to an integrative diagram modeling the tutors' strategies for supporting a student in difficulties. This diagram can help us to make a tool to help tutors.

Take Home Messages

Dealing with students with difficulties involves a tutor's structured strategy.

Tutors have a three step strategy : identification, exploration and searching for a solution.

The main resources used by tutors are exchanges with students, and multiple external aids.



2H2 (3473)

Date of presentation: Monday 29th August

Time of session: 08:15 - 08:30

Location of presentation: Gratte Ciel 3

Unlocking educational and patient benefits from a wellbeing programme anchored in behavioural science

Chelsea Stubbs¹, Harroop Bola¹, Kavyesh Vivek¹, Joshua Killilea¹, Hariharan Subbiah Ponniah¹, Mihir A Kelshiker^{2,3}, Manisha Gandhi^{2,3}, Melanie Almonte^{2,3}, Patrik Bächtiger^{2,3}, Nicholas S Peters^{2,3}

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Background

The core domains of wellbeing – movement, nutrition, sleep and social connectedness are prognostic for clinical and health economic outcomes in long-term conditions (LTCs). The UK National Health Service endorses Care Navigators (CNs) as new healthcare functionaries for motivational partnership and health education for patients with LTCs. We designed and implemented a medical student-led CN programme, incorporating cognitive biases to improve patient wellbeing and student confidence.

Summary Of Work

4 medical students at Imperial College London completed structured training in:

- Lifestyle Medicine
- Motivational interviewing
- CN competencies
- Electronic Health Records

4 patients, treated for heart disease at Imperial College Healthcare NHS Trust received a smartwatch (endowment effect), access to their patient-facing electronic health record (EHR) for visualising trends in movement (priming effect) and matched to a CN. Patients completed a 10-week programme, involving interviews, educational materials and very brief advice. Quantitative self-assessment and qualitative longitudinal reflection were recorded.

Summary Of Results

On a 5-point Likert scale, mean student confidence in:

3. Organising the structure of patient encounters improved from 3.67 to 4.67
4. Adapting language to encourage patient engagement improved from 3.67 to 5.00
5. Engaging patients in goal-setting behaviour improved from 3.5 to 5.0



6. Suggesting pragmatic changes for healthy behaviours improved from 3.5 to 4.67
7. Navigation of EHR improved from 3.50 to 4.67

Reflections:

- Patient empowerment and support
 3. “Enhance the intrinsic motivation to change - I’m also a care motivator” (CN)
 4. “You set me some homework to read the NHS heart-healthy diet - you’ll be really proud of me, I read it all” (patient)
- Educational impact
 7. “On the wards I am less involved - here I can directly support patient wellbeing”
 8. “I am more confident developing a rapport with patients”

Discussion And Conclusion

All students gained confidence in managing patient encounters and employing behavioural change techniques. This work highlights the potential for student-led Care Navigation to simultaneously address UK national training priorities and unlock much needed clinical benefits for patients with LTCs.

Take Home Messages

Medical students can be feasibly deployed as CNs for patients with LTCs, and derive substantial educational benefit.



2H3 (1239)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:45

Location of presentation: Gratte Ciel 3

Online Wellbeing Curriculum Significantly Improves Knowledge, Skills and Attitude in LMedical Students

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Background

Factors limiting wellbeing must be addressed early in medical training. In the U.S. 26% of medical students experience depression, 50% encounter burnout. This exceed prevalence in general population posing occupational risk. Unmitigated, these impacts persist into professional practice with risk of suboptimal patient care. Students need tools to practice self-care. Curriculum for building such competencies is lacking,

Summary Of Work

Lifestyle Medicine Track medical students participated in wellbeing online curriculum *with* 17 self-directed modules. Wellness champions were identified. Curriculum included 1) Facilitators Guide for community discussion 2) Simulated encounters 3) Institutional guides to design wellbeing. Students spend 30 min. per module followed by a group discussion. Students completed pre and post module survey for each module,

Summary Of Results

A two sample t-test compared pre vs post test results and differences were statistically significant in 16/24 questions. Students did well in areas of knowledge base of burnout, resilience, and wellness. Sample questions included; Question 1. Are you knowledgeable about self-assessment tools to assess your wellbeing? There was a significant difference in post test results ($m=3.93$, $SD=0.57$) and pre test results ($m=0.33$, $sd=0.25$); $t(20) = -4.37$, $p=.001$. Question 2. Are you knowledgeable about resources available for students with burnout? There was a significant difference in post test results ($m=3.86$, $SD=0.88$) and pre test results ($m=0.78$, $sd=0.63$); $t(26) = -5.67$, $p=.001$. Question 3. Are you confident choosing best management options if you are facing burnout? There was a significant difference in post test results ($m=3.93$, $SD=0.63$) and pre test results ($m=0.40$, $sd=0.45$); $t(25) = -7.21$, $p=.001$.



Discussion And Conclusion

Health professionals' wellbeing is critical to health of the world. Medical students who completed online modules increased knowledge, skills and attitude around wellbeing strategies. Program directors document ACGME requirements, justify prioritizing a wellbeing curriculum, and motivate learners to sustain selfcare. Schools report value in prioritization of content, time and community; 1) faculty facilitators benefit by preparing and completing tools personally, 2) time is allocated in curriculum for wellbeing and 3) Discussion groups promote a culture of wellbeing and build learning communities.

Take Home Messages

1. Students enrolled in an online wellness program understand the risks of burnout and utilized their strengths to develop resilience skills.



2H4 (1418)

Date of presentation: Monday 29th August

Time of session: 08:45 - 09:00

Location of presentation: Gratte Ciel 3

An evaluation of six aspects of well-being in medical students from a middle-income country: A preliminary study

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Background

Although studies have shown higher prevalence of mental health issues among medical students, research on other aspects of student's well-being is not fully explored. This study aims to evaluate six aspects of student well-being at Faculty of Medicine Ramathibodi Hospital, Thailand to identify areas of concern, and suggest possible interventions that not only treat those with existing illness, but alleviate quality of life for all students.

Summary Of Work

This mixed-method study distributed six health questionnaires measuring depression, anxiety, quality of life, insomnia, burnout and grit among Ramathibodi medical students (n= 701, 69.3%) on a voluntary basis in May 2021. Additionally, thematic analysis of factors contributing to stress and well-being were done on qualitative feedback from the online survey.

Summary Of Results

Results from the questionnaire indicated prevalence in depression (8%), anxiety (8%), poor quality of life (1%), insomnia (5%), burnout (21%), and grit (3.2; 0-5). However, WHO Quality of Life index indicates moderate to poor quality of life in other aspects, namely in physical (39%), social (44%), and environmental (47%) health. Factors contributing to unhealthy well-being include academic pressure, time management, study environment during COVID-19, and studying intensity. Although our Well-being Centre supports students with mental health issues, we have not focused on the majority of students with moderate well-being or may be at risk. Mapping of feedback indicates relationships between academic, social, and mental health, suggesting improvement in one area can influence others.

Discussion And Conclusion

A majority of students still reside in the moderate level of quality of life or are mildly depressed, anxious or burnt out, leaving a gap to achieve better well-being. To address this on a population-level, systematised interventions should focus on well-being on three levels: individual, student representatives and faculty. An integrative response is proposed to cover different aspects and prevent students who are at risk becoming unwell, while simultaneously treating those with mental



health issues. Our Well-being Centre aims to adopt a holistic view of well-being, endorsing development at self, peers and policy levels.

Take Home Messages

Evaluating student's holistic well-being may present interesting findings and gaps that will help faculty improve student's quality of life as a whole.



2H5 (1782)

Date of presentation: Monday 29th August

Time of session: 09:00 - 09:15

Location of presentation: Gratte Ciel 3

School-wide student well-being programmes: A review of the literature and future research agenda

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Background

Student well-being is a hot topic. Medical schools across the world have implemented school-wide programmes to support medical student wellbeing. Yet, we know very little about the nature and characteristics of these programmes, or whether they are beneficial or not. We reviewed the published literature to advance our understanding of this topic and articulate a research agenda. Our specific research question was: can the various interconnecting parts of school-wide well-being programmes (SWWPs) be delineated to identify what works and why?

Summary Of Work

We first conducted a hand search of 50 medical schools' websites to inform the initial search terms, which were further refined in consultation with medical librarians. Subsequently, we searched various databases, from 1946 to May 2021, to map and identify gaps in existing literature. In all, a total of 24 articles met our review criteria.

Summary Of Results

There were two main types of SWWPs: personal tutor systems or group-based schemes. The latter was more common, usually with the format of assigning students into four to five large groups, labelled as "Houses" or "Learning Communities". Adequate funding, appropriate faculty development, faculty leadership and student engagement were considered critical factors for SWWP success. Student satisfaction was generally high but not all students wanted to engage with SWWPs. However, the quality of research was weak, with an over-reliance on non-validated survey data and acceptability/student satisfaction as outcome measures. The literature was not informative about the interconnecting-parts of programmes. Studies were descriptive local reports rather than theory-driven research, limiting generalisability or transferability.



Discussion And Conclusion

This review has established the current state of knowledge about the organisation and outcomes of SWWPs. We conclude that little is known about how SWWPs enhance student well-being or even if they add value to the student experience. Future research should focus on examining the complexity of how these programmes work and what the gains are, as well as exploring how contexts influences how programmes are organised and evaluated. This review will stimulate debate among those involved in student well-being.

Take Home Messages

Student well-being is important but knowledge about how medical schools can support well-being is currently lacking.



2H6 (2152)

Date of presentation: Monday 29th August

Time of session: 09:15 - 09:30

Location of presentation: Gratte Ciel 3

Promoting Self Compassion in the Undergraduate Medical Curriculum.

Martina Balaam¹, Jane Hislop¹

¹ *University of Edinburgh, Edinburgh, UK*

Background

Data collated from Universities shows an unprecedented increase in levels of distress, anxiety, depression and loneliness among students and a decrease in trust, a sense of belonging, community and connection (Balaam and Harris 2021; Perks 2018; You Gov, 2018; BBC 2019; NSS 2018; UOE 2018) This include serious negative effects on physical health, mental health and well-being between various socio-economic and cultural groups and includes painful feelings of isolation, suicidal behaviour, less restorative sleep, elevated systolic blood pressure, diminished immunity, and cardiovascular disease (Masi et al., 2011).The significance of this sweeping tsunami of mental angst, isolation and distress among the brightest minds of our generation is yet to be understood

Summary Of Work

We proposed and conducted joint teaching with the University Chaplain on self compassion for our undergraduate medical students. In addition we performed a literature review to understand whether the ways in which offering self-compassion workshops and other supportive teaching in a medical curriculum offers opportunities for a significant and transformative shift in the way that medical students together experience University living,

Summary Of Results

This work continues however preliminary work indicates that Students appreciate the opportunity to discuss self-compassion and the impact of various stresses on their well being. Research identifies the core role of compassion and self compassion in enabling social and economic sustainability. Cultivating self compassion promotes social sustainability that fosters creativity, innovation, and positive regard and facilitates social connections which are a key individual and societal-level resource leading to both individual wellness and individual- and organizational-level performance (Pessi et al. 2017; 2018).m/.

Discussion And Conclusion

This work including further self compassion workshops aims to improve our understanding of compassion, collegiality and wellbeing in medical curriculums as well as model ways to integrate compassionate and collegiate thinking into educational environments. Its goal is to create the



environment and culture where students can develop the inner strength, dexterity and leadership capability to navigate complexity and build solutions towards a sustainable future

Take Home Messages

Joint working, compassionate curriculums and self compassion workshops offer us away forward in increasing students well being in an increasingly fractured global environment.



Point of View 1

2I1 (1656)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:11

Location of presentation: Tete d'Or 1

Connectivism: A framework for learning and knowledge in a rapidly changing world

Jennifer Benjamin¹, Tyson Pillow¹, Neil Mehta ²

¹ Baylor college of medicine, Houston, USA ² Cleveland Clinic , Ohio, USA

Background: Traditional evidence-based medicine practice depends on presentations at academic conferences, peer-reviewed literature, high-quality systemic reviews, and guidelines, based on constructivism where trainees learn from their experiences, building on prior knowledge to constructing new knowledge through inquiry-based discourse. This system works well when there is a fund of knowledge. However, in the setting of a global pandemic caused by a novel agent with rapidly evolving evidence, we propose Connectivism as a new theory to acquiring information, using a digitally connected world to its full potential.

Connectivism as a solution to the challenges posed by the pandemic.

When information is growing and changing rapidly, it is impossible for an individual to use the constructivist model to internalize knowledge. New information resides in multiple sources, experts and networks, who serve as 'nodes' of information. Thus, knowing 'where' and 'who', instead of knowing 'what' and 'how' becomes the new paradigm with the internet allowing for the creation of a hyperconnected network of repositories of information with experts engaging on social media for e.g. using Twitter. Being accurate and up-to-date is the main intent of a connectivist learner. In addition this learner identifies a network of experts, organizations and institutions, thus creating a community of reliable accurate information with the use of curated Twitter Lists of experts. Academic conversations through podcasts, discussion forums that are accurate then become commonplace where knowledge resides, allowing for experts and the network to amplify accurate information.

Implications of connectivism for education:

Academia needs to recognize the importance of owning and amplifying accurate information. In addition to critically appraising published articles, we need education that includes critical appraisal of pre-print servers and avoiding lapses of professionalism in social media with tools to responsibly curate, retrieve and share accurate information. Physicians need to own their space in online social media platforms, to amplify accurate reliable information to help combat misinformation to improve patient care and represent scientifically accurate information in a digitally connected world. Our presentation will include real life examples of how to implement these ideas in clinical practice.





212 (2308)**Date of presentation:** Monday 29th August**Time of session:** 08:11 - 08:22**Location of presentation:** Tete d'Or 1

Why do we need all these grades? Pass/Fail in Clinical Clerkships

Debra Klamen¹

¹ *Southern Illinois University School of Medicine, Springfield, USA*

The vast majority of clinical clerkships in the United States Medical Education system uses a tiered grade as a summative evaluation of the clerkship. Likewise, tiered grading in clinical settings around the world is also common. Why does this need to be so? Do we need to continue this system because it has 'always been this way'? Arguments frequently encountered note that students need the external motivation and won't learn without it, or students need the recognition of achievement, or even, how can we tell superior performance when choosing a resident applicant? These arguments persist and a change to pass/fail grading has been very slow, even though there is increasing evidence to support this assessment methodology. For example, multiple papers note the highly subjective, unreliable and unfair tiered grading system as it currently exists. Pure rote memory recall (superficial learning) is cultivated by such a system as well. There is a lack of research correlating physician performance in practice with medical school grades. Clerkship grades are constantly affected by significant grade inflation. Perhaps even more troubling, tiered grading systems contribute to burnout, exhaustion, and depression, in addition to a decrease in group cooperation. It is also noted that tiered grading may disadvantage minoritized individuals, even though a diverse healthcare workforce is direly needed.

At Southern Illinois University School of Medicine (SIUSOM) in Springfield, Illinois, we have gone to true pass/fail grading through all four years of our medical school, with good success. It is frustrating to note the lack of progress in this area at other medical schools, though I receive questions/comments about our system regularly. I would like to share this topic with an audience, present data with regards to switching to pass/fail at SIUSOM and discuss thoughts and creative ideas that could be used to further this change in assessment methodology. Of course, those with differing opinions are encouraged to attend as well, so that a robust viewpoint may be represented.



213 (3603)**Date of presentation:** Monday 29th August**Time of session:** 08:22 - 08:33**Location of presentation:** Tete d'Or 1

Now is the Time to Make Criteria for Academic Promotion More Inclusive

Marie DeRuyter¹, Beth Ladlie¹

¹ *Mayo Clinic Florida School of Graduate Medical Education, Jacksonville, USA*

Academic rank is the key to unlocking leadership positions in academic institutions. That academic rank is based primarily on the quantity of peer reviewed publications and not an exhaustive look at career accomplishments is one reason it remains out of reach to many women and minorities. Furthermore, quantity of publications and academic rank is not conclusively linked to leadership ability, so including accomplishments outside of publication quantity is likely to yield a richer candidate pool for organizational leadership.

From the literature, we continue to understand that editorial boards, meeting organizers, and committee memberships are still dominated by men and publication bias includes a gender affinity component. In a recent cohort study published in the *New England Journal of Medicine*, there has been no change in the fact that women in academic centers were less likely to be promoted to the rank of associate or full professor or be appointed department chair in the last 40 years. Open source and fee for publication journals, now ubiquitous, complicate the field of scientific literature even further by putting publications more within reach for those with more money. Although it was never a good surrogate for leadership, the current state of academic publishing further demands that we use a broader lens when considering candidates for academic promotion.

In addition to tempering the importance of publications, there is a need to elevate additional aspects of an academic career. For example, time spent educating the future workforce is visible on a curriculum vitae, but invisible to promotions committees. Servant leadership, including committee membership, curriculum development, teaching, mentoring, and community engagement are just a few aspects of important career contributions that cannot be quantified with publications. A holistic approach in reviewing an academic career needs to be consider by every promotion committee.

Leadership organizations such as the American Medical Association or the American Association of Medical Colleges have an opportunity to create best practices for academic promotion and disseminate them through the medical community.



214 (4382)

Date of presentation: Monday 29th August

Time of session: 08:33 - 08:44

Location of presentation: Tete d'Or 1

Breaking Down Barriers: All Medical Students Should Be Taught Sign Language As A Mandatory Part Of Undergraduate Training

Hamed Khan¹

¹ *SGUL, London, UK*

The difficulties and challenges that people with hearing impairments face in society are well established- and this includes healthcare. As a profession, we have always extolled the virtues of equality of opportunity and access, and the importance of addressing and eradicating discrimination in all its forms.

In light of this, it is my opinion that the Medical Schools Council, and its equivalents in other countries, should consider making Sign Language a compulsory part of undergraduate medical training.

Over the last few couple of years, I have encountered numerous students who have chosen to do this, in order to enhance their ability to communicate with those who have hearing difficulties. These students have completed courses which often last a few weeks, and help build a foundation which enables them to communicate better with people with hearing impairments, than they would have done otherwise.

Even if the competence level reached in the duration of a few weeks is very basic, this surely is significantly better than having no insight or ability at all, and having to rely on other improvised, often haphazard ways, of communicating. Even very basic competence may make people with hearing impairments feel reassured, and thus assist in establishing basic rapport, which is a crucial component of effective communication.

This will not only help improve access to healthcare for patients with hearing impairment, it will also benefit students in many other ways- including enhancing their awareness of the challenges faced by those with hearing difficulties and other disabilities, instilling an ability to empathise, and of course enhance their cognitive ability and communication skills in general. It is also a good way to emphasise the need to be always aware of inequalities which exist in healthcare in terms of access, and the duty upon clinicians to do everything possible to reduce these.



215 (4219)

Date of presentation: Monday 29th August

Time of session: 08:44 - 08:55

Location of presentation: Tete d'Or 1

Why do we keep ova-looking the importance of feminist theory within health professions education?

Gabrielle Finn¹, Megan Brown²

¹ *University of Manchester, Manchester, UK* ² *Imperial College London, School of Medicine, London, UK*

The role of feminist theory in health professions education is often 'ova-looked'. Feminist theory is an umbrella term, representing a broad range of concepts, theories and principles. Uptake of feminist theories within health professions education has been slow, especially by comparison to the popularity and use of such theories within adjacent fields such as sociology.

Gender is one cause of healthcare inequalities within contemporary medicine. Shockingly, according to the World Health Organisation, no European member state has achieved full gender equity in regard to health outcomes. Despite this inequity, contemporary curricula have not evolved to reflect the realities of a diverse society. Many curricula remain 'too male, too pale, and too stale'. Others are heteronormative, ignore principles of inclusivity, and fail to consider intersectional issues such as race, gender and sexuality as they pertain to students' professional identity formation and healthcare provision.

We consider the waves of feminism, and how feminist theory applies it to health professions education research and teaching, in order to advocate for its continued relevance within contemporary healthcare teaching and research. Ongoing feminist explorations and critiques are essential to reducing the health inequalities that exist between genders and are amplified by intersecting vectors of oppression. Though reluctance concerning the use of theory, and stigma associated with the feminist label exist, as bell hooks puts forth- 'feminism is for everybody'. Perhaps it is time to reclaim one of the terms associated with gender bias within medicine and subvert it to call for an active movement within health professions education to promote feminist agendas. Too long have biases, in particular gender biases such as the maternal wall, been omnipresent in the experiences of aspiring healthcare professionals

We 'ova-look' feminist theory within health professions education at our own peril. We implore those who have previously ova-looked feminist theory to start considering how this rich, theoretical approach can meaningfully contribute to the plight for gender equity within healthcare and healthcare education.



216 (2238)**Date of presentation:** Monday 29th August**Time of session:** 08:55 - 09:06**Location of presentation:** Tete d'Or 1

Disrupting the whiteness of academia through authentic dialogue in cross-racial mentoring relationships

Monnique Johnson¹, Abigail Konopasky¹

¹ *Uniformed Services University, Bethesda, USA*

Racially traumatic experiences on the road to academic publishing can perpetuate and lead to the diminishing of marginalized voices, especially those with less applicable social and cultural capital. Without an intentional approach on the part of editors and reviewers as well as proper support from committed mentors, the homogeneous voices of academia will remain as is. We argue for what we call authentic dialogue to disrupt the whiteness of academia. On my journey as a novice researcher, I (Author 1) wrote and submitted a perspective piece based on my unique experience as a Black Woman in Medicine and the intersectionality of that identity. During the peer review process across journals, I received comments from reviewers and editors, which elicited different reactions from me, a Black woman still in the early years of medical training and my mentor (Author 2), a white woman with a solid position in the academic world and experience publishing. In this point of view piece, my mentor and I share our journey processing and exploring our initial individual reactions and our joint processing of them. We share how what was racially traumatizing to me seemed simply “a part of the research process” and, in the case of the eventual revise and resubmit, a victory to her. In this presentation, we argue for the importance of authentic dialogue in cross-racial mentoring relationships. For us, authentic dialogue provided: 1) additional perspective on both sides 2) the ability for Author 1 as the author to make revisions while maintaining her voice as an author and 3) for Author 2 to recognize and disrupt her white racial frame to be able to give emotional support and advocacy as a mentor. This authentic dialogue can help build the social and cultural capital that racially marginalized researchers need to publish and can also work to disrupt the racist structure in academic publishing. We will offer recommendations for authors, mentors, reviewers and editors to support the voices of racially marginalized scholars with intentionality and sensitivity.



217 (2823)**Date of presentation:** Monday 29th August**Time of session:** 09:06 - 09:17**Location of presentation:** Tete d'Or 1

Integrating the use of Web-based Learning Platforms to Advance Health Professions Education

Atsusi Hirumi¹, Peter Horneffer², Ziana Bagot¹

¹ *University of Central Florida, Orlando, Florida, USA* ² *All American Institute of medical Sciences, Black River, Jamaica*

Web-based learning platforms, such as but not limited to AMBOSS, Lecturio, ScholarRx, and UWorld have emerged as a vital resource used by students across health professions to prepare for national licensing exams. A focused Best Evidence in Medical Education (BEME) systematic review indicated that such learning platforms, particularly the use of questions banks (Qbanks), are associated with higher exam scores. The focused review also suggests that the consistent positive correlations between students use of Qbanks and exam performance, along with students' pervasive use and strong theoretical foundations explaining the results, provide evidence for integrating web-based learning platforms into medical school curricula. In addition, a pedagogical analysis of popular learning platforms, and a data comparing stakeholders' use of formal curricular resources (prescribed by faculty) and informal resources (recommended by students) across cohorts revealed significantly differences in levels of reported motivation, and perceived levels of attention, relevance, confidence, and satisfaction as an indicator of their motivation. However, research examining methods for integrating the use of web-based learning platforms and impact of such integration to guide practice remains limited.

We believe that the use of such platforms may (a) optimize the use of available human resources, particularly in resource scarce countries, and (b) increase the productivity of health professions education by facilitating competency-based, time-variable education. To demonstrate our point of view, we will:

- Characterize research findings, including the evolution of key functions and features, and the design of web-based learning platforms.
- List fundamental lessons learned, and future from integrating the use of web-based learning platforms across two institutions, and
- Field questions and discuss the potential benefits, limitations, and the future of research on integrating learning platforms.

The integration of web-based learning platforms is a complex process that appears to be affected by the professional identity of faculty members as well as both faculty members and students' motivation, and perceived levels of attention, relevance, confidence, and satisfaction derived from using the platform. By delineating the complexities, we hope to inform the potential adoption and integration of web-based learning platforms to facilitate health professions education.



218 (2648)**Date of presentation:** Monday 29th August**Time of session:** 09:17 - 09:28**Location of presentation:** Tete d'Or 1

What do we need in our future doctors?

Pornpimon Kasemsook¹, Natthathree Thanachaiyapan¹

¹ *Buddhachinaraj Phitsanulok Hospital Medical Education Center, Phitsanulok, Thailand*

What do patients need from their doctors? Somebody might say the best investigation, the finest medicine or the newest medical devices. To get the perfect results, doctors always focus on using the state-of-art technology and try to apply medical knowledges to help their patients. But sometimes they forget about the important of good doctor-patient relationship being the collaboration from patients that can interfere the effectiveness of the treatment. To avoid this problem we need to create good doctor-patient relationship, achieved by improving doctors' ability to communicate, demonstrate empathy and support in our medical students. When the patients feel that, they will trust and be willing to cooperate with their doctors which can bring the successful treatment. Therefore, as a teacher, building compassionate doctors is important for future doctors we need in our new generation. It is not easy to do because we cannot tell or give the students a lecture to understand compassion but they must experience it by themselves. So I give them a chance by allow them to put themselves in their patients' shoes. I set up a cooking class teaching and assigning them to cook for diabetic patients. The diabetic food is limited of seasoning that makes it more tasteless than regular Thai food, spicy and extreme flavor. After the session, most of them empathized with the patients who have to eat unfamiliar food for a long time and understood why some patients cannot control their blood sugar level well. It's good to have high medical technology innovations but it's better to have high compassionate doctors who can use those innovations to achieve perfect treatment outcome.



Doctoral Reports 1

2J1 (0148)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:20

Location of presentation: Rhone 2

Professional identity formation at medical school: a qualitative study to explore how cultural factors shape professional identity formation of medical undergraduates.

Sat 10:35-10:55

Joanne Harris¹

¹ *University Of Buckingham, Buckingham, UK*

Introduction

Recently there has been a drive to increase the diversity of medical students in the United Kingdom to reflect the composition of the population they will be serving (1). This widening participation Initiative looks at the gender, social class and race and ethnicity of students entering medical school. Medical schools are places of professional socialisation, however cultural aspects, often delivered by the hidden curriculum are rarely considered (2) A competing discourse ensuring teaching of competencies may seek to eliminate cultural differences and causes confusion for the medical students as they try to become embodied professionals (3) .This study sought to explore the culture-related experiences of medical students at two contrasting schools, and how this linked to their developing professionalism.

Methods

Student data was collected at two contrasting medical schools in the UK via an online survey and semi-structured interviews. Students described how cultural factors affected their experience at medical school and their views on professionalism. The questionnaire (n=79) included Likert scale questions and free text comments. Twelve students took part in a telephone interview to describe their experiences in more depth. Responses were analysed using Bourdieusian concepts of habitus, capital and field and related to the hidden curriculum since this allowed for a consideration of both the structural and agentic components of professional formation. Coping strategies were considered using Goffman's theory of impression management as students incorporated their experiences into their developing professional identity.

Results



The periods of time at medical school were divided into the field of education and the field of care giving. Cultural diversity was often seen as a benefit and a support to students in the initial stages in the field of education. However, many students found social class differences affected their experiences negatively in the first two years and these were sometimes seen as barriers to fitting in at medical school. Once in the field of care giving, students frequently reported incidences of sexism and racism causing dissonance in clinical placements. Many students reported discriminatory comments from patients but considered it unprofessional to raise this with the patient. Forty five percent of students thought their cultural experiences had affected their professional identity formation. Other students gave examples where they had accepted the presence of discrimination and were developing coping strategies.

Discussion And Conclusion

Professional formation is a complex construct with competing discourses of professional identity formation and the learning of competencies. The widening participation agenda allows for diversity whereas the competency agenda calls for uniformity (3). In addition students regularly experience discrimination due to gender, social class and race and ethnicity as has been reported in other studies (4). The dissonance they feel relates to the difference between how they are taught to behave and their lived experiences in the clinical environment often delivered by the hidden curriculum (5). The students use social constructionism to reconcile these competing discourses and absorb their negative experiences into developing professional identities. They often call on the coping strategy of impression management to deliver a professional persona in the interim (6).

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2J2 (0224)

Date of presentation: Monday 29th August

Time of session: 08:20 - 08:40

Location of presentation: Rhone 2

The medical school learning environment and its effects on the students' choices in learning: a multi-sited ethnographic study on the formal, informal and hidden curriculum in action.

Eleonora Leopardi¹

¹ *University of Newcastle, Newcastle, Australia*

Introduction

Hidden and informal curricula are known to influence medical students' professional and moral development. However, few studies have examined how they influence students' attitudes, strategies and behaviours towards learning. Moreover, research on hidden and informal curricula has focussed on the messages conveyed by interpersonal encounters and verbal communications, often neglecting systemic and institutional elements. This has led to a conceptual conflation of hidden and informal curricula, and has restricted a thorough exploration of the institutional learning environment. This study aimed to determine the distinct influences of formal, informal and hidden curricula on medical students' learning strategies, and how together they shape the medical school learning environment.

Methods

This ethnography compared the learning environments of the campus-based years of two Australian medical schools who partner to deliver a Joint Medical Program. The program consists of a single formal curriculum delivered in two institutions. A comparative design allowed to distinguish the influences of the formal curriculum, equal at the two sites, from those of the other-than-formal curricula. Four qualitative methods were employed to identify the students' learning strategies and investigate their relationships with the formal, informal and hidden curricula in the two learning environments. During 14 months of fieldwork, qualitative data were collected through 113 hours of non-participant observation, 35 interviews of students and academics, 2 focus groups, and analysis of 44 curricular documents. All data were analysed thematically via a combination of inductive and deductive processes, triangulating data from different sources and methods. The validity of the interpretation was verified through a second investigator, peer debriefing, member checking and inquiry auditing.

Results

Through iterative analysis of the data, eight learning strategies were identified: four related to the students' approach to Problem-Based Learning; the fifth to the students' choices on attendance, the



remaining three to the students' actions in preparation for exams. These strategies were nearly ubiquitously adopted within the two cohorts. The strategies are determined by local influences, originating within the hidden and the informal curricula, and conveyed to the students by verbal directions or structural elements of the learning environment of the medical school.

In identifying the influences leading the students to adopt a strategy, it became apparent that other-than-formal curricular influences were generated by hidden curricular sources. These were then propagated via the network of interpersonal interactions of the informal curriculum, creating a challenge in recognising them as hidden or informal curriculum. Additionally, instances of dynamic interplay between the other-than-formal curricula were identified in the data, whereby hidden curricular messages shape and influence both the informal curriculum interpersonal network and the formal curriculum, thus influencing the transmission of informal and hidden curricula to the students.

The results informed the production of a multi-dimensional model for the medical school learning environment that encompasses the formal and other-than-formal curricula and their interactions. This new model also includes the influence of the geographical and sociopolitical setting of the medical school on the learning environment experienced by the students, acknowledging that institutions exist themselves in a broader context, which impacts the students' learning.

Discussion And Conclusion

The ethnographic approach enabled a holistic study of the learning environment and a detailed analysis of different curricular influences within it. This study retraces the origin of the hidden curriculum theory introduced in Medical Education by Hafferty(1), and produces a clarification of how the formal, informal and hidden curricula manifest and interrelate within the learning environment. This study demonstrates empirically that the learning environment, and the curricula operating in it, have an effect on students' learning behaviours, with potentially significant consequences for the development of lifelong learning skills. This application of the hidden curriculum theory will provide support to researchers and educators who wish to understand and reshape the other-than-formal curricular influences in their institutional learning environments. Finally, this study aligns the hidden curriculum theory with the current research on learning environments, including research on context in medical education.

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2J3 (0697)**Date of presentation:** Monday 29th August**Time of session:** 08:40 - 09:00**Location of presentation:** Rhone 2

Guiding educators in learner-centred feedback: designing, testing and refining the Feedback Quality Instrument

Christina Johnson^{1,2}, Jennifer Keating³, Michelle Leech⁴, Fiona Kent⁵, Melanie Farlie⁶, Peter Congdon⁷, Debra Nestel⁴, Megan Dalton⁸, Debra Kiegaldie⁹, Margaret Hay¹⁰, Barry McGrath⁴, Wendy McKenzie⁴, Kichu Nair¹¹, Claire Palermo⁴, David Boud¹², Elizabeth Molloy¹

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Introduction

Feedback is important in health professionals' workplace learning. However the literature reports problems in practice, and lacks clear guidance on how educators support learner-centred feedback. This thesis reports the process of developing, testing and refining a Feedback Quality Instrument (FQI), designed to guide and systematically evaluate an educator's role in face-to-face feedback in clinical practice. The research was underpinned by social constructivism, and used a multiphase mixed methods design.

Methods

Phase 1 comprised a systematic review and meta-analysis to summarise the evidence available on the impact of face-to-face feedback on workplace task performance involving health professionals.¹ Phase 2 focused on the development of a provisional feedback instrument. An extensive narrative literature review clarified the distinct elements of an educator's role that seemed to influence learner outcomes, supported by empirical information. These elements were then



operationalised into corresponding observable educator behaviours, and refined in collaboration with an expert panel using 3 rounds of a Delphi process. This resulted in consensus on a set of statements describing recommended educator behaviours, which constituted a provisional instrument.² Phase 3 involved refining the provisional instrument to create the Feedback Quality Instrument using quantitative and qualitative analyses. Videos of authentic feedback discussions in routine clinical practice were collected. Raters independently administered the provisional instrument to evaluate educator behaviours seen in the videos, using a Likert scale: 0=not seen, 1=done somewhat, 2=done consistently. This enabled usability testing and generated ratings data. To gain observational insights into feedback interactions, quantitative analysis described a) how commonly each recommended behaviour was seen across the group of educators, and b) how many of the recommended behaviours each individual educator demonstrated.³ The data were also used for psychometric analysis of the provisional instrument using multifaceted Rasch model analysis (MFRMA) and exploratory factor analysis (EFA). In addition, thematic analysis was used to explore two under-researched areas 1) ways to promote learners' evaluative judgement⁴ and 2) ways to cultivate psychological safety in feedback.⁵ This addressed gaps identified during psychometric testing and provided practical insights for item refinement. Finally, the provisional instrument was refined, using an iterative process, informed by the usability testing, psychometric testing, qualitative analyses, and foundational literature.⁶

Results

In Phase 1, the systematic review included 26 studies for face-to-face feedback compared to no or alternative feedback. Meta-analysis found a moderate-to-large improvement in workplace task performance with feedback, compared to no feedback, involving 8 studies: standardised mean difference of 0.7 (95%CI:0.37-1.03; $P < 0.001$).¹ In phase 2, the narrative literature review identified over 170 relevant articles, which formed the basis of the initial items. Following the Delphi process, consensus was reached on a provisional instrument.² In phase 3, 36 videos involved 34 diverse educator-learner pairs (medicine:26, nursing:4 and physiotherapy:4). Administering the provisional instrument generated 174 data sets. Quantitative analysis revealed variation in the use of recommended educator behaviours.³ MFRA indicated reasonable coverage across the feedback proficiency range, and highlighted items and one rating category for review. EFA revealed item clusters, indicating core concepts underlying feedback, and highlighted items for review. Following refinements, the FQI contained 25 items.^{4,5,6}

Discussion And Conclusion

The FQI contains 25 observable behaviours describing practical ways that educators can collaborate with learners, to actively participate and use information to enhance their performance. There are five domains representing core concepts that constitute high quality feedback. Three domains occur sequentially, *set the scene*, *analyse performance* and *plan improvement* and two flow throughout a feedback encounter, *foster psychological safety* and *foster learner agency*.

This research program led to creation of the FQI, ready-for-use in clinical practice. The explicit descriptions offer guidance for educators, and learners, in fostering quality learner-centred feedback interactions. The instrument also provides a platform for future research investigating the impact of



specific components of feedback on learner outcomes in the clinical workplace. The next stage is implementation research.

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*Melbourne Medical School Annual Publication Prize (students) 2020



ePosters - Teaching and Learning 1

2K01 (4455)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:05

Location of presentation: Tete d'Or 2

What's the Ideal? Sudanese Medical Students Perceptions about the Perfect Ward Round Experience

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Background

A big transition happened in ward rounds in the past years because of COVID-19 and social distancing. Now that students are back in the wards, it is important to re-centre and gain an understanding about how their perceptions of the ideal clinical rounds have changed or haven't. We aimed to study medical students' perspectives on what constitutes an ideal ward round and clinical experience at the University of Khartoum, Sudan.

Summary Of Work

Institution-based qualitative study through focus group discussions (FGD). Sampling was purposive. A pilot FGD was conducted before data were collected. We conducted and recorded 7 FGDs of (43) medical students in their para-clinical and clinical years. Data were transcribed, coded, and analysed thematically using Atlas-ti9.

Summary Of Results

We identified 3 themes for an ideal ward round: first: Ward Rounds Environment, it should be prepared to facilitate clinical learning and the number of students should be 5-10 per educator.

Second Clinical educator's Preparedness: regarding knowledge, clinical experience, suitable Educational Materials, and skillful Instruction. They particularly emphasized the importance of tailoring the rounds to local context and the common clinical cases in Sudan.



Third was Learne feedback and evaluation, they recommended using logbooks that specify learning requirements as well as utilizing junior doctors because they have better feedback skills compared to older educators.

Discussion And Conclusion

The students believe that the ideal Hospital ward round should be well planned; from the clinical environment to clinical educators and educational materials taught in the ward. They particularly emphasised the importance of performance feedback and tailoring the cases according to local context.

Take Home Messages

1. Educators should prepare and plan for the clinical ward activities. They should also trained in instructional teaching skills.
 2. Institutions should pay extra attention to hospital environment.
 3. For a fruitful clinical experience students emphasized the importance of f performance feedback during the rounds.
-



2K02 (2350)

Date of presentation: Monday 29th August

Time of session: 08:05 - 08:10

Location of presentation: Tete d'Or 2

A pilot study evaluating the usability and playability of ALIVE! (A serious game created to teach Core Acute Medicine)

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Background

The education of healthcare professionals is of paramount importance for patient safety. There is still a gap between knowledge acquisition and knowledge application in real-life clinical case scenarios. This led to the development of a serious game ALIVE! that consists of simulated patients with an undiagnosed medical condition that warrants immediate medical attention.

Summary Of Work

The study team is conducting a pilot study to evaluate the usability and playability of the game prototype. A game scenario of a case of diabetic ketoacidosis was created. Depending on the player's decisions, the patient will either improve or deteriorate.

For the first part of the pilot study, a small group of doctors was invited to play the digital game on their desktops or laptops, and thereafter answer questionnaires to gather their feedback and improve the game. For the second part of the pilot study, we aim to recruit 32 final-year medical students and PGY1 doctors. All participants will first be invited to do a set of 10 Multiple Choice Questions (MCQ) that will test them on their knowledge application in the subject matter before they play the game or attend the Zoom lecture. Subsequently, they were randomized either to play the game or attend the lecture (in the format of the pre-recorded interactive Zoom lecture).

The participants will then be asked to complete another set of 10 MCQs, as well as questionnaires pertaining to their learning experience.

Summary Of Results

We have received positive feedback from the first part of our pilot study. Currently, we are halfway in recruiting for the second part of our pilot study. Thus, our results are still pending and will be available at the time of the conference.



Discussion And Conclusion

We would like to determine the effectiveness of using serious games for teaching our PGY1 doctors, as compared to our conventional didactic lecture. After the pilot study, we would like to embark on the larger randomized controlled study, that is adequately powered.

Take Home Messages

Serious games can be used to bridge the gap between knowledge acquisition and knowledge application, though further studies are required to evaluate its effectiveness compared to conventional teaching methods.



2K03 (1527)

Date of presentation: Monday 29th August

Time of session: 08:10 - 08:15

Location of presentation: Tete d'Or 2

Enhancing Near-Peer Mentorship by Incorporating Mentoring Training for Junior Doctors across an NHS Hospital Teaching Trust

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Background

Mentoring is recommended by the General Medical Council and has been shown to have a positive impact on professional practice, personal wellbeing and development. Amongst the rising trepidation of burnout and low morale in junior doctors, mentoring has also been recognised as one of “eight high impact actions to improve the working environment for junior doctors” by NHS Improvement. However, junior doctors seldom receive guidance and training to foster mentoring relationships.

Summary Of Work

A trainee mentoring scheme with a focus on mentees being FY1 and FY2 doctors, and mentors being any trainee more senior across a number of specialties, was implemented. Trainees were matched based broadly on specialties of interest. The scheme was initiated with a Welcome Induction session, introducing mentoring contracts and frameworks, such as the GROW model. Mentors and mentees are advised to aim for 4-6 contact sessions with each other for the duration of the scheme (September 2021 - June 2022). Two further mentoring training sessions have been scheduled in the coming months - a virtual half-day session on developing mentoring skills and a final reflecting session.

Summary Of Results

35 pairs of mentors and mentees were formed from 80 junior doctors who signed up. Four mentees discontinued the scheme due to incompatible matching, leaving six mentors unmatched. 78% of the mentors (n = 41) had mentoring experience, but only 31.7% had received formal training. The demand for mentoring training was highlighted by the high interest from the mentors (97.6%). The first mentoring session was very well received. Evaluation of the mentoring scheme and upcoming training sessions will be obtained over the next 6 months.



Discussion And Conclusion

Implementing a formal mentoring scheme encourages more junior doctors to support each other, essential for development and wellbeing. Providing concurrent training alongside the scheme enhances their mentoring skills and relationships, which is currently not common practice.

Take Home Messages

Mentoring is an undervalued aspect of a junior doctor's training. An approach with reflections to implementing effective mentoring training, whilst battling clinical and time pressures worsened by the COVID pandemic, is presented.



2K04 (1483)

Date of presentation: Monday 29th August

Time of session: 08:15 - 08:20

Location of presentation: Tete d'Or 2

How is Modern Bedside Teaching Structured? A Video Analysis of Learning Content and Spatial Structures

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Background

Bedside teaching (BST) is an essential and traditional clinical teaching format. It has been subject to various impediments resulting in a decrease in bedside time. Furthermore, a didactic diversification has been observed (e.g. enrichment by off-patient parts). In order to use time at the bedside effectively, an evidence-based insight into how BST is practiced is useful. This can be a basis for a refinement in its didactic design. In the current study we investigate the interrelationships between learning content and spatial structures.

Summary Of Work

We have analysed 78 hours of video material from a total of 36 BST sessions with good interrater reliability. The theory based categorical scheme comprised learning content and spatial structures. In assessing the impact of the videographic method on the BSTs, we found that students did not rate the filmed BSTs better compared to the overall non-filmed BSTs.

Summary Of Results

BST lasted a median (MD) of 125 minutes and less than a third of the time was spent at the patient's bedside. The largest amount of time was dedicated to clinical examination (MD=38min), followed by clinical reasoning (MD=18min), case presentation (MD=14 min), history taking (MD =11min) and theoretical knowledge (MD=7min). History taking was primarily practiced at the bedside while case presentations, clinical reasoning and theoretical knowledge were largely taught away from the patient. Clinical examination took place to a similar extent in patients rooms and in theory rooms.

Discussion And Conclusion

The filmed BSTs show a picture of undergraduate medical education as it widely takes place in Germany – with scheduled courses away from the ward rounds. It is controversial that a large



proportion of time is being spent away from the patient's bedside: On the one hand, existing impediments to BST seem to still play a major role; on the other hand, students should possibly be better prepared practically in order not to spend valuable BST-time in the theory room. Our insights gained through videography can now be a starting point to further improve the current BST.

Take Home Messages

Only half of the Clinical Examination Practice takes place at the bedside during BST.

Case Presentations, Clinical Reasoning take place mainly away from the patient.



2K05 (2770)

Date of presentation: Monday 29th August

Time of session: 08:20 - 08:25

Location of presentation: Tete d'Or 2

Implementing a Peer Support Scheme for International Medical Graduates in an NHS Hospital Teaching Trust

Nilानी Murugesu¹, Adam Mohammad¹, Nicolette Morgan¹, Mark McCarthy¹

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Background

International Medical Graduates (IMGs) represent a significant proportion of junior doctors in the NHS. They face unique challenges, including: cultural and language adjustments, NHS working practices, forming support networks, and settling in the UK. The General Medical Council highlights the importance of enhanced induction, mentoring and peer support tailored for IMGs.

Summary Of Work

A peer support scheme was implemented in November 2021 across a large acute NHS Trust with a focus on Locally Employed Doctors (LEDs), particularly IMGs. LEDs new to the NHS are matched with a more experienced LED peer, with enrolment on a continuous basis. Furthermore, guidance documents were created for mentors and mentees. Evaluation includes an initial pre-project survey, and will be followed by interim and final surveys after peer matching.

Summary Of Results

During an initial survey of an independent cohort of LEDs, 83% (n=42) agreed that a peer support network for IMGs/LEDs would be beneficial. Qualitative findings, illustrated the key themes LEDs/IMGs required support in: adapting to NHS systems, establishing social support, and career progression. As of 16th February 2022, 24 mentees were paired with mentors, preferably within the same specialty and hospital site. Consideration was also given to the grade and number of years worked in the NHS by mentors and mentees. Formal evaluation will be made in March and June 2022 to assess: mentorship engagement, success in achieving mentorship goals, and challenges faced.

Discussion And Conclusion

Our findings show that despite current LED-targeted resources, a demand still exists for a support network specific to their needs. The enrolment and matching process was continuous due to the nature of LED recruitment. We aim to demonstrate that our scheme tailored for LEDs/IMGs facilitates networking, integration in the NHS, and improves wellbeing.



Take Home Messages

Our pre-project survey suggests peer support is viewed as beneficial among IMGs. We plan to assess the value of a formal peer support scheme tailored to IMGs who are new to the NHS.



2K06 (2967)

Date of presentation: Monday 29th August

Time of session: 08:25 - 08:30

Location of presentation: Tete d'Or 2

Collaborative testing in physical examination skills training and the autonomous motivation of students: a qualitative study

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Background

Teaching methods that stimulate active learning make a positive impact on learning in higher education. Collaborative testing blended with teaching is one such method. At our medical school, a training session was designed using a collaborative testing format to engage medical students actively in the theoretical phase of a physical examination training. This session was evaluated positively by our students. Therefore, we converted more trainings into collaborative testing sessions. The literature on collaborative testing and the theoretical framework underlying its motivational mechanisms is scarce; however, students have reported greater motivation. The aim of the current study was to investigate student perceptions of a collaborative testing format versus a traditional teaching format and their effects on student motivation.

Summary Of Work

Year four medical students attended seven physical examination training sessions: three in a collaborative testing format and four in a traditional format.

The students were asked to evaluate both formats through questionnaires comprised of two items on a five-point Likert scale and five open-ended essay questions. Content analysis was conducted on the qualitative data. The themes from this analysis were finalized through consensus of the full research team.

Summary Of Results

The quantitative data showed that 59 students (55%) preferred collaborative testing (agreed or strongly agreed), 40 students (37%) were neutral, and 8 students (8%) did not prefer collaborative testing (disagreed or strongly disagreed).



The themes for the collaborative testing format were: 'interaction', 'thinking for themselves', and 'active participation'. 'Interaction' and 'thinking for themselves' were mainly evaluated positively by the students.

The most mentioned theme for the traditional format was: 'the teacher explaining'. Students evaluated this theme both positively and negatively.

Discussion And Conclusion

The most mentioned themes for the collaborative testing format, namely 'interaction', 'thinking for themselves', and 'active participation', fit within the framework of the self-determination theory (SDT). Therefore, the collaborative testing format may support the fulfilment of the three basic psychological needs indicated in SDT: autonomy, competence, and relatedness.

Take Home Messages

Our findings provide initial support for the idea that the use of collaborative testing in medical education can foster the autonomous motivation of students.



2K07 (3658)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:35

Location of presentation: Tete d'Or 2

The Flipped Education Clinic for Graduate Medical Education

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Background

Graduate medical education (GME) presents inherent challenges when trying to balance resident education with clinical responsibilities. The flipped curriculum has time allocated for didactic learning through recorded lectures with associated case studies, prior to experiential learning through debriefing and supervised clinical experiences. While residents have rated the flipped curriculum positively, faculty perception of this teaching model is unknown. We present data from a pilot "flipped clinic" model during the Internal Medicine (IM) Endocrinology rotation, studied between April and December 2021. The Mayo Clinic Institutional Review Board approved the project.

Summary Of Work

IM residents were scheduled 4 half days of self-study, comprising instructional videos and associated cases prior to participating in the Resident Education Clinic the following week.

Residents and supervising faculty were surveyed with the modified version of the Flipped Curriculum Perception Instrument at the start (faculty) and end of clinic (faculty, residents). Likert scale responses were analyzed pre- and post-intervention.

Summary Of Results

21/33 (64%) of residents responded. Most (81%) had never participated in a flipped clinic. 8/21 (38%) preferred studying specialty-specific information prior to clinic, while the rest preferred faculty-led teaching guided by patient case-mix. Most residents (19/21, 90%) agreed or strongly agreed that online modules enhanced learning key concepts and their ability to develop a comprehensive care plan. However, only 15/21 (70%) completed all online modules. All respondents felt in-clinic discussion of key concepts enhanced learning.

Faculty response rate was 4/11 (36%) for the pre-survey and 5/11 (46%) for the post-survey. At baseline, all responding faculty were confident educators. There was no change to this perception after the clinic experience. All faculty reported better utilization of teaching time with the model. Faculty perception of the model in enhancing resident education was overall positive. 3/5 (60%) strongly agreed the model maximized experiential learning during the clinical encounter. No faculty felt the model was detrimental to resident knowledge acquisition, application or patient care.



Discussion And Conclusion

The flipped clinic model is well-received by residents and faculty and may enhance experiential learning during clinical encounters.

Take Home Messages

The Flipped Clinic is a viable educational model for GME.

Higher level Kirkpatrick outcomes for this model are an area for future study.



2K08 (1844)

Date of presentation: Monday 29th August

Time of session: 08:35 - 08:40

Location of presentation: Tete d'Or 2

Mind Map: A Technique for Colorful Expression of Medical Student's Academic Knowledge?

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Background

Mind Maps are visual summaries of ideas that are connected to the main, minor, and interrelated sub-issues. They help to see the big picture of the relationship of the various stories involved in the issue. It can develop a better systematic thinking process and can be used for educational purposes.

Summary Of Work

This study examined a Mind Map activity organized for fourth-year medical students by inviting two highly qualified speakers. The medical students were divided into five groups. Each group wrote a Mind Map of their chosen academic content and sent a representative to present it to their peers. After their peers finished listening, the presenter themselves assessed the understanding of the academic content presented, including its use. Fellow listeners rated the speaker on how well the speakers were able to provide understanding with the Mind Map method. At the end of the activity, they assessed the overall picture of the activity and whether it could convey knowledge and understanding of its use and should be held in the next year or not.

Summary Of Results

29 Medical students participated in this 3-hour activity, 62% of whom were male, average age 21.86+/-0.80. A full score of 5 given by listeners to the 5 Mind Map presenters received an average score of 4.30 +/- 0.23. The presenters assessed themselves by presenting them in the form of Mind Map, reaching an average score of 4.35 +/- 0.39. All medical students assessed the overall presentation of the Mind Map activity with an average score of 4.43+/-0.31.

Discussion And Conclusion

The overall assessment of this activity was considered an appropriate activity, with over 85% of medical students considering it to be held the following year. This activity also practiced



collaboration in activities together and exchanged ideas. It can also be used to build on for students to practice leadership in colorful presentations for lasting memories

Take Home Messages

Mind Map is a way teachers could choose to give medical students a colorful presentation and build great engagement and leadership.



2K09 (2599)

Date of presentation: Monday 29th August

Time of session: 08:40 - 08:45

Location of presentation: Tete d'Or 2

Epidemiological profile of patients treated in a philanthropic medical school and subsidies for pedagogical implementations in undergraduate medical education

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Background

There has been a migration from a hospital-centered model to outpatient care in recent decades, reflecting advances in medical sciences in diagnosis and treatment. However, several difficulties are observed in teaching in outpatient settings, including the maintenance of unpredictable cases and, consequently, unexpected interventions. Medical education also needed to adapt to this new reality, with a view of primary care and the community's needs. Thus, it becomes strategic for university medical centers to know the epidemiological profile of the community in which their respective students are inserted to improve their practical classes.

Summary Of Work

A cross-sectional study was carried out to analyze secondary data obtained from the medical records of a private clinic school in São Paulo, Brazil, especially the International Classification of Disease (ICD-10) Codes. Professors are responsible for filling in the ICD-10 of the main reason patient follows up in their respective specialty between August 2020 and June 2021.

Summary Of Results

Seventeen specialties were analyzed, finding 476 ICD-10 in total, where the most prevalent were: Obesity (4.09%), Systemic Arterial Hypertension (SAH) (3.19%), Allergic Rhinitis (2.98%), Asthma (2.37%), Fibromyalgia (2.33%) and Type 2 Diabetes Mellitus (DM2) (2.04%). In pulmonology, the primary demand (22.75%) was for patients cured of COVID19. The wide range of diagnoses observed in the clinic can provide students with diverse clinical reasoning. Obesity was the most prevalent disease because it was the leading cause of consultations in endocrinology, adolescent medicine, and general pediatrics (25.95%), following the global trend. Other chronic diseases common in the City of São Paulo, Brazil, and the World, SAH, DM2, Asthma, were also among the most prevalent causes, enabling the development of skills and abilities necessary for future general practitioners.



Discussion And Conclusion

The epidemiological knowledge of the cases treated at a school outpatient clinic encouraged pedagogical discussion and observation of the course's curricular matrix. It allowed alignment with the learning objectives, competencies, and entrustable professional activities.

Take Home Messages

- Align undergraduate entrustable professional activities to the epidemiological profile of your community;
 - Epidemiological knowledge systematization of cases attended by students should be encouraged in medical schools as a pedagogical tool.
-



2K10 (3950)

Date of presentation: Monday 29th August

Time of session: 08:45 - 08:50

Location of presentation: Tete d'Or 2

Development of a sustainable pedagogical model to enhance nurses' ability to support patient learning

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Background

Patients' participation in health care is considered a prerequisite for good and safe care. Students in health and medical education need to develop their pedagogical skills to support patients to learn about their own health and become prepared to participate as a partner in care and treatment.

Summary Of Work

Based on an Educational Design Research approach a pedagogical model to increase students' ability to identify and create pedagogical encounters with patients was implemented in a specialist nursing program. The model was grounded in learning theories and research on patients' learning. In line with the research approach, it has continuously been evaluated, analysed and developed. So far four iterations of the educational design have been carried through.

Summary Of Results

Although the evaluation of the model from start showed that students had increased awareness of how to support patients' learning some students were sceptical and deficiencies of ability to theoretically explain their actions were noted. Observing and performing own pedagogical encounters in the clinic was valued but support from supervisors was not sufficient. Measures has been taken to modify the model. A growing appreciation of the model has been noticed in the evaluations and the students' ability to perform and explain how to support patients' learning has increased. A remaining issue to manage is the clinical supervisors' lack of pedagogical knowledge since it inhibit support of the students' development of performing pedagogical encounters in the clinic.

Discussion And Conclusion

One strength of the pedagogical model is the ongoing learning process created by the various learning activities that stimulate the students to iteratively study, experience, apply and reflect on



their own, colleagues' and patients' learning. Another strength is that the model is grounded in learning theories. Increased collaboration between the university and the clinic is needed to improve the pedagogical model and increase support for the students during their clinical practice.

Take Home Messages

The systematic approach to development, evaluation, analysis related to learning theories and well-grounded changes appear to promote sustainable educational innovations.



2K11 (1988)

Date of presentation: Monday 29th August

Time of session: 08:50 - 08:55

Location of presentation: Tete d'Or 2

Learners in a mixed groups clinical teaching during a ward round – what do they learn?

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Background

There are several strategies in teaching a mixed group of learners of different levels of training/abilities. However, there is scant data on whether the individual learner attains a high order of learning/cognition.

Summary Of Work

We wanted to determine if learners of different levels learn optimally, that is, attain high orders of cognition, during mixed groups teaching in a clinical environment.

Our study is based on a ward team comprising mixed learners from different levels of training - 1 nurse clinician(NC), 1 final year medical student(MS), 2-3 residents(R) and 1-2 fellows(F). The same consultant conducts daily teaching ward rounds for 2 weeks. Each member of the ward team was to provide via email everyday 3 learning points that they have learnt from the ward round. After 2 weeks, the learning points were collated and deidentified. An assessor then classified them into one of the 6 levels of Bloom's taxonomy for cognitive domain to indicate the level of cognition attained. It was then determined if the learners learnt optimally.

Summary Of Results

A total of 60 learning points were received. Below is the breakdown:

Bloom's taxonomy for cognitive domain							
	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	No. of learning points
	Low order learning		High order learning				
NC	5(50%)	3(30%)	2(20%)	0	0	0	10
	8(80%)		2(20%)				
MS	1(17%)	2(33%)	1(17%)	2(33%)	0	0	6



	3(50%)		3(50%)				
R	12(43%)	8(29%)	2(7%)	3(11%)	0	3(11%)	28
	20(72%)		8(29%)				
F	1(6%)	4(25%)	2(13%)	5(31%)	0	4(25%)	16
	5(31%)		11(69%)*				

*p=0.0018

All learners achieved low order learning. Only fellows achieved more high than low order learning. This is significant compared to the other levels of learners (p=0.0018).

Discussion And Conclusion

All learners should optimise their learning in a mixed groups clinical teaching session by achieving high order learning as much as possible. In our study, we showed that all learners were able to achieve low order learning. However, only the highest level of learners, viz fellows, achieved mainly high order learning. The other learners achieved mainly low order learning.

Take Home Messages

In a mixed groups teaching, we should pay more attention to lower level learners to optimise their learning so as to attain more high order learning/cognition.



2K12 (4511)

Date of presentation: Monday 29th August

Time of session: 08:55 - 09:00

Location of presentation: Tete d'Or 2

Title: A Non-Evaluative Reflective Portfolio Provides Space for Grappling and Growth: Nine Years' experience at Columbia Medical School

Delphine Taylor¹, Hetty Cunningham¹

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Background

As competency-based health professions education programs increase their emphasis on developing self-regulated, adaptive learners, there is an emerging need for curricula designed to longitudinally support students in developing skills in reflective practice. Portfolios that include self-reflection have been implemented at several institutions, but questions remain regarding the outcomes of such programs. In this short communication, we present the reflective Portfolio curriculum developed at Columbia Vagelos College of Physicians and Surgeons (VP&S), describing its structure and outcomes related to student perception.

Summary Of Work

Launched in 2013, the VP&S Portfolio established reflective, creative curriculum and electronic archive for students to mark their journey through medical school as a means of cultivating reflective practice. The program includes nearly 20 in-class narrative medicine reflections, additional reflective work from clinical experiences, and semi-annual Signature Reflections, an entry that captures a student's review of 6 months of writings. Faculty preceptors review selected entries with their students.

Summary Of Results

Since 2013, more than 1200 medical students and 30 faculty have participated in the Portfolio program. A qualitative analysis of the Signature Reflections, analyzing 97 texts from 97 students, identified themes of recognition, empathy, and grappling. A second study, a series of 5 focus groups with 18 third-year students who reviewed their entire Portfolios, revealed three core themes (safe space, narrative experience, mirror of self) and one overarching theme (moving through time.) Students identified Portfolio curriculum strengths as providing a safe, reflective space, trusted faculty-mentors, and protected curricular time for reflection. Challenges include faculty development, conveying the importance of reflection and curricular time restraints.



Discussion And Conclusion

The portfolio curriculum has become a central aspect of VP&S medical student professional identity formation. Our findings suggest that such curricula should be required and sufficiently longitudinal to facilitate opportunities to practice writing for insight, foster relationships with faculty, and strengthen students' temporal perspectives of their development. Limitations include a single intuition's experience and the unknown longitudinal impact on our graduates.

Take Home Messages

A longitudinal, non-evaluative, Narrative Medicine-based, reflective portfolio curriculum with pauses for meta-reflection allowed students, with faculty support, to observe their trajectory through medical school, explore fears and vulnerabilities, and narrate their own growth.



e-Posters - Curriculum Approaches 1: PBL, TBL & Community based education

2L01 (3005)

Date of presentation: Monday 29th August

Time of session: 08:00 - 08:05

Location of presentation: Salon Tete d'Or

The Global Burden of Disease: A feasibility study for a novel curriculum development framework with a view to reconceptualising the training of universal professionals

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Background

International medical schools face a challenge when producing their curricula- they must produce graduates capable of working in both the university's regional setting and elsewhere that graduates may practice; this graduate was termed a "universal professional" by Brouwer et al. . Many criteria for assessing curricula are entrenched in values of the global north and are thus subject to bias. We propose the Global Burden of Disease (GBD) report, a worldwide epidemiological study describing national and global loss of Disability Adjusted Life Years (DALYs), as a possible framework for assessing this in a quantitative and potentially less biased manner.

Summary Of Work

To demonstrate the feasibility of the GBD as a curriculum assessing framework the entirety of the educational sessions (ES) provided by our institution, an international medical school, its undergraduate curriculum was reviewed, time-quantified and coded into three sub-categories: 1) GBD conditions: 369 mutually exclusive diseases, 2) Organ-system basic science, 3) Other important topics, as a pilot study.

The ES allocated to each sub-categories was totalled and enumerated as a percentage of the total curriculum.



Summary Of Results

Preliminary analysis for the first 3 academic years showed that when GBD conditions were grouped by the organ system, broad disparities were revealed:

Organ system	GBD %	RCSI curriculum % (first 3 years)
MSK/Trauma	7.46	23.7
Cardiac	11.82	8.7
Respiratory	11.57	6.9

Discussion And Conclusion

We have found discrepancies between our curriculum and the GBD highlighting areas for potential redress in future.

Utilising the GBD framework to assess medical curricula is a pragmatic way to ensure taught material is representative of students' future practice.

GBD enables curriculum reconceptualization, and discursive reflection on the historical and cultural context of medical education.

Take Home Messages

The GBD is a feasible, culturally unbiased tool for international medical programs to use in assessing the fitness of their curriculum to produce universal professionals.



2L02 (0856)

Date of presentation: Monday 29th August

Time of session: 08:05 - 08:10

Location of presentation: Salon Tete d'Or

Exploration of Students' Experience of the PBL Approach: A Qualitative Study

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¹ *Sulaiman Alrajhi University/University of Leeds (UK), Qassim, Saudi Arabia* ² *University of Dundee, Dundee, UK*

Background

In the past, it was common practice for Middle Eastern students to learn via the traditional style (lectures). The students were simply expected to listen and learn. Recently, the Problem-Based Learning (PBL) system became more popular within medical schools in the Middle East. PBL is a teaching strategy that provides students with case scenario formats within a small teaching group facilitated by a tutor. PBL is a student-centred approach which means that students are responsible for their own learning. Depending on previous learning experience, students may not only have differing views on PBL as a learning strategy, but they may also differ on how they understand PBL and the way in which they approach their learning as individuals.

Summary Of Work

A qualitative approach was selected to gain an in-depth understanding of PBL experience. Through this study, 17 semi-structured interviews were conducted to gather the view of (13) students and (4) tutors on different aspects of PBL. Data analysis involves reflexive thematic analysis (RTA) for the interviews after being transcribed.

Summary Of Results

The majority of the students had positive general experiences with PBL. They appreciate the PBL system, as it adds value for them, especially for their future practice via the development of lifelong learning skills, critical thinking skills and problem-solving skills. However, they encountered several challenges, such as access to references, heavy workloads and extensive time consumption.

Discussion And Conclusion

This study supplements the body of evidence in support of PBL based curriculum as one of the best approaches to "learning and teaching". However, poor implementation of PBL might undermine its educational impact.



Take Home Messages

A well-structured PBL approach may add value for both students and tutors.



2L03 (2195)

Date of presentation: Monday 29th August

Time of session: 08:10 - 08:15

Location of presentation: Salon Tete d'Or

Onsite or Online Problem-based Learning (PBL): That is not a problem!

Chih-Chien Cheng^{1, 2}, Da-Chen Chu¹

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Background

During the COVID-19 pandemic, medical students were mandated to remain home, creating challenges to providing education remotely for clinical courses. This study aims to assess student reception and investigate outcomes to determine if online PBL is a suitable and effective alternative.

Summary Of Work

This cross-sectional study is based on questionnaires designed and delivered to medical students and computerized examination scoring in a medical college. 44 medical students enrolled in the third-year during COVID-19 were asked to participate in a survey. Content of various examinations, faculty-led lectures, and resident-led problem-based learning (PBL) sessions were assessed using a ten-point scale. Board examination, weekly test, and term final examination scores were compared to previous years. The data were presented as percentages, and Chi-square tests were performed to compare the differences between two groups. The threshold for statistical significance was set at 5%.

Summary Of Results

During this period, there were 44 medical students enrolled, the median age was 22 years. Comparing in-person to online sessions, there was no difference in effectiveness of faculty sessions preparing students for weekly test (7.2 vs. 7.7, $P = .67$) or final term examinations (7.4 vs. 7.8, $P = .68$); there was also no difference in online PBL sessions preparing students for board examinations (8.4 vs. 8.6, $P = .84$). Comparing this group to the previous academic year, there was no difference in weekly test (8.5 vs. 8.7, $P = .23$), final term examination (8.9 vs. 9.3, $P = .17$), or board examination (7.5 vs. 7.7, $P = .43$) scores.

Discussion And Conclusion

Medical education could effectively be conducted through lectures and PBL sessions. Students did not have a preference between in-person and online content in preparation for examinations. Online or integrating education increased students' receptions as well as improved



academic performance. Online or integrating PBL sessions may be adequate for preparing students for examinations as alternative in times of crisis such as COVID-19 pandemic.

Take Home Messages

1. Implementation of online problem-based learning (PBL) could be used as a key in distal learning during the covid-19 pandemic
 2. Integrating or online PBL increased examination scores and students' satisfaction
 3. online PBL increased medical students' receptions and improved academic performance
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2L04 (4541)

Date of presentation: Monday 29th August

Time of session: 08:15 - 08:20

Location of presentation: Salon Tete d'Or

Can An Active Methodology Teach ACLS? An experience report.

Matheus Corrêa¹, André Luiz Vicentin de Cerqueira¹, Rogerio Saad Vaz¹

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Background

In ACLS (Advanced Cardiac Life Support), team's synergy is crucial during CPR (Cardiopulmonary Resuscitation), increasing individual and group efficiency and, consequently, the patient's survival rate. It's required to know how to do it, but also how to communicate and work as a team (1,2).

Summary Of Work

Undergraduate medical students during the third year of a methodological active curriculum simulated an ACLS attendance on TBL (Team Based Learning). Previously, independent study of AHA ACLS 2020 has been required. Teams were organized as follows: two medical doctors (one to lead and proceed defibrillation, and one to manage airways), one nurse to infuse medications and two paramedics to proceed CPR. Each student chooses which role to play at a time. AHA ACLS 2020 algorithm was performed with a mannequin simulator, defibrillator, monitoring and demanding apparel, under professor's supervision. After the procedure, the professor debriefed the activity, pondering strengths and weaknesses to the students.

Summary Of Results

Every student performed at least one, but mostly two, roles. During classes, it was perceived that previous study had been done. The professor guided the execution, step-by-step, of the first group. Then, students did it on peer-to-peer review, completing the algorithm steps, under professor's supervision. By this, undergraduate physicians experienced teamwork, requesting and being requested to execute steps.

Discussion And Conclusion

AHA stimulates team learning (1). Mariani and Fernandes (3) shows that simulation increases quality in training and the future of medical learning is to simulate. Boysen-Osborn et al. (4) demonstrates that TBL increases ACLS learning even six months after classes, as well as that is necessary redundancy of individual studies, then small-group discussions followed by large group debriefings. As it took place in a Brazilian private medical school, there was enough supply. Unfortunately, not



every school is capable of it, but where it is possible, TBL develops deeper understanding and better performance of the future physician (5), as will happen in their career.

Take Home Messages

The synergic Team Based Learning in ACLS is an efficient alternative to teach undergraduate physicians.



2L05 (3627)

Date of presentation: Monday 29th August

Time of session: 08:20 - 08:25

Location of presentation: Salon Tete d'Or

Community-based course enhances habits of systems thinker in pre-clinical year medical students.

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Background

Systems thinking is the critical component in health systems science framework. Since the systems thinking largely contributes to effectiveness of working within health systems, enhancing students' habits of systems thinking might be impactful. However, some literature argued the challenges in building of systems thinking habits and skills. Faculty of Medicine Ramathibodi Hospital provided 5-weeks compulsory Community Medicine course for 3rd year medical students. During the course, the students learned about health, determinants of health, health service systems, epidemiology, and systems thinking concept and tools. Then, the students were divided into groups of 23-24 to perform the community survey and qualitative data gathering to explore about health-related issues and synthesis the contextualized recommendations for the local health services. This study aimed to assess effects of the course on systems thinking habits in students.

Summary Of Work

We deployed 14 items self-assessment questionnaire on systems thinking habits, based on Waters' Center for Systems Thinking's habits of systems thinker. The self-assessment was done by the 3rd-year medical students before and after attending the course on voluntary basis. One-way paired t-test was applied to demonstrate the difference between the score.

Summary Of Results

One-hundred and ten students who participated in both before- and after- self-assessment were included for the analysis. The result shows the significantly improved of total score ($P < 0.001$). The analysis of the improvement in each 14 habits also demonstrates the significant improve in all habits ($P < 0.05$).



Discussion And Conclusion

Like some of existing literatures, the community-based, and project-based curriculum potentially improve the systems thinking habits. Since the course didn't provide only the concepts on systems thinking, but also gave the opportunity to the students to explore the complex and dynamic issues in health by themselves. The hand-on experience in community also allowed the students to crystalize and apply the concepts they have learned rather than remembering the concepts superficially. Moreover, the community experiences also guided the students about the importance of systems perspective and complexity awareness which potentially help them to work effectively in health systems.

Take Home Messages

Community-based approach allowed the students to know, understand, practice systems thinking and be systems thinkers who can make people health better.



2L06 (3302)

Date of presentation: Monday 29th August

Time of session: 08:25 - 08:30

Location of presentation: Salon Tete d'Or

Case-Based Learning vs Problem-Based Learning: Have We Assessed Enough?

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Background

There is a consensus that the adoption of an active learning model should be supported by reliable evidence. Active learning has been shown to promote higher-level thinking, peer collaboration, and problem-solving skills. Case-based learning (CBL) and problem-based learning (PBL) are currently the leading active learning strategies in medical education. To date, two of the noteworthy appraisals of the effectiveness of CBL and PBL respectively are a systematic review including 104 independent studies and a meta-analysis of 12 randomized controlled trials (RCTs).

We argued that a direct comparison of CBL and PBL would help reduce bias resulting in a more accurate assessment of their learning outcomes to support the design and/or improvement of medical curricula including our own at Western Atlantic University School of Medicine (WAUSM). To that end, we conducted a thorough review of RCTs to directly contrast CBL and PBL. A randomized controlled trial is a gold standard in clinical trials and the most stringent way of collecting high-quality evidence.

Summary Of Work

An electronic search was performed in three databases, PubMed, Embase, and Trip, to identify RCTs published between January 2000 and December 2020 that aimed at comparing the learning effectiveness of CBL and PBL. The PICO (Participant Intervention Comparison Outcome) method was used to structure the research question and guide the search using various terms for comprehensiveness.

Summary Of Results

A total of 77 records were identified. A 2-step process was applied to select the most relevant studies. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) Flow Diagram was used to apply the inclusion criteria followed by a Critical Appraisal Skills Programme (CASP) screening to assess the quality of identified RCTs. This stringent screening resulted in the retention of two studies.



Discussion And Conclusion

To date, very few published randomized controlled trials (RCTs) aimed at comparing the effectiveness of CBL and PBL. Due to limited evidence, we were unable to draw a valid conclusion. Moving forward, we strongly believe that more research is warranted to clarify the merits and limitations of the two leading active learning methods to help guide their adoption and implementation in medical education.

Take Home Messages

We have not yet assessed enough!



2L07 (3781)

Date of presentation: Monday 29th August

Time of session: 08:30 - 08:35

Location of presentation: Salon Tete d'Or

Comparison Between The Adaptation Of Medicine Academics With PBL and Disciplinary Curriculum To Remote Learning During The Covid-19 Pandemic

Izabel Cristina Meister Coelho¹, Adriana Buechner Freitas Brandao¹, Mariana Xavier e Silva¹, Ana Carolina Bernard Veiga¹, Carolina Arissa Tsutida¹, Maria Paula Miranda Mattei¹, Raphael Bernardo Neto¹

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Background

In 2020, due to Sars-CoV-2, there was a reassessment of the teaching-learning process, as students had to adapt to online classes. Recent papers showed that students using PBL would more easily adapt to e-learning. Thus, there is a discussion about whether medical students in PBL curricula adapted better to this new scenario compared to students in disciplinary curricula.

Summary Of Work

This is an exploratory-descriptive study, with a quantitative approach via Google Forms for medical students between the 2nd and 4th year of private medical schools in Paraná, using a five-point Likert scale.

Summary Of Results

There was a total of 269 participants, with 160 (59.9%) students from schools with a PBL curriculum and 109 (40.1%) from those with a disciplinary curriculum. Most students took over 4 weeks to adapt to online classes (PBL 43.1% and disciplinary 34.8%), they disagreed about whether the adaptation to theoretical-practical classes was good (PBL 27.5% and disciplinary 32.1%), and agreed on the need to adapt the study routine (PBL 72.5% and disciplinary 81.6%). Regarding the assessments carried out online, most were able to adapt (PBL 47.5% and disciplinary 29.3%). However, they reported that their knowledge was not evaluated similarly to what happened in person (PBL 31.2 % and disciplinary 49.5%).

Discussion And Conclusion

The adaptation of the groups happened in a similar way, indicating that the student's individuality and ease of adaptation were more relevant than the curriculum in which he is inserted. The students reported that the practical classes and knowledge.



There was no significant difference between the adaptation of students to the different curricula. Thus, the work presented discordant results with the existing literature.

Take Home Messages

The teaching methodology did not significantly interfere with the process of adapting to e-learning. However, the students identified that the virtual practical classes and assessment of knowledge in tests were incompatible with their face-to-face counterparts.



2L08 (3223)

Date of presentation: Monday 29th August

Time of session: 08:35 - 08:40

Location of presentation: Salon Tete d'Or

Effectiveness of Problem based Learning (PBL) and Non-PBL Instructional Methods for learning Health System Science (HSS) in the Preclinical Curriculum

Orla O'Donoghue¹, Maria Lyn Quintos-Alagheband¹

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Background

HSS is evolving as a distinct discipline in US medical schools. Effective instructional methods to nurture systems thinking need to be examined. PBL offers a platform to promote student learning of HSS in real-world cases. At New York University Long Island School of Medicine (NYULISOM), HSS was adopted as a key curricular pillar. HSS learning objectives (LOs) were distributed across a three-year longitudinal curriculum. PBL, seminars, lectures, and small group workshops were analyzed to explore best instructional methodologies for HSS content delivery.

Summary Of Work

Student course evaluation on the effectiveness of HSS learning, and exam performance were compared for PBL versus non-PBL methods (n= 48) over two years (2019-2020 and 2020-2021).

For knowledge performance, a total of 26 USMLE style multiple choice questions (MCQs) HSS PBL-tagged questions were identified for analysis and 26 HSS non-PBL questions were randomly chosen for comparison. A paired t-test was performed comparing performance on PBL versus non-PBL questions. Question quality was assessed using an unpaired t-test on point biserial values.

Feedback from weekly PBL facilitator meetings on HSS LOs were recorded.

Summary Of Results

Table 1: Student’s Evaluation of Instructional Methodologies for Learning HSS

Instructional Method was Effective at advancing knowledge of HSS	Non-PBL Small Group	Non-PBL Large Group	PBL
------------------------------------------------------------------	------------------------	------------------------	-----



	Wokshops	Discussion	
Strongly Agree and Agree 2019-2020 N =16	75%	81%	94%
Strongly Agree and Agree 2020-2021 N = 15	80%	87%	93%

There was no significant difference in question quality between PBL and non-PBL questions ($p= 0.57$). Students performed 5% higher in PBL derived LOs vs Non PBL, however this difference was not statistically significant ($p= 0.19$).

Table 2. Medical Knowledge Performance with USMLE-type MCQs.

HSS MCQ	PBL	Non-PBL	p- Value
Student's Performance	86.59% (SD = 15.07)	81.58 (SD 12.38)	$p= 0.19$

Discussion And Conclusion

Students perceived that they were learning HSS more effectively in PBL, compared to other teaching modalities. PBL process gave students a platform to be innovative in their approach to learning the HSS topics. Students successfully extracted HSS LO's from the cases.

Take Home Messages

PBL is an effective instructional method and should be considered part of the toolbox to design and implement HSS curriculum.



2L09 (3704)

Date of presentation: Monday 29th August

Time of session: 08:40 - 08:45

Location of presentation: Salon Tete d'Or

Learning through teaching in the community can develop transferable skills and deliver positive social impact.

Jacqueline O'Dowd¹, Tom Evans¹, Joanne Selway¹, Joanne Harris¹

¹ *University of Buckingham Medical School, Buckingham, UK*

Background

Studies show an increased awareness of emergency care in lay populations improves patient outcomes. Given the widespread agreement that teaching a subject increases the teacher's learning, we examine if student-led teaching can have a positive benefit for the individual and society.

Summary Of Work

We evaluated the impact of medical students delivering first-aid training to the community and the resultant impact on the students and public.

Third year medical students (n=77) were provided with basic media training and trained as First Aid trainers. The students then delivered basic life support (BLS) with First Aid teaching to the public visiting a local shopping-centre. Members of the public who participated answered a pre-and post-teaching questionnaire on their knowledge of BLS and their experience of student teaching.

A smaller study invited local teenagers to complete the same questionnaires after watching a social media video of the demonstration created by the medical students.

Data was collected from the students to assess their experience of delivering the course together with levels of confidence in teaching BLS and First Aid throughout the course.

Summary Of Results

Students agreed this teaching strategy encouraged active learning. Qualitative data indicated that first person stories from members of the community motivated them to engage with teaching. The experience also increased the students' awareness of the need to engage a wider public demographic. All students expressed a desire to reduce health inequalities and improve access to educational information.

Student-led teaching in the community increased lay knowledge of BLS and increased bystander confidence. Teenagers who watched the online video suggested the near-peer teaching increased



their engagement and they would use it as a resource, especially if additional simulation scenarios were made relatable to teenage experiences.

Discussion And Conclusion

The course has provided a meaningful learning experience for students, developing their BLS and First Aid skills and improving their awareness of health inequalities. It also has a positive impact on the community confidence and knowledge of emergency care.

Take Home Messages

Learning by teaching is an effective method to teach medical students core and transferable skills.



2L10 (1408)

Date of presentation: Monday 29th August

Time of session: 08:45 - 08:50

Location of presentation: Salon Tete d'Or

Case-based learning combination with web-based simulator and its application in training undergraduate for caring patients in stroke unit: Buriram hospital, Thailand.

suporn travanichakul¹

¹ *Division of Medicine, Buriram hospital, Buriram, Thailand*

Background

Traditionally, medical students went to lectures and then transitioned into patient care as a type of on-the-job training. However, authentic patients were sophisticated, especially stroke patients. The treatment approach needed to be tailored by individual regarding with current standard knowledge, their mental and social aspects. Case-based learning (CBL) could enhance students' learning experience by integrating clinical knowledge and conceptualization of human being in a realistic scenario. Because hyperacute stroke care was time sensitive, web-based simulator (WBS) was delegated for practicing decision making.

Summary Of Work

From September 1st, 2021 to December 31th, 2021, there were 30 5th year medical students who graduated this program. Each student attended stroke unit for 2 weeks. Initially, they had pre-test assessment in a multiple-choice format . Then, they were assigned the patients who admitted in stroke unit executively (median about 10 patients per one medical student). Medical students were asked to present orally every patient, those newly diagnosed. Their report distributed patient history, physical examination, investigation (including CT/ MRI brain) interpretation, diagnosis and treatment. During discussion, the medical student would be given the guidance so that important learning points were discovered. After the initial one week of course, medical students were encouraged to attend 1 hour lecture session for acute stroke management which was based on current guideline from American heart association and American stroke association 2021. And medical students would select only one interesting patient for paper report. Meanwhile, the medical students cooperated web-based simulator by attending this free resource website (<https://www.angels-initiative.com>) at least 2 hours a week. Post-test assessment was done at the finishing the course. Questionnaires and Likert scales were used to evaluate students' satisfaction and confidence.



Summary Of Results

Results from knowledge testing showed significant difference in scoring between pre-test and post-test (median score 6 vs 10, $p < 0.05$). Medical students reported high level of satisfaction and confidence.

Discussion And Conclusion

CBL combination with PBS provide a novel way of organizing stroke care training and appears to be promising approach to facilitate participant learning.

Take Home Messages

CBL combination with PBS show a promising potential for stroke care training. Application this approach by virtual conference could be alternative in this COVID-19 epidemic era.



2L11 (2562)

Date of presentation: Monday 29th August

Time of session: 08:50 - 08:55

Location of presentation: Salon Tete d'Or

“Online Problem-Based Learning” at Akaki Tsereteli State University

Tamara Valishvili¹, Irine Pkhakadze¹

¹ Akaki Tsereteli State University, Kutaisi, Georgia

Background

The Corona Virus has threatened the universities and generally the whole system of medical education. Online teaching was a huge challenge for implementator's of MD educational program at ATSU. By spring's semester 2019-2020 we adapted to conduct MD program by using TEAMS platform. The National sectoral benchmark of Medical Education obliged us to use modern teaching and assessment methods, such as PBL.

Summary Of Work

After the completion of the PBL course a typical survey among 130 students was carried out. The questionnaire took into account various aspects related to the pbl method: These aspects were based on six characteristics of PBL: student-centered learning; learning in small groups; teacher as facilitator; problems as the stimulus for learning; problems that reflect the real world; acquisition of new information through self-directed learning.

Summary Of Results

the comparative analysis of similar surveys was done, which were conducted before the pandemic, when training was offline. Based on the analysis, the conclusion was made that PBL method remains effective in online learning.

Discussion And Conclusion

PBL – method has been tested and recognized as one of the most effective methods of medical education. The question arose - how to adapt the PBL method online.

Teamwork and collaboration are essential to PBL. In a traditional PBL classroom. Using PBL in remote learning let teachers build a meaningful curriculum while giving students the opportunity to collaborate and connect with each other — even if they're not able to have face to face communication.

PBL method helps us to gain the compency of clinical reasoning during online-studying period.



Take Home Messages

Microsoft TEAMS platform helped to solve this task, **PBL classes have been adapted taking into account the specific characteristics of online studying:**

1. Mandatory use of a webcam;
 2. The function of “hand raising” to regulate the process of discussion.
 3. Chat - where students express their opinions, share links, and write individual remarks or questions.
 4. The digital whiteboard – which allow students to create concept maps or sketch out ideas.
 5. Screen sharing feature makes it easier for students to work together in particular situations.
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2L12 (2339)

Date of presentation: Monday 29th August

Time of session: 08:55 - 09:00

Location of presentation: Salon Tete d'Or

Real-time Student Feedback in Team-based Learning

Siew Ping Han¹, Lishan Yang¹

¹ Lee Kong Chian School of Medicine, Nanyang Technological University of Singapore, Singapore, Singapore

Background

Team-based learning (TBL) is an instructional format driven by student-centred collaborative learning. It is an active learning alternative to lectures for large class sizes and has become increasingly adopted in medical education. The transition to online synchronous TBL during the Covid-19 pandemic has disrupted the normal student-instructor interface. It is difficult for instructors to gauge student levels of engagement and understanding in online lessons, which has led to challenges in pitching explanations optimally.

Summary Of Work

A bespoke student-driven feedback tool was integrated into our undergraduate medical school's online learning management system. The tool appears on students' user interfaces as a non-intrusive icon which they can click anytime to access a pull-down list of feedback options (developed in collaboration with students, such as "already understand" or "clarify in simple terms"). Student selections are immediately consolidated in a pie chart which provides instructors with at-a-glance, real-time feedback to allow them to potentially adjust their lesson delivery accordingly. Further, feedback via our tool is completely student-initiated – they choose whether to click it based on how they feel about the current discussion or teaching delivery.

Summary Of Results

Both students and instructors found the interface intuitive and useful. Instructors felt it substituted for the "vibes" from a live class, but questioned whether the feedback was representative, since the overall participation rate of the class was low (<10% response rate). Instructors overall used the feedback to adjust their delivery, for example pausing for questions or concluding a point that had already been made.

Discussion And Conclusion

Studies of feedback from students to teachers have found that effective feedback should 1) be timely, 2) actively involve students, and 3) translate into better teaching (Carless 2016). Our tool



fulfils the first two criteria by providing students with an easily accessible option to initiate instant feedback. However, the pull-down list options were inadequate to inform instructors on how to improve teaching. Therefore, more work is needed to enhance this aspect of the tool.

Take Home Messages

Students appreciate having the option to provide feedback while lessons are on-going. Feedback should be both timely and meaningful to be effective.



2L13 (4677)

Date of presentation: Monday 29th August

Time of session: 09:00 - 09:05

Location of presentation: Salon Tete d'Or

Role of medical students in empowering rural health in Sudan, December 2018

Abdullah Satti¹, Salih Mohammed ¹

¹ *University of Gezira, Wad medani, The Sudan*

Background

Services in rural communities are either of low quality or insufficient compared to the city. Besides that, the nature of rural areas makes the rural residents more susceptible to many health problems. Unfair distribution of health services and the low socioeconomic status are constituting a big challenge to rural residents in Sudan.

Summary Of Work

To explain the role of medical students at the University of Gezira in empowering rural health, solving health problems and promoting services in Wadshamaa village in rural Sudan, Gezira state.

This was a rural residency program included in the curriculum of faculty of medicine Gezira University. Students are divided into groups and distributed to villages to implement an integrated health program and plan for interventions. Content of the program includes a therapeutic day, school health and health education sessions for adults, and environmental treatment. A survey to collect information about the village was conducted to identify and plan to solve the main health problems and social services issues in collaboration with the villagers and authorities.

Summary Of Results

the students identified the projects they shall lead and implement according to need analysis . Mainly, it was decided that a constant immunization staff should be provided and available in the village due to immunization insufficiency amongst the children of the village (ongoing) .429 patients have met the doctors and received treatment in the therapeutic day with 10 being referred to city hospitals. More than 35 plants were planted. Awareness raising posters were distributed to pupils and villagers that address many health problems



Discussion And Conclusion

This program represented the action of social accountability implemented in collaboration with the faculty.

Take Home Messages

We recommend the continuation of such programs with the faculty and authorities in the country.



2L14 (3634)

Date of presentation: Monday 29th August

Time of session: 09:05 - 09:10

Location of presentation: Salon Tete d'Or

Social Accountability in medical education during COVID-19 pandemic

Tomáš Petras¹, Maria Al Rachid¹

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Background

For years now, the **International Federation of Medical Students' Associations** has been working on promoting **Social Accountability** and engaging students in this field. For the 2020/2021 term, IFMSA **Standing Committee on Medical Education (SCOME)** has been working on "*Health Workforce 2030*" as a Global Priority and recognizes Social Accountability as a crucial pillar in achieving concrete results in the upcoming decade. Furthermore, in the wake of the COVID-19 pandemic, the limitations of our healthcare systems became clear, highlighting the need for quality education and training for healthcare workers. In order to target IFMSA's actions, assessing the Social Accountability in medical schools worldwide during the COVID-19 pandemic is mandatory.

Summary Of Work

In November 2021, the SCOME International Team implemented a campaign whose objectives were to raise medical students' awareness of the concept and importance of Social Accountability in Medical Education and promote the various tools to assess the status quo of their respective Medical Education Systems. Building up on the campaign, an Online Social Accountability Workshop was held to capacitate 20 motivated members on more profound knowledge, skills and attitudes to hold activities, which aimed to improve Social Accountability locally and nationally. The SCOME IT is working on conducting a Global Survey during the months of February and March to evaluate how much Social Accountability in medical education was affected by the COVID-19 pandemic and what activities students held to promote it. Data will be analyzed and announced during the AMEE Conference.

Summary Of Results

Data will be analyzed in the period April - May and ready for presentation at AMEE2022 in August.

Discussion And Conclusion

This pandemic can be considered a transforming milestone in our educational and health systems, as it sheds light on things that could have been done differently to face this global threat. Towards more



socially accountable medical education, there is a need for the student's perspective and engagement.

Take Home Messages

Social Accountability in Medical Education has been affected on all levels. There is a lot of collaborative work to secure quality, equitable, efficient and relevant medical education, not only during public health emergencies, but during the recovery period too.



Workshop 2M (1544)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 3A

Educator, Assess Thyself ...for Professional Development

Laura Edgar¹, Amy Miller Juve², Brijen Shah³, Eric Holmboe¹

¹ Accreditation Council for Graduate Medical Education, CHICAGO, USA ² Oregon Health & Science University, Portland, USA ³ Icahn School of Medicine at Mount Sinai, New York, USA

Background

Clinician Educators (CEs) are essential to learners across the continuum of medical education. The scope and breadth of roles has grown exponentially over the last few decades across multiple domains, resulting in limited guidance for the professional development of the practicing CE. To fill this void, representatives and experts from multiple organizations in the United States developed a novel series of CE competencies and Milestones, using the Dreyfus Stage Model of Development. Through an iterative process, four competencies and 18 subcompetencies were identified that can be used by educators, educational leaders, and educational scholars to support professional development. Whether new to the role or a seasoned educator, these CE Milestones provide an opportunity for critical self-reflection of knowledge, skills, and attitudes against a developmental framework across the continuum. The results of the self-reflection can be used to identify the next steps in professional development for the roles of clinician educators.

In this session, we will review the Milestones and offer ideas for implementation across the continuum of medical education. Additionally, this session will allow for self-assessment and group discussion about opportunities for professional development. Participants will leave with a self-assessment and an action plan for personal development in 1-3 of the subcompetencies. The session will end with a discussion on how to use these for career development and programmatic faculty development.

Who Should Participate

All Clinician Educators are invited to participate

Structure Of Workshop

- Introduction and background (5 minutes)
- Small and large group discussion: What does it mean to be a effective clinician educator? (10 minutes)
- Overview of CE Milestones (15 minutes)
- Self-reflection on 3 subcompetencies followed by small group discussion: What subcompetencies did you choose to self-evaluate and why? (15 minutes)



- Discussion of professional development opportunities (10 minutes)
- Small and large group discussion: How might these Milestones aid your career development? (20 minutes)
- Q&A (15 minutes)

Intended Outcomes

At the end of this session, participants will be able to:

1. perform critical self-reflection with the clinician educator milestones.
 2. create a professional development plan
 3. identify how these milestones can facilitate and contribute to advancing your career as a clinician educator and programmatic faculty development.
-



Workshop 2N (2228)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 3B

World Café as a brainstorming and networking platform in postgraduate medical education

Friederike Bennett¹, Julius Josef Kaminski², Anne Franz²

¹ Charité – Universitätsmedizin, Berlin, Germany ² Charité - Universitätsmedizin, Berlin, Germany

Background

A World Café is an interactive and flexible workshop method to initiate and host a large group dialogue. Therefore it can also be used as a tool for networking and brainstorming ideas which is the purpose of this workshop.

Who Should Participate

Anyone with an interest in international collaborations and sharing ideas in the area of postgraduate medical education.

Structure Of Workshop

In this workshop we will use the World Café method to discover potential new synergies and encourage the establishment of new networks in postgraduate medical education. In small rotating groups you will be able to either exchange your project ideas, discuss a running project or simply share your specific area of interest. All ideas are welcome. Areas of interest can be shared in a document at the end of the workshop.

Intended Outcomes

This world café workshop aims to serve as a brainstorming and networking platform for projects in postgraduate medical education.



Workshop 20 (3394)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 4

A synthesis between cultural contexts in developing continuing professional development initiatives

Esther de Groot¹, Mildred López-Cabrera², Helena Filipe³, Samar Aboulsoud⁴, Dave Davis⁵

¹ UMC Utrecht, Department of General Practice, Utrecht, The Netherlands ² School of Medicine and Health Sciences, Monterrey, Mexico ³ Faculty of Medicine, University of Lisbon, Lisbon, Portugal ⁴ Cairo university, Cairo, Egypt ⁵ Mohammed Bin Rashid University of Medicine & Health Sciences, Dubai, The United Arab Emirates

Background

A growing amount of attention has been given in recent years, to the importance of adjusting medical education into different cultural contexts. For the complex, heterogeneous field of CPD, attention has been primarily focused on establishing some common ground to ensure patient safety and encompassing globalization challenges in healthcare.

Departing from evidence and regional experiences, this workshop will offer the exciting opportunity to collaboratively explore on how to meaningfully adapt substantive equivalent principles and processes of effective CPD to the contextual needs of diverse cultural environments. Adaptations of the content as well as the pedagogies of CPD to different cultural contexts will be considered.

This is a workshop on behalf of AMEE CPD committee.

Who Should Participate

CPD educators, accreditors, regulators, providers and all individuals interested in CPD.

Structure Of Workshop

In this workshop, a collection of brief presentations will trigger small group conversations, where all participants' experiences are welcome.

Highlighting literature about the cultural implications on the continuum of lifelong learning, the short lectures will pave the way to share experiences on CPD initiatives in different cultural contexts, successful approaches and how CPD in the future could look like.

15 min Welcome remarks. Communication of Goals and Objectives. Participants mention one aspect of their own culture affecting medical education.



15 min Short presentations with a few highlights from the literature about the conceptualization of culture, the particular case of CPD and lifelong learning.

30 min Small groups discussions about these considerations applied to CPD development and what additional ideas participants may come up with. Each group develops one keyword. Every participant shares how this keyword is developed in initiatives in their cultural context

30 min Representatives of each small group share their finding. As a result, a short list of recommendations for CPD developers worldwide on how to check findings / designs from other cultures

Intended Outcomes

- ideas and inspiration on how to adjust CPD into different cultural contexts
 - a short list of recommendations for CPD developers worldwide on how to check findings / designs from other cultures
-



Workshop 2R (3676)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Roseraie 1

Building a competency-based approach toward student engagement in medical education

Mădălina Mandache^{1,2}, Tomáš Petras^{1,3}, Tao Le^{4,5}, Catarina Pais Rodrigues^{4,6}

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark* ² *University of Medicine and Pharmacy of Craiova, Craiova, Romania* ³ *University of Pavol Jozef Šafárik, Košice, Slovakia* ⁴ *ScholarRx, Louisville, KY, USA* ⁵ *University of Louisville, Louisville, KY, USA* ⁶ *Hospital do Espírito Santo de Évora, Évora, Portugal*

Background

IFMSA has contributed to connecting and capacitating medical students in developing their education. This vision entails students with knowledge about educational strategies and curriculum development and committed to establishing partnerships between students and faculty. IFMSA developed the Competency Model for Medical Education Advocates, a framework describing essential competencies necessary for meaningful students' engagement and outlining clear objectives.

In this workshop, participants will be introduced to the core tenets of the competency model. This workshop moves away from the traditional frameworks of student engagement and introduces a new way of amplifying the voices of the receivers of curriculum and, ultimately, the future medical educators.

MeSAGE, the Medical Student Alliance for Global Education, was established by ScholarRx in collaboration with IFMSA and other student organizations. It is a global initiative to foster the development of open-access education on the ScholarRx digital learning platform and address gaps in traditional medical school curricula. The workshop will demonstrate how MeSAGE supports the IFMSA Competency Model.

Who Should Participate

Students, educators, lecturers, professors

Structure Of Workshop

2. Welcoming, introduction, and review of goals
3. Overview of student engagement in medical education and the IFMSA Competency Model for Medical Education Advocates



4. Using a guided worksheet based on the IFMSA Competency Model, each small group will brainstorm and select a student-driven medical education initiative and develop a rationale
5. Overview of the Medical Student Alliance for Global Education and how it supports the IFMSA Competency Model
6. Each small group will develop a design and implementation plan for their particular initiative using a guided worksheet
7. Discussion of key takeaways regarding student advocacy in medical education with Q&A.

Intended Outcomes

At the end of this workshop, participants will better understand the importance of student engagement in medical education and how to capacitate and support their medical students towards meaningful engagement.

They will also be introduced to the recently developed Competency Model by IFMSA to guide and capacitate students on their role in developing their education. Participants will leave with ideas on capacitating medical students to increase student engagement in their institutions with accessible digital learning platforms such as ScholarRx. Students will leave empowered on how to engage in their educational systems.



Workshop 2S (4424)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Roseraie 2

Alternative Career Paths for a Future MD

Dilge Kocabaş¹, Alexandra Nobre², Sude Çavdaroğlu³, Philippa Lantwin⁴, Alexandra-Aurora Dumitra⁵,
Irem Aktar⁵ Berkay Akad Ülker⁵

¹ Izmir University of Economics, Izmir, Turkey ² NOVA Medical School | Faculdade de Ciências Médicas, Lisbon, Portugal ³ Maltepe University, Faculty of Medicine, Istanbul, Turkey ⁴ Heidelberg University Faculty of Medicine, Department of Pediatrics, Heidelberg, Germany ⁵ European Medical Students' Association, Brussels, Belgium

Background

Medical studies provide the foundation not only for a wide array of specialties but associated careers mostly unknown to medical students. The lack of information puts students at risk for uninformed decisions, making the importance of mentorship and guidance undeniable. As the European Medical Students' Association (EMSA) we pay substantial attention to raising awareness and educating its members on various topics including career making and mentorship. In this workshop, we hope to be able to discuss the principles of fruitful mentoring as well as our view and support as medical students during the medical education journey.

Who Should Participate

The workshop addresses students and academic personnel interested in career development and mentoring.

Structure Of Workshop

We propose the following structure for the workshop:

1. Brief introduction focused on explaining the need for students to have first-hand experience and guidance to diverse career options through mentoring programs that help them build their own path
2. Presentation of our work on the topic, briefly exploring the "Career Options of an MD" booklet and presenting the outcomes. Exploring the career options presented in the booklet:
 1. Space Medicine
 2. Government/Politics
 3. Venture Capitalist Analysis
 4. Consultancy



5. Entrepreneurship
 6. Health Journalism
 7. Neurogenetics
 8. Medical Engineering
 9. Patient Experience Office Management
 10. Humanitarian Medicine
 11. Occupational & Environmental Health
 12. Medical Counsel
3. Presentation of an EMSA article on mentoring and the benefits of career counseling and mentoring
 4. Discussion and solution brainstorming, promoting the sharing of experiences focused on students' needs and current mentoring programs in place
 5. In this part of the workshop, participants would be divided into small groups, with the aim of discussing the best way to structure a mentoring program, focused on unorthodox career paths.
 6. Conclusion and take-home messages.

Intended Outcomes

With this workshop we aim to raise awareness about the importance of career guidance and mentoring, understanding the need to present different career paths to medical students, broadening their horizons, and preparing them for those careers while still in university. Furthermore, we intend to stimulate discussing, sharing best practices and experiences, with the end goal of coming up with group-based solutions.



2T Meet the Expert – Bill Spady

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Roseraie 3

Would you like to find out more about Outcome Based Education or maybe follow up on some of the key messages from Bill's plenary presentation? Maybe you would like to discuss how OBE might be applied in your situation? Come to talk with Bill, "Father" of the OBE Movement and its ongoing evolution since the 1970s.



Workshop 2U (1901)

Date of presentation: Monday 29th August

Time of session: 08:00 - 09:30

Location of presentation: Bureau Terreaux

When Words Hurt: Helping Faculty Receive and Respond Constructively to Critical Evaluations of Teaching

H. Carrie Chen¹, Susannah Cornes², Dario Torre³, Tracy B. Fulton², Sandra Oza⁴, Arianne Teherani²

¹ *Georgetown University School of Medicine, Washington DC, USA* ² *University of California San Francisco School of Medicine, San Francisco, CA, USA* ³ *University of Central Florida College of Medicine, Orlando, FL, USA* ⁴ *Albert Einstein College of Medicine, Bronx, NY, USA*

Background

Learner evaluations of curricular experiences and instructors are commonly employed by institutions to obtain feedback and guide improvement. However, to be effective, evaluations must prompt faculty action. Unfortunately, evaluative comments that engender strong reactions may undermine the process by hindering innovation and improvement steps. The literature suggests that faculty interpret evaluation feedback not just as a judgement on their teaching ability but on their person/professional identity. In this context, critical evaluations, even when constructively worded, can result in disappointment, hurt, and shame. The COVID pandemic has challenged institutions and faculty to repeatedly adapt and readapt their curricula and educational practices to suit a range of remote and hybrid curricular formats. In this current setting of increasing concern for faculty burnout, the risk of “words that hurt” is higher than ever. This workshop invites participants to consider strategies for faculty reframing and development, and share potential institutional solutions for ameliorating counterproductive effects of learner evaluations.

Who Should Participate

Educators who receive and/or oversee learner evaluations.

Structure Of Workshop

- Brief overview of goals of evaluation and challenges with critical evaluations (constructive and non-constructive) at both the faculty and institutional level
- Participants in small groups, will discuss case scenarios with critical evaluations focusing on faculty reactions and potential missed opportunities for improvement
- Large group discussion of key small group findings
- Small group discussion of potential solutions, resources, and best practices from their own institutions focusing on
 1. Steps individual faculty can take
 2. Steps institutions can take



- Large group discussion of key recommendations and resources, summary and wrap-up

Intended Outcomes

Participants will gain a broader understanding of faculty challenges with critical evaluations. They will leave with a list of resources and various strategies for helping faculty respond constructively through 1) faculty development and 2) institutional practices, that may be implemented at their home institutions.



Symposium 3A (0243)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Amphitheatre

From informative teaching to transformative learning; revitalising the pedagogy of clerkship education

Subha Ramani¹, Tim Dornan², Martina Kelly³, Mini Singh⁴, Hannah Gillespie⁵

¹ Brigham and Women's Hospital and Harvard Medical School, Boston, USA ² Queen's University, Belfast, UK ³ Cumming School of Medicine, University of Calgary, Calgary, Canada ⁴ University of Manchester, Manchester, UK ⁵ Queen's University, Belfast, UK

Background

Clerkship education is pivotal. It crystallises years spent preparing for practice. It accelerates students' metamorphoses into doctors. It shapes capability to practise and lays foundations for lifelong practice-based learning. It is currently subject to many forces for change: 1) Within healthcare, workforce shortages, inter-professionalism; and the unacceptability of learning by trial and error. 2) Within curricula, tensions between: preparation for practice vs learning in practice; breadth of experience vs depth of immersion; standardisation vs individualisation; teaching vs active learning; and learning vs assessment. 3) Within theory: individualism vs socio-culturalism; hierarchy vs collectivism; simplicity vs complexity; certainty vs uncertainty. The medical education community has responded, primarily, by championing curriculum integration. This symposium champions an equally important response: revitalising the pedagogy of clerkship education.

Topic Importance

It directly affects medical graduates' capability to work and continue learning to work, which impacts patients' health experiences and outcomes. It affects doctors' psychosocial health since poor preparation for practice stresses new doctors, causing burnout and career attrition. It is important because the pedagogy of clerkship education has stagnated while assessment, simulation, and off-the-job learning have progressed apace. This symposium is important because it conveys messages that apply beyond clerkships to clinical workplace learning as a whole.

Format and Plans

An international team of authorities on theory and practice of clerkship education will 'scaffold' an interactive symposium by, first, advocating for a transformative approach, whose learning environments make it safe for students to exercise agency to learn for, from, and with patients. Short presentations will encourage and help participants to consider: the capabilities and identity of tomorrow's doctors; clinical learning as a triadic relational process involving patients, clinicians, and students; participation and mimetic learning from practice; and reflective learning from experience.



Stimulated by challenging scenarios, participants will interact using communication technologies provided by the conference e-platform and join a plenary discussion.

Take Home Messages

- Compared with assessment and curriculum design, the pedagogy of clerkships has stood still
 - Revitalising this could improve the future health of patients and doctors
 - Novel pedagogic tools could effect this change
-



Symposium 3B (0290)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Auditorium Lumiere

Making research relevant: Enhancing the transferability of research in technology-enhanced learning

An AMEE TEL Committee Symposium

John Sandars¹, David Cook², Mary Dankbaar³, Rakesh Patel⁴

¹ Edge Hill University, Ormskirk, UK ² Mayo Clinic, Rochester, USA ³ Erasmus University, Rotterdam, The Netherlands ⁴ University of Nottingham, Nottingham, UK

Background

Enhancing teaching and learning with educational technologies, such as online learning and virtual reality, is a complex intervention. Increasing the transferability of research findings to other contexts requires greater understanding of how the intervention was designed and implemented. This symposium will discuss how to practically respond to the challenge of how to understand the inter-related factors of the complex intervention of technology-enhanced learning.

Topic Importance

Understanding how to use educational technologies for effectively enhancing teaching and learning remains incomplete. We need more evidence about how to design and implement learning activities.

1. What questions should we be answering?
2. How can we research the inter-related factors that enable and constrain teaching and learning?
3. How can we increase transferability from one local context to another?

This symposium will discuss how to practically respond to the challenge of understanding the complex intervention of technology-enhanced learning.

Format and Plans

- Initial introduction to set the scene followed by 4 short presentations (10 minutes each) that highlight important areas to consider when researching educational technologies. Each presentation will have a practical focus with illustrative examples. (40 minutes)
- Short summary of the presentations and invitation to panel discussion (5 minutes)
- Interactive discussion between audience and panel (40 minutes)
- Short summary of the key take-home messages (5 minutes)



Take Home Messages

- Using educational technologies, such as online learning and virtual reality, to enhance teaching and learning is a complex intervention
 - Transferability of research to future activities and other contexts requires asking questions and employing methods that clarify general principles
 - Research methodologies are required to understand the process of the intervention, including iterative design-based approaches
-



Symposium 3C (4764)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Bellecour 1

Overview of the Ottawa Conference

Katharine Boursicot¹, Eeva Pyörälä², Susan Humphrey-Murto³, Vishna Devi Nadarajah⁴, Jennifer Williams⁵, Eliana Amaral⁶, Elize Archer⁷, Omayma Hamed⁸, Sandra Kemp⁹ (Discussant), John Norcini¹⁰ (Discussant), Riitta Moller¹¹ (Chair)

¹ HPAC, Singapore, Singapore ² University of Helsinki, Helsinki, Finland ³ University of Ottawa, Ottawa, Canada ⁴ International Medical University, Kuala Lumpur, Malaysia ⁵ University of New England, Armidale, Australia ⁶ Unicamp, Campinas, Brazil ⁷ Stellenbosch University, Cape Town, South Africa ⁸ Armed Forces College of Medicine, Cairo, Egypt ⁹ Curtin University, Perth, Australia ¹⁰ SUNY Upstate Medical Center, Syracuse, USA ¹¹ Karolinska Institute, Stockholm, Sweden

Background

The biennially held Ottawa conferences are a forum for healthcare professionals to network and share ideas on assessment of competence in both clinical and non-clinical domains, throughout the continuum of education.

Not everyone might have the opportunity to attend the 2022 Ottawa Conference, so this symposium will bring the key messages and highlights of the Ottawa proceedings to the AMEE Conference attendees.

Topic Importance

Developments in assessment are important for all healthcare educators; this symposium will provide an update on the most critical topics currently being addressed and debated.

Format and Plans

90 minutes

Chair: Riitta Moller (Karolinska Institute, Sweden)

Speakers (5 mins each) will report on different highlights of the Ottawa Conference

1. Katharine Boursicot, HPAC, Singapore
2. Eeva Pyörälä, University of Helsinki, Finland
3. Susan Humphrey-Murto, University of Ottawa, Canada
4. Vishna Devi, International Medical University, Malaysia
5. Jen Williams, University of New England, Australia



6. Eliana Amaral, Unicamp, Brazil
7. Omayma Hamed, Armed Forces College of Medicine, Egypt
8. Elize Archer, Stellenbosch University, South Africa

Opening Discussants:

Sandra Kemp, Curtin University, Australia

John Norcini, USA

General discussion: 30 minutes

Take Home Messages

1. It's important to keep up to date with developments in healthcare education assessment
 2. Best practice in assessment should be of interest to all healthcare educators
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Research Papers - Diversity and Belonging

3D1 (0795)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:20

Location of presentation: Bellecour 2

Shame at the Gateway of Medicine: A Qualitative Exploration of Shame Experiences in Pre-Medical Learners

Will Bynum¹, Joseph Jackson¹, Lara Varpio², Pim Teunissen³

¹ *Duke University School of Medicine, Durham, NC, USA* ² *Uniformed Services University, Bethesda, MD, USA* ³ *Maastricht University, Maastricht, The Netherlands*

Introduction

Shame occurs when an individual attributes a triggering event to a globally flawed self. Research has characterized shame as a driver of emotional distress, impaired empathy, and social isolation in medical students and residents. However, little is known about the nature of shame in individuals attempting to enter medical school. This gap is problematic as emotional experiences at the gateway of medicine may impact future well-being and professional identity formation in medical training.

In this study, we asked: How do pre-medical students experience shame within the context of a pre-doctoral training program in the health professions? We specifically sought to explore the events that trigger, factors that promote, and effects that follow shame experiences and how these experiences shape students' attempts to enter the profession.

Methods

We utilized hermeneutic phenomenology, a qualitative methodology from the interpretive paradigm that seeks to convey the nature and meaning of a phenomenon. We recruited 12 pre-medical students from a Master of Biomedical Sciences program in the United States and collected data through a single, three-phase session: 1) a "rich picture" activity to elicit a shame experience from pre-medical training; 2) a semi-structured interview to deeply explore the participant's shame experience(s); and 3) a debriefing session. We analyzed the data according to Ajjawi and Higgs's six steps of hermeneutic analysis: immersion, understanding, abstraction, synthesis, illumination, and integration.



Results

Our analysis revealed phenomenological elements (i.e., affective feelings, action tendencies, cognitive processes) and structures (i.e., triggers, promoters, and effects) of shame in pre-medical students. Analysis of relationships among these elements and structures highlighted shame as a critical emotion occurring as multiple “trajectories” intersect at the gateway of medicine. In examining the nature of these trajectories, we identified three factors influencing pre-medical students’ emotional states as they attempt to enter the profession: the central role of previous life experiences; the high value placed on objective assessment; and the powerful influence of a dominant ideology. We ultimately identified *identity negotiation* as a central process intertwined with—and catalyzed by—shame experiences in pre-medical students.

Discussion And Conclusion

This exploratory study illuminates: the nature and origins of shame experiences at the beginning of medical training; the factors that influence these emotional experiences; and the complex self-evaluative and identity processes that shape students’ attempts to enter the profession. We highlight how these findings provide new ways of understanding professional identity formation in medical trainees, origins of performance-based self-esteem in medical students and residents, and ideologies that govern admission into the medical profession.

References

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3D2 (0800)

Date of presentation: Monday 29th August

Time of session: 10:20 - 10:40

Location of presentation: Bellecour 2

Impostor “syndrome” in medical students: Systemic causes and social responsibility of faculties of medicine

Anne-Sophie Thommeret-Carrière¹, Wolf Thyma¹, Jean-Michel Leduc¹

¹ *Université de Montréal, Montréal, Canada*

Introduction

Diversity in medicine cohorts is a growing concern. It is important, not only in terms of redress of colonial wrongs, but also in terms of equity and social responsibility. Faculties of medicine have developed several strategies to address this, including quotas or access programs for visible minorities and First Nations. While some consider this to be a viable option, others dismiss it for fear that it might trigger or exacerbate a feeling of incompetence or impostor “syndrome” in medical students who may have been admitted through a special contingency. But how well is the Impostor Phenomenon (IP) understood among medical students? And are we taking appropriate action to eradicate it?

Historically seen as an individual problem and a personality trait, a first wave of authors suggests rather seeing IP as an emotional reaction to an environment [1]. Feenstra *et al.* [2] prove us the impact of three levels of racist or sexist environment on IP. The objective of this article is to dissect the way in which IP is approached in medical students in order to then propose a paradigm shift in how we conceptualize this phenomenon.

Methods

We have analyzed the discourse in 20 articles, including eight on IP in medical students that were identified in the Gottlieb *et al.* review of literature up to January 2, 2019, and 12 drafted between 2019 and 2021. We then classified the content of the discourse into three conceptual categories:

- 1) Words or expressions to qualify IP
- 2) How the causes and factors possibly related to IP are approached and studied
- 3) How solutions to IP are approached



Results

Regarding how IP is qualified, “syndrome”—reminiscent of illness and the medical field—is the most frequently used word. Articles using the term “phenomenon” do not do so ideologically, but only because they use the Clance Impostor Phenomenon Scale using this word.

In terms of etiology, most analyzed articles lean toward a personal genesis and responsibility for IP; they seek out individual features to explain IP development and not the environmental factors or context to which these groups may have been exposed. While toxic medical culture is discussed at times, only one article examines the role of racism in the development of IP in medical students.

Regarding the solutions proposed, most of the suggestions of the studies remain within the paradigm of the causes innate to the individual and in which students are provided with tools to help them “repair” themselves.

Discussion And Conclusion

Whether they do so intentionally or not, the 20 articles we analyzed deal with IP in medical students as if it were a “disease”. This leads to a distinction between what is normal and what is pathological. Is it pathological to feel like an impostor? Or could feeling like an impostor be an appropriate reaction to inappropriate racist or sexist contexts? Analyzing the IP as an individual problem, both in terms of its causes and its solutions, is not without risk. We hypothesize that looking at IP as an individual issue hides not only the external factors related to it, but also the social determinants on which it is based. Doing so prevents medical schools from taking responsibility and changing the educational environment they provide to their students.

The impostor phenomenon is part of and develops within an external context and environment. It should no longer be seen as a personal dysfunction but rather as a psychological response to a dysfunctional context. Consequently, faculties of medicine are called upon to shift their paradigm in order to ensure not only their students’ well-being, but also a safe pedagogical and work environment.

References

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3D3 (0846)

Date of presentation: Monday 29th August

Time of session: 10:40 - 11:00

Location of presentation: Bellecour 2

How do the post-graduation outcomes of students from Gateway courses compare to those from standard entry medicine courses at the same medical schools?

Ahmad Elmansouri¹, Sally Curtis², Ceri Nursaw³, Daniel Smith⁴

¹ 1) Medical Education, Faculty of Medicine, University of Southampton, SO17 IBJ, Southampton,, UK ² 1) Medical Education, Faculty of Medicine, University of Southampton, SO17 IBJ, England, Southampton, UK ³ Nursaw Associates, HG1 3HJ , Harrogate, UK ⁴ General Medical Council, NW1 3JN, London, UK

Introduction

Introduction: Widening participation (WP) to underrepresented students through Gateway medicine courses helps increase demographic representation of doctors in the UK. Gateway courses offer an additional year of study to support students transition into university and begin studying for a medical degree. It has been established that the majority of Gateway students graduate from medical school, albeit with reduced attainment on entry and outcomes on exit compared to standard entry to medicine (SEM) students⁽¹⁾. This study follows the cohorts of Gateway students and their standard entry counterparts, reported in the comparison of undergraduate outcomes study by Curtis and Smith in 2020, and aims to compare their progress through postgraduate royal college membership exams and specialty choices, to determine if differences continue to be seen in postgraduate outcomes.

Methods

Methods: Data from the UK Medical Education Database (UKMED) were obtained for graduates of Gateway and SEM courses at three UK medical schools for the years 2007-2012. Outcome measures were: Passing postgraduate royal college membership exams on the first attempt, ARCP outcomes, offered a level one training position from the first application made. Univariate analysis was used to compare the two groups. Logistic regressions, predicting outcomes by course type, were controlled for attainment on completion of medical school.

Results

Results: 2700 doctors were included in the analysis. SEM graduates were significantly more likely to pass their first attempt at any membership exam than graduates of Gateway courses (63% compared to 39% P <0.001). Graduates of Gateway courses were significantly more likely to apply to GP training programmes than SEM graduates (55% compared to 40% <0.001) but there was no difference in



whether the graduates from each programme were offered a place (79% for Gateway and 82% for SEM). Graduates of Gateway courses were significantly less likely to apply to Core Medical Training than graduates from SEM programmes: (11% compared to 20% <0.005) Bonferroni correction applied for all P values.

Discussion And Conclusion

Discussion and Conclusions: This study highlights the benefits of Gateway courses in increasing the representativeness of the profession and the number of applications to GP training, which is especially important with the current GP shortage in the UK. Possible reasons for this could include the work life balance associated with the specialty and a shorter training period resulting in lower associated costs. The experiences of trainees within the profession need to be explored to identify the reasons doctors are making these choices. The findings also add to body of evidence that raises the need to explore potential systemic inequalities in the training programmes ⁽²⁾.

References

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3D4 (0583)

Date of presentation: Monday 29th August

Time of session: 11:00 - 11:20

Location of presentation: Bellecour 2

Following the policy: An actor network theory perspective on widening participation in medicine in the UK and Australia

Maeve Coyle¹, Amudha Poobalan¹, Jonathan Bullen², Sally Sandover², Jennifer Cleland³

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Introduction

Governments around the world have put in place policy to encourage widening participation (WP) in medicine, but these policies and their enactment have had mixed success. Addressing calls to bring more conceptual and theoretical frameworks to WP research, we attend to the sociomateriality of WP by using Actor Network Theory (ANT) to trace how things come together to perform policy-related tasks. Our specific aim was to document the connections among actors in a WP network at locations in both the UK and Australia. Historical similarities in the trajectory of health and education policies in these two countries, coupled with significant differences in more recent policy drivers linked to WP, make for good systems of comparison (Coyle et al, 2021).

Methods

Using a comparative case study approach, we collected qualitative data via documents and webpages pertinent to WP, as well as interviews with relevant staff and students. Following an initial inductive thematic analysis, we used Callon's (1986) moments of translation to map the network of actors as they are assembled and reconfigured in relation to one another. Taking care to treat both the human and non-human of equal significance in analysis and explication of the data, our main actant was institutional WP to medicine policy. Using WP policy-as-actor brought up to five other actors into the story in each context, two human and three non-human – the medical school, the medical profession, the applicant's high schools, the applicants themselves and medical school staff.

Results

In the UK context, the institutional policy and medical school represent a powerful relationship that appears to achieve their shared goals of equalising opportunity for WP students in line with social justice aims of fair access. High schools play a somewhat passive role, but the policy, medical school and WP applicants have worked hard at 'getting ready' and 'getting in' to medicine. However, in terms of 'staying in' and 'getting on' (Millburn, 2012) the policy has little to say on the translation of WP medical students into doctors. In Australia, policy drivers aimed at workforce diversity mean the medical profession exerts significant influence on the network of WP to medicine. The medical school



is subsequently pulled in different directions due to multiple and competing priorities linked to markedly different entry pathways. In prioritising community need and improving patient outcomes in underserved areas, the profession risks negating the needs of its changing and diverse workforce. In both contexts it is the staff who become key mediators in the ongoing success of WP to medicine but who feel uncertain about how best to support WP students, meaning WP networks may fall short of retaining let alone graduating diverse doctors.

Discussion And Conclusion

Academic excellence holds firm as an obligatory passage point in both networks, remaining a focal challenge for all actors and contributing to a tension between the 'traditional' actor-network of medicine and the new policy and practices of WP. Universities and medical schools are replete with competing priorities that are often in tension with practices aimed at greater inclusion - opening up medicine to embrace diversity will not happen without the deconstruction of entrenched processes and practices. Transformation requires a reimagining of the traditional actor-network of medicine, one which might promote different kinds of excellence (Razack et al, 2015).

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AMEE Fringe 1

3E1 (1570)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:20

Location of presentation: Bellecour 3

Questions Storming: Uncertainty and the Power of Questions

Stewart Mennin¹

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The Power of Questions is a method of inquiry that opens and amplifies new possibilities and options for action and sense making for wicked issues that emerge in medical education and practice. The method has a three-step sequence. First, one person, “the player” shares a brief 1-3 sentence description of their wicked issue ending with a question. The rest of the individuals in the group, hereafter referred to as inquirers, are free to ask questions about the wicked issue. The questions are intended to expose assumptions and release constraints held by the player. The inquirers ask their questions out loud and they are recorded in text on a flip chart or computer. No answers are expected or given, only questions.

To be most effective, questions should:

- Avoid giving advice
- Represent the authentic curiosity of the inquirer
- Allow multiple, open-ended responses
- Address and/or challenge underlying assumptions and expectations
- Draw on information and context that is familiar to the player
- Demonstrate empathy and support for the player, as a caring human being
- Be beyond the knowledge of the inquirer

The player is not allowed to answer questions or participate during this step. Instead, they listen, reflect, and consider new ways to see and describe their wicked issue. This process continues for approximately ten minutes. In the final step of the process, the facilitator invites the player to talk briefly about what resonated with them, what surprised them, what new patterns became apparent in their understanding of the issue, and what they feel prompted to do as a result of having listened to many questions. When the player’s reflection and response is complete, others in the group are invited to share their reflections and responses to the experience. The Power of Questions works because it sets conditions for self-organizing processes for people. What makes this method unique is that the player with the wicked issue experiences an increase in possibilities and options for action. The group of inquirers also learn and see the wicked issue in new ways.



3E2 (1812)

Date of presentation: Monday 29th August

Time of session: 10:20 - 10:40

Location of presentation: Bellecour 3

Fostering Empathy and Emotional Intelligence in Medical Education through Self-reflection, Self-care and Creative Expression

Georgina Budd¹

¹ *Swansea University, Swansea, UK*

An interactive talk about how we can encourage empathy in a medical workforce plagued by burnout and compassion fatigue.

After the humbling experience as the causality of a car crash, I returned to clinical work after 15 months - but as a full time wheelchair user. Though my time as a patient no doubt changed how I view patients, the most stark difference on returning to clinical practice was the overwhelming signs of burnout and compassion fatigue in my colleagues. This was pre-pandemic and as I have continued to explore my career the wellbeing of my colleagues and students has become a key concern. We know that when compassion fatigue and burnout are high patient care suffers, and one of the key mechanisms is the erosion of empathy. Looking at patient grievances this is reflected in their desire to feel truly listened to and understood. To improve health-care standards and patient experience we must foster our ability to empathise. Medical education must therefore find a place to bolster wellbeing and emotional intelligence in workforce.

Many doctor's and medical students are dismissive of their own need to reflect and discuss how our work stress, (including vicarious trauma), affect us. Many are afraid to admit mental health difficulties despite literature demonstrating medical students are at higher risk than aged matched peers, and the globally high physician suicide rate. We really need to stop the stigma around these discussions and promote a new message of self-care. Through my trials with PTSD and navigating a new life of challenges as a disabled person, I have found that the only true path to resilience lies in taking refuge in the things that fill our emotional batteries and reflecting upon my experiences with gratitude and positivity, all while allowing for recognition and expression of sadness and distress through creative and discursive means. I want to create a session that encapsulates what I have learnt and encourages those to integrate these tools into their practice and educational content. The video attached demonstrates one of my personal creative outlets combined with a message I'm passionate about.



3E3 (3147)

Date of presentation: Monday 29th August

Time of session: 10:40 - 11:00

Location of presentation: Bellecour 3

The medical educator password pain song - I am (not re-)calling you

Rowena Ivers¹

¹ *Graduate Medicine, UOW, Wollongong, Australia*

Modern medical education invariably involves multiple apps/ platforms for delivery...each of which demands its own login and password...the recollection of which can only lead to pain.

Ass Prof Rowena Ivers is a musician, novelist and playwright... and also general practice academic and active clinician, based in Wollongong, NSW, Australia.

In this tribute to medical educators around the world trapped in front of their phones and laptops, trying another password and being locked out for 60 seconds because they have had too many attempts at entering their password.

(Reviewers - this was only written and recorded today but would be very much more rehearsed and tight live!!! Video had to be trimmed for length to be able to upload -is a whole song with 4 verses!)



Patil Teaching Innovation Awards 1

3F1 (0162)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 1

Applying the Biomedical Sciences to Patient Care in the Family Medicine Clerkship

Bonny Dickinson¹, Lisa Graves²

¹ Mercer University School of Medicine, Macon, USA ² Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, USA

Background

Medical students must apply biomedical science knowledge learned in the preclerkship curriculum to patient care. Applying knowledge learned in one context (i.e., classroom) to solve problems in another (i.e., clinic) requires a complex cognitive process termed transfer. To help students develop this skill with patients encountered in the Family Medicine clerkship, we developed a reflective writing assignment using Kolb's experiential learning theory as a framework.

Summary Of Work

Students described a patient encounter, developed basic science learning objectives relevant to their patient's care, reflected on how addressing the learning objectives influenced patient care, and observed their attendings engaging in a similar process of knowledge transfer.

Summary Of Results

The assignment provided students an opportunity to apply their biomedical science knowledge. Many students, however, also focused on clinical aspects of patient care, and few were able to identify their attending overtly engaging in a similar process of applying biomedical science concepts to patient care. When assignments were viewed through the lenses of knowledge encapsulation and illness script theory, some students recognized that knowledge encapsulation occurs over time and with increasing exposure to patients, and a few students recognized it as part of their attendings' approach to patient care.



Discussion And Conclusion

The innovation described in this study provided students an opportunity to apply Kolb's experiential learning model to a patient encounter. When and how to optimize transfer from a theoretical and conceptual perspective is important and requires further exploration in authentic clinical settings.

Take Home Messages

- Written reflection combined with experiential learning may be a useful tool to help students apply their biomedical science knowledge to patient care.
 - Engaging attendings in working with students to make explicit connections between biomedical science knowledge and clinical care will likely help students with knowledge transfer.
 - Enabling students to involve their attendings in the entirety of the assignment would strengthen social interactions between students and attendings as the students would see experts in the field actively using biomedical science knowledge.
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3F2 (0659)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 1

‘Fables in Anatomy’- An innovative and novel narrative teaching - learning method in Anatomy

Amith Ramos¹, Vineetha K Ramdas Nayak¹, Anusha Rashmi¹, Pretty Rathnakar¹

¹ *K S Hegde Medical Academy, NITTE University, mangalore, India*

Background

Medical education enthusiasts in several countries are focusing on developing novel teaching learning modalities which would achieve active engagement and higher levels of understanding amongst students. Human Anatomy has been perceived by many students as a difficult subject to comprehend and recall. “Fables in Anatomy” (FIA) is one novel innovative narrative pedagogical strategy where anatomical structures are explained in form of short fictional stories which integrates visual art. The current study was carried out to evaluate the impact of “Fables in Anatomy – Pedagogical strategy” on student performance. It also aims to assess students' attitudes towards the same.

Summary Of Work

FIA modules were prepared on five topics from musculoskeletal system and introduced in small group teaching sessions. To analyse the impact of supplementation of Fables in anatomy, the MCQ scores in post-test of students who attended novel narrative strategy -FIA (group 1) were compared with those who attended the traditional teaching (group 2). Students' experiences with Fables in Anatomy and their attitudes towards inclusion of the same into the course curriculum were analysed using a feedback questionnaire that was given to students who attended the sessions. Three Focus Group discussion were conducted including 8 students each and in-depth discussion were performed. The student volunteers were probed regarding usefulness, feasibility, merits and demerits of the novel narrative strategy.

Summary Of Results

Students who underwent FIA sessions performed considerably better than the students who underwent traditional sessions ($p < 0.001$). Analysis of the feedback questionnaire suggests majority of the students find Fables in Anatomy more interesting, fun filled, less stressful and the sessions help them to understand the anatomical concepts in a simplified manner. The constant theme that came into light through the focus group discussions was that, Fables help in better retention of the concept.



Discussion And Conclusion

Fables in anatomy sessions was well received by the students.

Majority of the students have reported merits like better understanding in combination with retaining of the concepts and active engagement.

Take Home Messages

Based on the results of the current study, we opine that supplementation of routine didactic lectures with sessions of Fables would be beneficial in terms of student engagement with improvised knowledge in course content.



3F3 (1226)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 1

Cost-effective Renal Phantoms as Procedural Teaching Tools for Renal Trainees

Eddie Tan¹

¹ *Waikato Hospital, Hamilton, New Zealand*

Background

Renal procedural skills for advanced renal trainees include kidney biopsies (KBs) (native and transplant), central venous cannulations (CVCs) for haemodialysis catheter placements (tunnelled and non-tunnelled) and peritoneal dialysis catheter insertions (PDCIs). These highly advanced procedural skills have steep learning curves and require exquisite ultrasound (US) visualisation techniques. Inexperienced trainees practicing on live patients may encounter potentially disastrous complications (bleeding, infection, pneumothorax, organ perforation and cardiac complications). Commercial phantoms (for practice) are available but are often exorbitantly expensive. With resource limitations, cost-effective and easy-to-assemble alternatives are sought after.

Summary Of Work

The following describes the phantoms for all 3 procedures:

KB Phantom: lamb or pig kidneys are submerged in container containing Gelatine and Metamucil aqueous mixture (GAMAM), chilled and set overnight. The kidney position is fixed (using submerged newspapers for support) to mimic native or transplant positions. Practice real-time US localisation and biopsy could then be carried out as the GAMAM closely mimics flesh texture when viewed under US.

CVC Phantom: 2 urinary catheters are submerged in a shallow container using the above GAMAM recipe. The catheters are primed with syringes filled with coloured fluid (mimicking artery and vein) for practice cannulation under US guidance. The position of the lines could be varied to increase the difficulty level. Pork belly can be used separately for practice tunnelling. A separate model (using an upturned cardboard box) is required for practice guidewire control.



PDCI Abdominal Phantom: a container is filled with inflated balloons partially submerged in water (mimicking bowel in abdominal cavity). Pork belly (mimicking abdominal wall) is placed on top. Using either the Seldinger or Peritoneoscopic technique, a PDCI could be attempted though the pork belly without popping any balloons.

Summary Of Results

All the above three phantoms are easy to assemble, inexpensive, safe and portable.

Discussion And Conclusion

Trainees can practise the procedures repeatedly until fully familiarised, allowing them to gain confidence and to develop their skills safely before performing the procedures on real patients. The simplicity and costs allow trainers to set up multiple phantoms for multiple trainees.

Take Home Messages

These home-made training phantoms should be given serious consideration in providing a safe and inexpensive training environment for procedural training.



3F4 (2005)

Date of presentation: Monday 29th August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 1

Pivoting to Virtual Primary Care: Implementation and Evaluation of the Virtual Care Competency Training Roadmap (ViCCTR)

Batya Grundland¹, Karina Prucnal¹, Mahan Kulasegaram^{1,2}, Nicole N Woods^{1,2}, Maria Mylopoulos^{2,3}, Risa Freeman¹

¹ *Department of Family and Community Medicine, University of Toronto, Toronto, Canada* ² *The Wilson Centre, Temerty Faculty of Medicine, University of Toronto, and University Health Network, Toronto, Canada* ³ *Department of Pediatrics, Temerty Faculty of Medicine, University of Toronto, Toronto, Canada*

Background

With the onset of the COVID-19 pandemic and the imperative for physical distancing, family physicians rapidly pivoted to providing virtual care to their patients. Formal instruction on virtual care was not previously included in program curricula for family medicine residency training programs. The **Virtual Care Competency Training Roadmap (ViCCTR)** is an online program that provides content, resources, and assessment supporting the development of skills necessary to ensure comprehensive virtual care. The ViCCTR modules are grounded in theories from the learning sciences, including adaptive expertise, conceptual coherence and test-enhanced learning. The purpose of this study was to assess the impact of the ViCCTR modules on residents' ability to provide holistic virtual care.

Summary Of Work

ViCCTR was distributed to all 360 family medicine residents at the University of Toronto. An iterative cycle of implementation, evaluation and improvement took place where residents who used ViCCTR were invited for interviews to share their experiences, including emergent practices. A series of assessments delivered through the modules were used to objectively assess residents' competencies in virtual care.

Summary Of Results

Survey results showed that the ViCCTR modules were highly effective in communicating the desired content to residents and very relevant to their future practice. Key Themes emerging from interviews included the value of the modules driving resident engagement, timing of administration was critical, and that characteristics of the doctor-patient relationship shaped the use of the modules. The modules have now been used across the medical educational continuum including undergraduate, other postgraduate programs and for faculty development locally and provincially.



Discussion And Conclusion

The first-round evaluation demonstrated that the ViCCTR modules can support future family physicians to meet the demands of clinical reasoning in a virtual setting. These modules can easily be shared with and adapted to different programs and across the educational continuum to enhance virtual care readiness.

Take Home Messages

The ViCCTR modules are an effective educational innovation that can be easily shared and adapted for teaching and learning virtual care. These modules can serve as a model for the development of future impactful educational interventions.



3F5 (2513)

Date of presentation: Monday 29th August

Time of session: 11:00 - 11:15

Location of presentation: Gratte Ciel 1

Buddies Breaking Barriers – promoting student diversity in medical education

Anouk Wouters^{1,2}, Zohra Khan³, Rashmi Kusrkar^{1,2}

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Background

Certain student groups, such as first-generation university students, students from ethnic minority groups, and students without parents in a medical profession ('non-traditional' students), are underrepresented in medical education, have lower chances of admission, and experience barriers to apply to medical study. 'Buddies Breaking Barriers' is an educational innovation that aims to contribute to a more representative medical student population. It offers role models (buddies) and support for adequate preparation for medical study and admissions to 'non-traditional' pupils in high school, who otherwise have limited access to resources.

Summary Of Work

This Widening Participation intervention was set up in co-creation with a diversity-focused student committee. Specifically medical students from 'non-traditional' backgrounds were encouraged to participate. Three components form the core of this project: 1) training sessions for medical students (buddies) covering motivation, selection, diversity, coaching, hidden curriculum, and design of the project; 2) one-on-one guidance of pupils by the buddies, drawing upon their own experiences; 3) informal joint meetings (before the selection procedure; during both selection rounds; beginning of the academic year) for establishing connections and exchanging information and experiences.

Summary Of Results

Since 2019-2020, 112 pupils in their (pen)ultimate years of secondary school have joined the project to be mentored. To evaluate the project we collected narrative data. Pupils experienced information gained through their buddy about the admissions process and medical study to have added value over formal sources. Participants strongly valued their shared 'non-traditional' student backgrounds and corresponding experiences. Finally, both pupils and buddies mentioned increased confidence to be successful as applicants or future doctors.



Discussion And Conclusion

A peer-mentoring project targeting 'non-traditional' students may contribute to more equitable admissions of medical students. Setting up such a project requires institutional or external funding. This way financial barriers for participants can be avoided. Buddies took ownership of the project and were committed to improve and continue the project, because they themselves had experienced similar barriers. The shift to online and hybrid meetings had both positive and negative effects; it posed challenges for establishing meaningful connections, but also increased the student turn-out.

Take Home Messages

A peer-mentoring program targeting 'non-traditional' students could contribute to diversity in medical education by breaking perceived barriers.



3F6 (3020)

Date of presentation: Monday 29th August

Time of session: 11:15 - 11:30

Location of presentation: Gratte Ciel 1

Oxygen; aligning understanding with accessibility. The development of a two-stage training model in eastern Uganda.

Joanna Gumley^{1,2}, Nicola Kelly^{2,3}, Justine Khanyalano⁴, Adam Hewitt-Smith^{1,5}

¹ *Honorary lecturer, Busitema University Faculty of Health Sciences, Mbale, Uganda* ² *RCOA global partnership fellow, Mbale, Uganda* ³ *Busitema University, Honorary Lecturer in Anaesthesia, Mbale, Uganda* ⁴ *Monitoring and evaluation officer, Mbale Regional Referral Hospital, Mbale, Uganda* ⁵ *Anaesthesiologist, Mbale Regional Referral Hospital, Mbale, Uganda*

Background

Mbale Regional Referral Hospital (MRRH) in Eastern Uganda is one of seventeen government-led regional referral hospitals with a total of 470 beds and 130 ward nurses. The aims of this teaching programme were to improve the understanding of the clinical indications for oxygen therapy, recognition of the hypoxic patient and the safe administration of oxygen. A large hospital-wide project aimed to increase oxygen accessibility; a gap in access was highlighted during the COVID pandemic. Analysis of the barriers to oxygen therapy identified education as a key component for improvement.

Summary Of Work

The design of this two-stage training model incorporated both classroom and ward-based components. The classroom-based training included lectures and small-group interactive workshops with a focus on oxygen equipment. A variety of teaching methods were employed to acknowledge the differences in participant learning styles. A constructivist teaching approach inspired the ward-based 1:1 mentorship, including revision of concepts and demonstration of practical skills using the equipment available in the learners' clinical environment. Anaesthesia students helped to facilitate the 1:1 mentorship, with a "train-the-trainer" approach supporting them to become independent mentors.

Summary Of Results

102 health practitioners have so far attended the classroom training and 63 participants have had ward mentorship. Pre and post training surveys were completed. The mean participant knowledge score increased from 77% to 84%. Participant confidence across several domains of oxygen therapy improved; the percentage of responses which were either 'confident' or 'extremely confident' increased from 49% to 98%.



Discussion And Conclusion

The remodelling of course content between sessions in line with participant evaluation was vital, for example the training evolved to include a Q&A session incorporating the review of survey answers. A varied group of co-facilitators aids the sustainability of the training and will enable refresher courses in the future. Course evaluation highlighted that the learner group felt motivated by acquisition of clinical knowledge related of the 'why' in addition to the 'how'.

Take Home Messages

Hands on clinical mentoring following a classroom-based training programme is central to maximising impact from short training programmes. We recommend a setting appropriate design that incorporates multiple teaching approaches to improve confidence and knowledge retention.



Short Communications - Postgraduate Education 1: Early Years

3G1 (2899)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 2

A preliminary study on factors affecting clinical training and teaching resources for physician trainees under the COVID-19 pandemic.

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Background

In response to the COVID-19 pandemic, if teachers can provide clinical knowledge that keep pace with the times, it will help residency apply on clinical care and reduce the psychological anxiety. But it is not clear what factors really affect residency's learning under the pandemic, therefore, this study investigated coping strategies for resident clinical training and implementation of uninterrupted learning under the COVID-19 pandemic as a reference for future training models in the face of emerging infectious pandemic.

Summary Of Work

This study conducted a questionnaire survey of trainees undergoing PGY and residency training in the 2021 academic year. The content included the training experience related to COVID-19 before the epidemic, the participation in care confirmed patients, and in prevention work. An assessment of the training environment and resource contingency was also surveyed.

Summary Of Results

There were 72 valid samples, 35 in internal medicine, accounting for 48.6%, and 37 in surgery, accounting for 51.4%. 74.6% of the trainees remembered receiving training in putting on and taking off protective clothing during the PGY pre-job training. 73.6% were trained to reporting this infectious disease, but only 54.1% attended medication classes or care instruction for COVID-19 patients. The trainees who have taken care of confirmed patients were mainly in special wards, accounting for 76.4%. Among them, the attending physician was the main consultation object, and 88.2% of the trainees were worried to be infected. In terms of teaching resources, 95.7% of trainee believed that the remote conference synchronous learning system can help clinical learning, 91.6% of trainee thought that psychological counseling resources should be provided to reduce anxiety, and



for the environmental resources, more than 95% suggested work clothes, showers and duty rooms should be enough.

Discussion And Conclusion

Completing training and providing guidance prior to caring for COVID-19 patients are important. Having unimpeded consultation channels can reduce the psychological burden. At the same time, psychological counseling and online synchronous learning system can help clinical training under the epidemic.

Take Home Messages

Through the survey, a coping system with structural COVID-19 caring guidance, peer supports, and sufficient environmental resources could let residency training uninterrupted under COVID-19 pandemic.



3G2 (0249)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 2

Broad-based training revisited

Alison Bullock¹, Dorottya Cserzo¹, Elaine Russ¹

¹ *Cardiff University, Cardiff, UK*

Background

The UK broad-based training (BBT) programme provided 6-months training in four specialties: paediatrics, psychiatry, general medicine, and general practice. Our three-year evaluation completed in 2017 concluded that BBT developed doctors with an holistic approach to patient care, promoted specialty integration; and conviction in career choice.

In this study we conducted a longitudinal follow-up of all BBT trainees who participated in the original evaluation, exploring current practice and whether benefits were sustained.

Summary Of Work

Participants were former BBT trainees who started between 2015-2017. Following eight scoping interviews, an online survey was sent to the emails recorded from our earlier evaluation, reaching 118 individuals in August 2021. Transcript data from interviews and free-text comments were analysed thematically. Numerical survey data were statistically analysed in SPSS.

Summary Of Results

Response rate 59% (n=70). 64% worked part-time. 54% worked in general practice, 16% paediatrics, 11% psychiatry, 10% medicine (geriatrics, palliative care, respiratory), 9% other areas. About 60% had taken extended leave from training (maternity leave or time out-of-programme). Approximately two-thirds performed additional roles, typically teaching or management-related.

Over 90% indicated that BBT influenced their career choices, leaving them confident in their decisions. In free-text comments some suggested they might otherwise have made 'wrong' decisions and have left training. Other benefits included the value of additional experience, understanding other specialties, and developing a more holistic approach to care.



The main drawback related to joining specialty training programmes in year 2 after completing BBT: not feeling part of a cohort of trainees and, although not long-lasting (and not expressed by GPs), initial difficulties in 'catching up'.

Discussion And Conclusion

From this longitudinal study it is clear that benefits were sustained: the broad-based training gave doctors a wide perspective on patients and the care system, and enough time to make long-lasting career decisions. The demographics of the respondents reveals the prevalence of part-time work and periods of leave, which will likely increase following the pandemic.

Take Home Messages

- High prevalence of part-time work
 - Lasting benefits of a broad-based training programme
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3G3 (3104)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 2

The Invisible Bridge: Exploring Emergency Medicine Residency Program Directors' Perspectives on the Learner Handover to Bridge the Transition to Residency

Holly Caretta-Weyer, MD, MHPE¹, Yoon Soo Park², Ara Tekian³, Stefanie S Sebok-Syer, PhD⁴

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Background

Central to competency-based medical education is the need for a seamless developmental continuum of training and practice. Trainees currently experience significant discontinuity in the transition from undergraduate (UME) to graduate medical education (GME). The learner handover aims to smooth this transition, but little is known about the GME perspective. This study explores program directors (PDs) perspective of the learner handover from UME to GME.

Summary Of Work

Using case study methodology, semi-structured interviews were conducted with 12 Emergency medicine PDs within the United States from October to November 2020. Participants were asked to describe their current perception of the learner handover from UME to GME. Thematic analysis was performed using an inductive approach.

Summary Of Results

Two main themes emerged: The invisibility of the learner handover and the challenges of creating a successful UME-to-GME learner handover. PDs described the current state of the learner handover as “nonexistent,” while also acknowledging that certain information is transmitted from UME to GME particularly as part of the residency selection process. Participants also highlighted key challenges to successful learner handover from UME to GME which centered around conflicting purposes and expectations of UME and GME, issues of trust and transparency between UME and GME stakeholders, and the scarcity of assessment data to hand over.

Discussion And Conclusion

There appears to be an invisibility of the learner handover from the perspective of PDs. Challenges with the learner handover may require shifting the culture of trust, transparency, and



communication between UME and GME stakeholders. Formal evaluation of the learner handover is essential to ensure the needs of all stakeholders are met in the handover process. National level organizations may need to examine this process and come to consensus on a unified approach to the transmission of transparent, growth-oriented learner data as part of a formal learner handover from UME to GME.

Take Home Messages

GME stakeholders desire a transparent learner handover from UME to ensure they are meeting entering postgraduate trainees at their level and continuing their individual development of competence across the continuum. Organizational, programmatic, school, and learners are all stakeholders in the learner handover process and must come together to coproduce meaningful solutions.



3G4 (3670)

Date of presentation: Monday 29th August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 2

Organizational socialization of medical residents: an interplay between the resident and the health care organization

Gerbrich Galema¹, Jasperina Brouwer², Debbie Jaarsma³, Götz Wietasch¹, Robbert Duvivier¹

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Background

Socialization is crucial for residents in transition, but difficult to support. Current research describes socialization as a one-directional process that the resident merely undergoes passively without agency. This conceptualization is problematic because it leaves out the main actor in the process – the resident. Therefore we currently lack an understanding about how residents navigate their socialization process when they're transitioning. The aim of this study is to explore residents' proactive behavior, and their perceptions of organizational efforts during their socialization process.

Summary Of Work

We conducted a qualitative interview study with 16 residents from 13 specialties, of two hospitals in the Netherlands. Interviews were analyzed using template analysis, with Organizational Socialization (OS) as theoretical lens. The template consisted of residents' proactive behavior to adapt to a new role (individual tactics), and their perceptions of the efforts of the department to facilitate socialization (organizational tactics).

Summary Of Results

Residents used proactive behaviors to master aspects of newcomer learning. The proactive behaviors residents applied were observing, asking questions, experimenting, establishing social relations, and using written / electronic sources. Our data suggests socialization as mutual process because residents' proactive behaviors were facilitated and hindered by organizational tactics. For example, some residents felt that they could not always ask their supervisor questions, such as guiding or clarifying feedback. Other residents felt that they could ask supervisors, and other health care professionals (nurses) easily, because the organizational tactic was focused on collaboration within the healthcare team.

Discussion And Conclusion



Regarding the socialization process of residents in transition, this study builds on claims socialization can be viewed as a mutual process in which both the resident and other health care professionals take part. Future research should focus on how this mutual process of residents' proactive behaviors and organizational tactics can reduce stress, and increase effectiveness on the job.

Take Home Messages

The results offer the entire health care team opportunities to enhance residents' proactivity. By adjusting organizational tactics, such as abilities to let residents observe, lower the threshold to ask questions, leave room for experimenting, help residents with establishing relationships and provide a written source how to socialize at a department, residents are facilitated in their socialization process.



3G5 (1488)**Date of presentation:** Monday 29th August**Time of session:** 11:00 - 11:15**Location of presentation:** Gratte Ciel 2

Thinking like an expert: A qualitative exploration of adaptive expertise amongst first-year residents in the ED.

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Background

Newly graduated residents struggle in developing and applying theoretical knowledge into clinical practice in the emergency department (ED). Here residents are faced with unpredictable working conditions that requires fast and adaptive clinical decision making (CDM). The framework of adaptive expertise has been suggested as a means of explaining CDM and early-year professional development. However, while studies has explored processes of CDM and adaptive expertise, further research is needed to identify dynamics affecting novices' adaptive practices in clinical settings. This study identified contextual and individual factors impacting novices' opportunities and abilities to engage in adaptive practices in the ED.

Summary Of Work

This study used a short-term cognitive ethnography and think-aloud interview method with 27 Post-Graduate Year-1 (PGY-1) residents observed over 80 hours. Ethnographic observations were systemized in a taxonomy of adaptive expertise. The taxonomy delineates actors, contextual moderators, and how these impacted adaptive expert practices. Protocol analysis was performed on the 18 concurrent and retrospective think-aloud interviews. This method was used to describe residents' cognitive processes and use of information in order to map their diagnostic reasoning.

Summary Of Results

Results showed that all residents engaged in adaptive practices, but were hindered by the fear that they appeared uncertain and incompetent. This was aggravated by disruptions and inadequate supervision. Results also indicated that disruptions in adaptive expert behaviors led to more laborious diagnostic reasoning. A fine-grained qualitative analysis demonstrated that uncertainty and differences in how informants assumed their role as a physician also impacted adaptive cognition during diagnostic reasoning.



Discussion And Conclusion

From the results, it was evident that contextual factors impacted residents' ability to engage in adaptive practices. This finding supports current literature, which argue that role clarification promote decisional competency. This study adds to the literature that adequate clinical supervision, verbalization of uncertainty and learning to maintain adaptive practice in the face of disruptions are central to the development of adaptive expertise, professional identity and residents' tolerance of uncertainty.

Take Home Messages

Adaptive expert practices are employed by PGY-1 residents and that supporting the development of a professional identity. Ensuring the means of voicing uncertainty and promoting cultural expectations that help tolerate it, foster adaptive practices from early residency.



3G6 (4074)

Date of presentation: Monday 29th August

Time of session: 11:15 - 11:30

Location of presentation: Gratte Ciel 2

Junior doctors' experiences with interprofessional collaboration: Wandering the landscape

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Background

The transition from medical student to junior doctor is challenging. Junior doctors need to become part of the physician community of practice (CoP), while dealing with new responsibilities, tasks and expectations. At the same time, they need to learn how to navigate the frontiers and intersections with the other communities of practice that form the Landscape of Practice (LoP). This study aims to understand how junior doctors experience interprofessional collaboration (IPC) and what elements shape these experiences considering their transition to clinical practice.

Summary Of Work

In this multicentre qualitative study, 13 junior doctors individually drew two rich pictures of IPC experiences, one positive and one negative. A rich picture is a visual representation, a drawing of a particular situation intended to capture the complex and non-verbal elements of an experience. We used semi-structured interviews to deepen the understanding of junior doctors' depicted IPC experiences. We analysed both visual materials and interview transcripts iteratively, for which we adopted an inductive constructivist thematic analysis.

Summary Of Results

While transitioning into a doctor, junior doctors become foremost members of the physician CoP and shape their professional identity based on perceived values in their physician community. Interprofessional learning occurs implicitly, without input from the interprofessional team. As a result, junior doctors struggle to bridge the gap between themselves and the interprofessional team, preventing IPC learning from developing into an integrative process. This professional isolation leaves junior doctors wandering the landscape of practice without understanding roles, attitudes and expectations of others.



Discussion And Conclusion

Learning IPC needs to become a collective endeavour and an explicit learning goal, based on multisource feedback to take advantage of the expertise already present in the LoP. Furthermore, junior doctors need a safe environment to embrace and reflect on the emotions aroused by interprofessional interactions, under the guidance of experienced facilitators.

Take Home Messages

- Empower the whole interprofessional team as feedback givers
 - Set IPC as explicit learning goal
 - Foster knowledgeability
 - Create formal reflective spaces
-



Short Communications - Subjects in the Curriculum 1

3H1 (1798)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 3

Training junior doctors in ultrasound-guided cannulation: a near-peer approach

Joe Gleeson¹, Thomas Sharp¹, Rebecca Morris¹, Hayley Boal¹, Joseph Thompson¹, Ashley Wragg¹

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Background

Foundation Year 1 (FY1) doctors are regularly expected to perform venous cannulation, but this can be difficult to accomplish. Ultrasound-guided cannulation can increase the chances of success, provided the operator has been trained.

Summary Of Work

FY1s received a one-hour teaching session on ultrasound-guided cannulation in September 2021, delivered by near-peer post-foundation education fellows. FY1s completed questionnaires post-session, and a follow-up questionnaire three months later.

This study aimed to identify:

4. Any increase in confidence in ultrasound-guided cannulation post-session and if this was sustained three months later;
5. Whether FY1s went on to use ultrasound-guided cannulation in clinical practice;
6. Whether this reduced escalations of cannulas to seniors and anaesthetics;
7. Whether FY1s became more successful at ultrasound-guided cannulation;
8. Barriers to FY1s using ultrasound-guided cannulation.



Summary Of Results

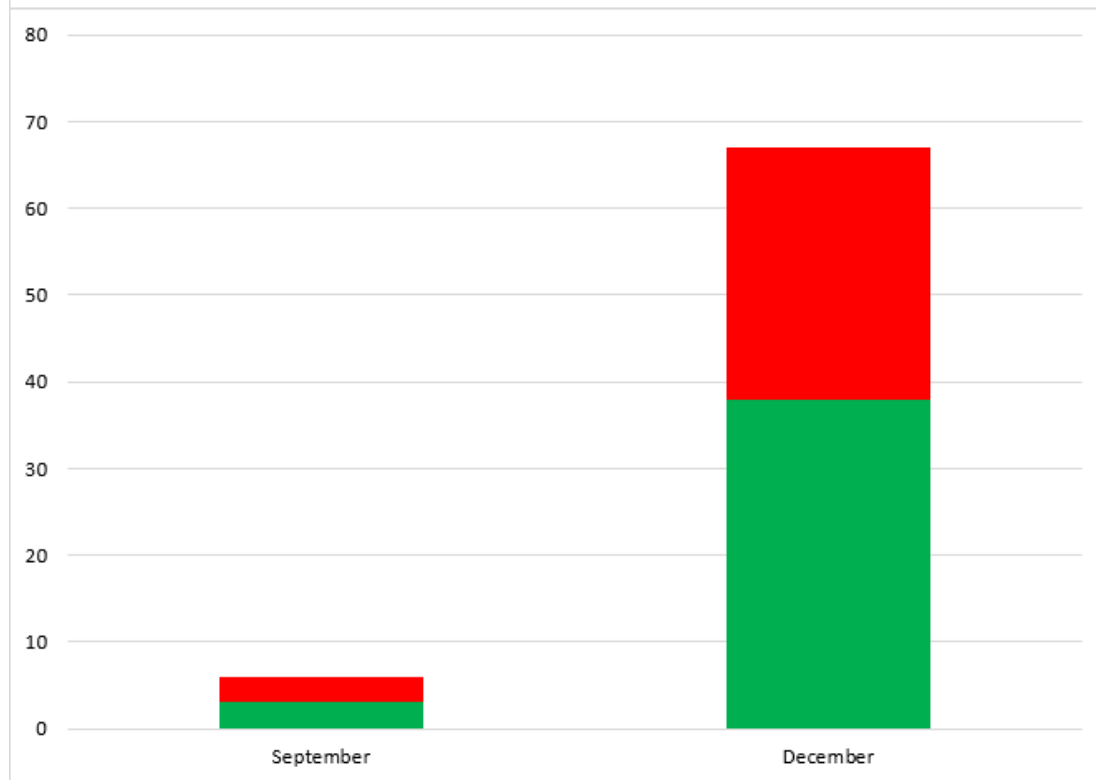
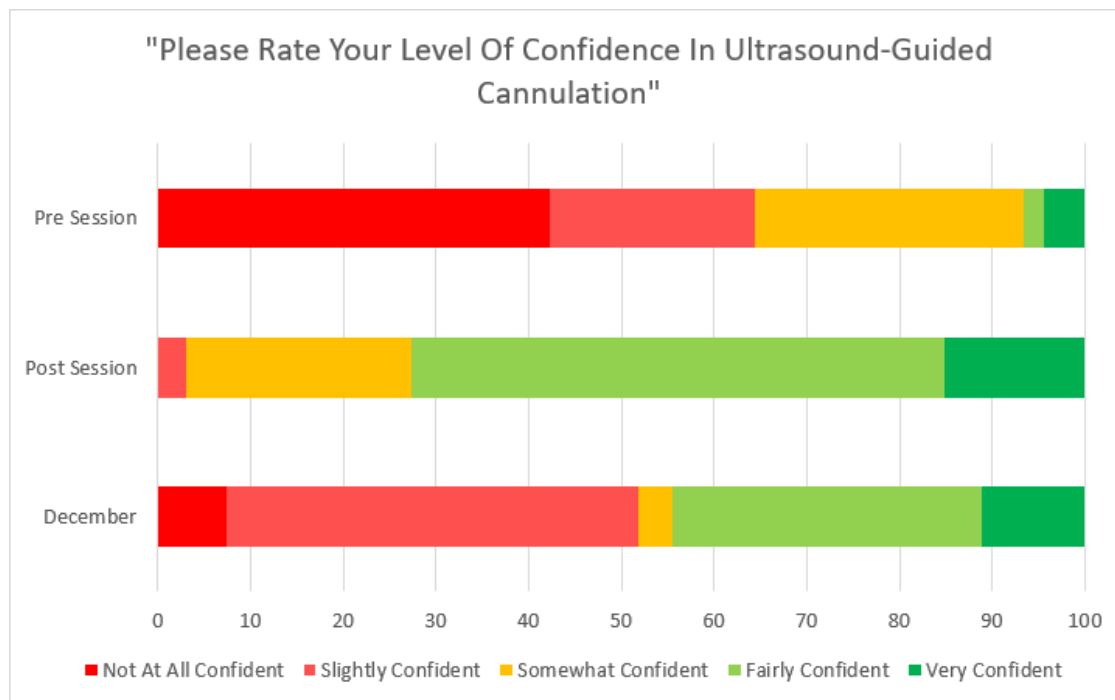


Figure 6 - Bar chart showing successful (green) and unsuccessful (red) attempts at ultrasound-guided cannulation in the month prior to the STRIDE teaching in September and December

Confidence improved notably – 44.44% of FY1s were “fairly” or “very” confident at three months compared to 6.66% before the session. Attempts at ultrasound-guided cannulation increased from an average of 0.21 attempts per FY1 per month before the teaching, to 2.25 at three months.



Escalations of cannulas to seniors reduced from 72 to 48 at three months (33.33% decrease), although there was little change in calls to anaesthetists (15 to 18). The success rate increased from 50% (3/6) 60% (38/63).

57.5% of FY1s highlighted a lack of ultrasound machines on the wards as a barrier.

Discussion And Conclusion

A near-peer teaching session on ultrasound-guided cannulation improved FY1s' confidence in the skill, the success rate, and the number of attempts made.

Though there were fewer escalations to seniors for cannulation, there was no reduction in escalation to anaesthetics - perhaps reflecting increased FY1 competence in low-medium complexity ultrasound-guided cannulations, with difficulty still seen in more complex patients.

FY1s identified a lack of access to ultrasound machines as a barrier to using and developing the skill. Further investment could help FY1s develop their skills, benefit patients by ensuring they receive intravenous medications more quickly, and reduce senior time spent attempting difficult cannulations.

Take Home Messages

- An hour-long teaching session by near-peers is an effective way to introduce FY1s to ultrasound-guided cannulation.
 - Increased access to ultrasound machines may further improve confidence and competence in ultrasound-guided cannulation, via increased usage of it.
-



3H2 (2650)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 3

The Development of Incoming Medical Students' Leadership Skills Through Pre-Medical School Projects: A Case Study

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Background

Leadership is essential for medical students since doctors are required to lead a team of professional healthcare workers. Previous studies have shown that extracurricular activities play a role in the development of leadership during medical school. In addition, medical schools are starting to incorporate leadership courses into their curricula. This study focuses on the development of leadership characteristics on incoming medical students who initiated a student-led pre-medical school project (Radiator) before the start of their journey in medical school, rather than during medical school.

Summary Of Work

A mixed-method design was applied. Twenty-four participants who initiated and participated in RAdiator were given questionnaires based on the NHS Leadership Framework Self-Assessment Tool 2012 which investigates the seven core leadership domains, asking participants to rate themselves on different aspects of their leadership skills before and after participating in the project. The percentage change in leadership skills was calculated. A structured interview was conducted with the top 20% of participants with the highest percentage changes, to further explore the reasons behind the increase in leadership skills.

Summary Of Results

The mean percentage increase in leadership skills was $39.0 \pm 25.5\%$. The domain with the highest average percentage increase of 43.2% is 'Setting Direction'. When asked about the reason behind the development in leadership skills, participants suggested that they are more willing to dedicate time and energy, when given the opportunity to lead a project in which they are passionate about. Barriers limiting them from excelling in their leadership skills include unfamiliarity with new colleagues and a lack of experience in systematic working.



Discussion And Conclusion

Involvement in pre-medical school projects might push incoming students to step out of their comfort zone and try their best to become the best leader they can be, even when they are not experienced. From the qualitative data, we can infer that apart from a well-designed medical curriculum, an opportunity for incoming medical students to initiate and participate in a pre-medical school project can significantly enhance students' leadership skills, and thus should be encouraged.

Take Home Messages

Student-led pre-medical school projects can potentially be an auspicious beginning to fulfill their leadership competencies.



3H3 (0624)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 3

Ultrasound Guided Cannulation: A need for the future

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Background

Peripheral intravenous access is a common procedure undertaken in hospital and is key to inpatient treatment. Factors such as an ageing population, co-morbidity and obesity can make achieving timely successful intravenous cannulation difficult, and therefore have significant impacts on patient care. The use of ultrasound guidance increases the success rate of peripheral intravenous cannulation, compared to landmark techniques. Thus, there is a growing recommendation to integrate ultrasound training into undergraduate and postgraduate curricula; with limited evidence of its implementation in the United Kingdom. Anecdotally evidence suggests that confidence and experience in the use of ultrasound to gain peripheral intravenous access is sorely missed by junior doctors due to a lack of teaching opportunities.

Summary Of Work

A two-day regional teaching programme was designed to improve the ultrasound cannulation techniques and confidence of junior doctors. This included various stations on ultrasound familiarity, cannulation technique, arterial sampling, and intraosseous access. Participants were asked to complete pre- and post-course questionnaires to assess the effectiveness of the programme.

Summary Of Results

Fifty participants, attended the course. Pre-course data demonstrated a clear desire for teaching in the aforementioned skills as well as a significant lack of experience and confidence at performing said skills. Following the course quantitative and qualitative feedback showed a significant increase in confidence in performing all clinical skills taught, with 100% of candidates reporting they would be happy to independently attempt ultrasound guided cannulation.

Discussion And Conclusion

Our course produced a significant increase in confidence and willingness to independently perform the skills taught. There is a clear desire and need for further practical teaching on gaining ultrasound guided access among doctors. Whilst this is increasingly being integrated into undergraduate



teaching, further implementation of teaching opportunities for doctors in training is needed. This will allow for professional development, reduced workload on specialities including anaesthetics and intensive care, along with improved patient outcomes.

Take Home Messages

- Intravenous cannulation is key to patient care, and may be lifesaving in the acute setting
 - Ultrasound guided cannulation can be used to gain timely intravenous access and improve patient outcome
 - Our course has clearly demonstrated a desire for further postgraduate ultrasound guided cannulation teaching along with its benefits.
-



3H4 (1002)

Date of presentation: Monday 29th August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 3

Anatomy education without traditional cadavers and dissection: Senior medical students' perceptions on their anatomy competence and learning experiences

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¹ Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore

Background

Traditionally, cadaveric dissection has been the main method for learning anatomy. However, non-dissection-based curricula are increasingly applied in anatomy education, but little is known about its impact on students' clinical training. Thus, this study investigated senior medical students' perceptions on their competence in anatomy, ability to apply in clinical situations, its role in professional development when they are exposed to non-dissection curriculum i.e., trained by a combination of the plastinated specimens, virtual models, and imaging tools

Summary Of Work

In this cross-sectional study, Years 3-5 undergraduate medical students were invited to complete an online survey consisting of 15 items on a 5-point Likert scale (1-strongly disagree; 5-strongly agree), 10 – rank-ordered and 3 open-ended questions covering anatomy relevance, communication, and team skills, learning experience and anatomy mastery in non-dissection-based instruction. Likert scale responses were subjected to confirmatory factor analysis to determine the factors.

Summary Of Results

Importance of anatomy knowledge to clinical setting (mean±SD: 4.01 ± 0.34), soft skill development (3.22 ± 0.43), learning experience with non-traditional anatomy tools (3.64 ± 0.53) and, self-efficacy (3.65 ± 0.40) was revealed by the confirmatory factor analysis (respondents = 87; male= 56, female = 31). For the rank-ordered questions, pertaining to the importance of learning anatomy most ranked option is to be safe and competent doctors (80.95%), followed by to carry out procedures and undergo further training (58.33%) and to be able to reach a diagnosis in patients (54.93%). In the context of learning tools, the 3D applications ranked first (67.85%) and followed by practical sessions with plastinated specimens (66.66%) and online lectures with images (60.71%) (respondents = 84; male = 54, female = 30). Open-ended question responses indicated that students valued non-dissection-based approaches and tools, perceived anatomy application in the clinical years, and suggested refresher courses in surgery-related clinical rotations.



Discussion And Conclusion

Respondents valued and held positive opinions on their anatomy training through a non-dissection-based approach in an undergraduate medical program. The importance of refresher courses with novel tools was highlighted in surgical specialties like orthopedics, ENT, and Obstetrics and Gynaecology.

Take Home Messages

Medical students are not disadvantaged in learning human anatomy by non-traditional methods.



3H5 (2202)

Date of presentation: Monday 29th August

Time of session: 11:00 - 11:15

Location of presentation: Gratte Ciel 3

First Medical Students class evaluation of a Point-of-Care Ultrasound Curriculum after their completion

Tomas Villen¹, Sophia Denizon¹, Diana Monge¹

¹ *Francisco de Vitoria University, Madrid, Spain*

Background

Point-of-Care Ultrasound (POCUS) is an emerging tool that is being included as part of undergraduate medical education, since it has been considered part of physical examination. We created a transversal POCUS curriculum integrated in the academic in order to give the students knowledge and skills to use ultrasound machines under the POCUS perspective as experienced users

Summary Of Work

We conducted a survey to the 2015-2021 class of Medical students after their completion of the Medical School, via online form. From a total of 100, we received 80 responses that we evaluated.

Summary Of Results

The questions and results are:

- 1) I've already used in a real clinical scenario any of the acquired knowledge: YES 87% ; NO 13%
- 2) I've acquired useful knowledge for my Medical education: Strongly disagree (SD): 4% ; Disagree (D) 0%; No agree nor disagree (N): 2%; Agree (A): 31%; Strongly agree (SA): 63%
- 3) I would be able to use an ultrasound machine during the residency: SD 3% ; D 5%; N 16%; A 52%; SA 24%
- 4) I consider that POCUS is a different tool compared to formal ultrasound because its indication and field of use: SD 2% ; D 0% ; N 16%; A 55%; SA 27%
- 5) The training in POCUS has been a differential element in my training at Medical School: SD 0%; D 4%; N 7%; A 40%; SA 49%
- 6) The training in POCUS has facilitated at some point the understanding of pathophysiology concepts: SD 0%; D 4% ; N 11%; A 42%; SA 43%
- 7) The POCUS curriculum should have longer or more seminars/contents: SD 0% ; D 0%; N 2%; A 40%; SA 58%



Discussion And Conclusion

The POCUS curriculum training has an important impact in the perception of Medical Students after its completion. The majority of them have acquired not only theoretical knowledge but practical ones and skills that can have a positive influence in their careers as Physicians.

Take Home Messages

After this positive feedback by our Medical Students, the creation of a POCUS Curriculum based on acquisition of practical skills should be taking in consideration by any Medical School.



3H6 (3496)

Date of presentation: Monday 29th August

Time of session: 11:15 - 11:30

Location of presentation: Gratte Ciel 3

WITHDRAWN



WITHDRAWN



Short Communications - Surgery Education

311 (2862)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:15

Location of presentation: Tete d'Or 1

Experiences using videos to complement structured oral examinations in Surgery

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Background

Surgeons require multiple skills to be considered competent. A variation in assessment strategies plays a vital role in the overall evaluation of knowledge, analysis, and technical expertise. The oral examination is the standard method to test knowledge and clinical reasoning, but reliability and validity concerns remain. Providing structure to orals may facilitate the measurement of achievement of the course outcomes, and the use of mock assessments can assist trainees in preparing for exit examinations. This study explored the experiences of surgical trainees and the examiners using a video-assisted, procedure-based, structured oral examination (SOE) in a face-to-face and virtual format.

Summary Of Work

This descriptive study at the Division of Surgery at Stellenbosch University, Tygerberg Academic Hospital, Cape Town, South Africa, took a case-based SOE format using procedural videos. One group of registrars had face-to-face contact with the examiner, and the other group was assessed on an online platform, e.g., Microsoft Teams™, where the examiner was remote. After the SOE, a focus group interview was held with the surgery trainees and individual interviews with the examiners, generating qualitative data.

Summary Of Results

Themes were developed from the interview transcripts. These themes centre around the utility of videos in this examination format and technical issues during the SOE, e.g., the connectivity and audio-visual disturbances. Further themes revolved around the standardization of questions and preparation of the examiners.



Discussion And Conclusion

Overall engagement by both the registrars and the examiners was high, and procedural videos as part of the mock SOE was experienced as valuable. The addition of video recordings to the online platform posed administrative and technical challenges. However, the registrars and the examiners could log in from peripheral clinical training sites. Suggestions towards improvement emphasized the importance of standardized approaches and better examiner preparation. Examiners requested training and guidelines on examination practice.

Take Home Messages

Forthcoming efforts should focus on the standardization of the examination format, such as the questions asked, optimizing technical issues, and improving examiner preparation.



312 (2806)**Date of presentation:** Monday 29th August**Time of session:** 10:00 - 10:30**Location of presentation:** Tete d'Or 1

Module-based laparoscopic training as a part of surgical education: a retrospective study on surgical trainees.

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¹ Department of Surgery, Regional Hospital West Jutland, Denmark ² Koncern HR MidtSim, Aarhus, Denmark ³ HR Koncern MidtSim, Aarhus, Denmark

Background

Tensions between receiving efficient workplace-based training in surgery and providing high-quality patientcare is often highlighted in educational literature. Module-based training or accelerated learning in the work environment has been shown to improve and sustain surgical skills compared to traditional training. Hence, this approach has gained recognition and 40 % of the surgical departments in our region is labelled as including module-based training. However, little is known about the status of module-based training among surgical residents. The present study aims to investigate when and how many laparoscopiccholecystectomies (lap. chol.) surgical residents performed during their first-year residency.

Summary Of Work

The study participants were residents in abdominal surgery employed in the Central Denmark Region in the period of 2015-2020 (n=59). Using a business intelligence portal, we collected the following data: date and number of lap. chol. performed by surgical residents, during their first year of residency, and the total number of lap. chol. performed in the department during the same period. Module-based training was defined as more than 16 lap. chol. during 8-10 weeks.

Summary Of Results

Of the included residents, 17 (28,8%) were identified with module-based laparoscopic training. The median of performed lap. chol. by residents with module-based training were three times higher than the residents without, 36 (24-57) compared to 12 (0-36). At no time module-based trained residents performed more than 53% of the total number of the department's lap. chol. per month.

Discussion And Conclusion

Module-based training improves the residents' opportunities to perform and may therefore facilitate coherent learner trajectories and enhance workplace-based training by ensuring the same structured training approach to all residents. Furthermore, module-based training requires balancing equal



opportunities for all surgeons and maintaining a high level of competency across in the department. Our study showed that only a few surgical departments use module-based training, however surgical residents in these departments performed more lap. chol compared to their colleagues.

Take Home Messages

Further research should concentrate on how surgical departments can enhance workplace-based training by facilitating different environmentally chances while taking the ever-changing nature of surgery into account.



313 (3359)**Date of presentation:** Monday 29th August**Time of session:** 10:30 - 10:45**Location of presentation:** Tete d'Or 1

Transition into Residency and Developmental Growth: National Study of Factors Contributing to Variability in Milestones Ratings of General Surgery Residents

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Background

The developmental trajectory of learning during postgraduate surgical training is marked with complex factors that may be attributed to individual resident performance, program-level factors, and the learning environment. To track readiness toward unsupervised practice, the Accreditation Council for Graduate Medical Education initiated the Milestones Assessment System for General Surgery in 2014, requiring programs to submit formative Milestones ratings every six months.

Summary Of Work

This study examines factors contributing to resident Milestones ratings, specifically during the first year and throughout the five-year clinical training period, focusing on variability due to graduating medical school, training program, individual learner, and training year. We used national cohort data of 1,262 residents from 262 surgery residency programs over a seven-year period, July 2014 to June 2021 (five-year clinical training plus two-year research fellowship). Variance components analyses using cross-classified mixed-effects regression were used to identify specific contributions to variability in Milestones ratings.

Summary Of Results

During the first year of training, variability due to graduating medical school accounted for 5% of Milestones rating at the six-month period and gradually decreased to 3%. Programs and learners accounted for 43% and 9% of variance, respectively. Program-specific variance was 15% greater for subcompetencies in Professionalism (PROF) and Interpersonal and Communication Skills (ICS). Across the five-year clinical training period, variability due to programs decreased from 43% to 20%, with greater variability across subcompetencies in Patient Care (PC), Medical Knowledge (MK), and System-Based Practice (SBP). Learner variance increased from 9% to 43% with greater variability in PROF and in ICS. Variance due to graduating medical school decreased to 2%.



Discussion And Conclusion

Throughout postgraduate surgical training, programs account for substantial variability in Milestones ratings, with greater attention toward PC, MK, and SBP competencies, while PROF and ICS accounted for substantially greater variance for individual learners as residents progress toward graduation. Medical schools provided modest yet significant influence in Milestones rating during the first year of training.

Residency programs, individual learners, and graduating medical schools present distinct influence throughout residency training and readiness for unsupervised practice.

Take Home Messages

The dynamic of program-level factors on learning and on individual resident performance shifts during the first year and across the duration of surgical training.



314 (2563)**Date of presentation:** Monday 29th August**Time of session:** 10:45 - 11:00**Location of presentation:** Tete d'Or 1

Courses to the clinic: Exploring trainees' engagement in laparoscopic skills training and perceptions of transfer of training

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Background

Research has demonstrated that simulation-based surgical skills training can improve operating room (OR) performances. Previous studies on the transfer of surgical skills training have primarily focused on training design and subsequent OR performances and outcomes. There is limited knowledge about trainees' perspectives on training engagement and transfer of training to the clinical training environment. Therefore, we aimed to explore mediators of trainees' engagement in laparoscopic skills training and trainees' perceptions of transfer of training.

Summary Of Work

We interviewed 12 first-year Surgery, Urology, and Gynaecology trainees who participated in a laparoscopic skills training program. Individual interviews were conducted during the six-week program and again two months later. We used systematic text condensation for thematic analysis.

Summary Of Results

Four main themes were identified: (1) 'Sportification of training'; Participants described their training using sports metaphors, emphasising step-by-step approaches and focusing on competition, timing, and reward. (2) 'Modes of orientation'; Visual inputs, visualisation, kinaesthesia, and elicited dialogues were salient in the participants' narratives on training. (3) 'Transferable skills'; Ambidexterity, coordination, instrument handling, and visuospatial ability were perceived as specific transferable skills. In addition, participants reflected on how the training program had changed their general approach to surgical training. (4) 'Transfer opportunities'; Participants viewed the training program as an entry ticket to the OR and considered supervisor-trainee relationships and work planning to impact their transfer opportunities substantially.



Discussion And Conclusion

Our findings contribute to understanding mediators of engagement in simulation-based skills training. Instructional designers may leverage these insights to support self-regulated learning processes that transcend training environments. A tension existed between trainees' perceptions of transferable skills attained in the simulated setting and perceptions of transfer opportunities in the clinical environment. Where trainees' narratives from the simulated training setting focused on individual and technical skills, the narratives on opportunities to transfer their training to the clinical environment revolved more around social and organisational aspects.

Take Home Messages

We argue for a more holistic view on the transfer of simulation-based surgical skills training. A view that focuses not solely on training design and technical skills but acknowledges that multiple factors shape the transfer conditions and that transfer of training occurs before, during, and after a training intervention.



315 (3504)

Date of presentation: Monday 29th August

Time of session: 11:00 - 11:15

Location of presentation: Tete d'Or 1

Operating room black box technology: a cross-sectional survey of the perceptions of healthcare professionals prior to implementation with international comparison

Jeanett Strandbygaard¹, Kjestine Emilie Møller¹, Teodor Grantcharov², Lauren Gorden³, Nynne Dose⁴, Eliane Shore³, Bent Ottesen¹, Susanne Rosthøj⁵, Jette Led Sørensen¹

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Background

Comprehensive data capture systems like the OR Black Box are becoming more widely implemented to access quality data in the closed and highly complex environment of the operating room (OR). However, little is known about how these initiatives impact healthcare professionals.

Prior to installing an OR Black Box, we assessed the perceptions on safety attitudes, the impostor phenomenon and privacy concerns among healthcare professionals in the OR.

A parallel and identical survey was conducted in Canada, hence, this study also discusses cultural and international differences

Summary Of Work

A cross-sectional survey using three previously validated questionnaires Safety Attitudes Questionnaire (SAQ), Clance Impostor Phenomenon Scale (CIPS), Dispositional Privacy Concern (DPC) was distributed through REDCap to 145 healthcare professionals from the OR (July–December 2019). ANOVA and ANCOVA were used to test for differences.

Summary Of Results

In total 124 responded (response rate: 86%): 100 completed the entire survey (69%) distributed on 38 OR/anesthesia nurses, 10 anesthesiologists, 36 obstetricians/gynecologists, and 16 residents.

Significant variability in in all six SAQ domains, Safety Climate being the lowest ranked for all groups.



Moderate to frequent impostor phenomenon was experienced by 71 out of 100 (71%) predominantly among residents ($p=0.003$).

Residents were most comfortable with digital information sharing ($p<0.001$), only 13% of all healthcare professionals were concerned/heavy concerned.

Cronbach's alpha measured internal validity: SAQ ($\alpha=0.70$), CIPS ($\alpha=0.93$) and DPC ($\alpha=0.82$).

Discussion And Conclusion

The healthcare professionals were mainly concerned about safety culture in the operating room and were unconcerned about digital information sharing. The impostor phenomenon occurred but decreased with age. Internationally there were similar findings in terms of impostor phenomenon, but a variety within the SAQ. Unlike our Canadian colleagues, we did not find any concerns about data safety which could be due to medical litigation per se is not widespread in a Scandinavia compared to North America.

Take Home Messages

Enablers and barriers must be investigated prior to installation of a data capture device in the operation ward to support a sustainable implementation.



316 (1733)**Date of presentation:** Monday 29th August**Time of session:** 11:15 - 11:30**Location of presentation:** Tete d'Or 1

Role model moments in surgical residency: exploring the impact on professional identity formation

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Background

Role models can be powerful contributors to residents' professional identity formation (PIF) by exhibiting the values and attributes of the community in which they are trained. While there is substantial knowledge on the different attributes of role models, little is known about how residents' PIF is influenced by role models. The aim of this research is to explore residents' experiences with role models and to understand how these contribute to their PIF.

Summary Of Work

Adopting a social constructivist paradigm, we used an approach based on constructivist grounded theory to develop an explanatory model for residents' experiences with role models. Fourteen surgical male and female residents with varying years of training were purposively sampled for individual online semi-structured interviews. Data collection and analysis were done iteratively and open, axial, and selective coding was used to identify relevant themes.

Summary Of Results

The conceptual model is based on three major themes: the emergence of a 'role model moment', learning process, and learning results (*Figure*). Since role model behavior is highly situation dependent, the term 'role model moment' is most appropriate when discussing residents' experiences.

A role model moment can arise when a resident (1) has a sense of belonging, (2) identifies with her/his role model, and (3) feels positive about that specific moment in terms of 'inspiration' or 'admiration'. Residents imitate and adapt behavior by selecting relevant elements based on their individual needs. Anti-role model moments are dominated by negative emotions and residents resolutely reject the herein modeled behavior. By interacting with role models, residents negotiate



their values, strengthen attributes, and learn to make their own choices on the individual path of becoming a surgeon.

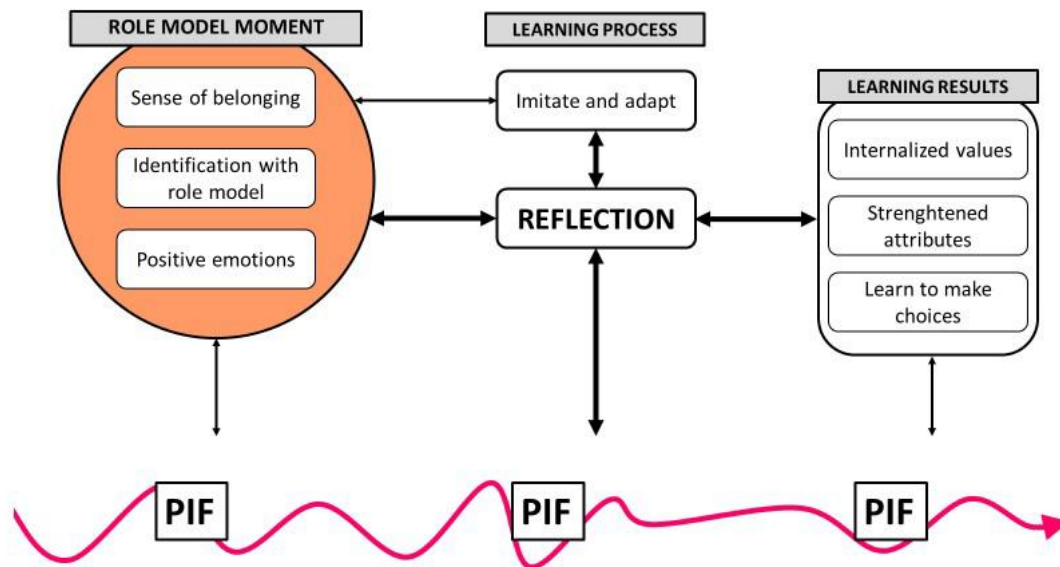


Figure. The tortuous arrow represents continuous individual professional identity formation (PIF). Schematic representation of a role model moment, the learning process and learning results. Each component has an impact on professional identity formation. The bold arrows emphasize the importance of reflection.

Discussion And Conclusion

Residents determine the value of role model moments and how these moments shape their professional identity. Our model could be useful for future research and developing strategies to foster PIF during surgical residency. Offering guided reflection, and creating a welcoming and supportive community seem to be fruitful opportunities.

Take Home Messages

Role model moments are strong catalysts of PIF as residents follow in the footsteps of their role models and at the same time learn to go their own way.



Short Communications - Assessment 1: Clinical

3J1 (1780)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:15

Location of presentation: Rhone 2

Final Outcomes of the Successful Cooperation on the Development of the University-Standardized Basic Life Support (BLS) Skill Test

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Background

Cardiopulmonary resuscitation (CPR) skill is a core competency in the healthcare university curriculum. Since 2015, sustainable basic life support (BLS) curricula for our university students have been conducted by university teachers. Continuous improvement of goal-oriented lesson protocol and the objective criteria of CPR skills have contributed to improving the learning outcome of students. The data of the students' outcomes in the recently updated lessons and the validity of the assessment have been demonstrated.

Summary Of Work

For our medical, pharmacy, and medical technology schools, we provided BLS lessons with mutual help among teachers. Outcome-oriented BLS lessons were designed with a skill evaluation test at the end of each class to assess learners' competency. In this test, we set our goal by the learners' assessment with a checklist and chest compression overall score (CCOS) measured by a real-time feedback device. In 2020, we reached the optimized goal of chest compression skill as a CCOS of over 90%. In the 2020 school year, BLS lessons were provided for 664 students and the passing rate of the whole lesson was analysed.

Summary Of Results

Our university BLS training team conducted CPR lessons with this protocol for 664 students over a year. Teachers completed their training classes by themselves. Three step skill tests, which comprised the main, additional, and final tests, were performed at the end of each lesson. The final test level was modified according to the reasonable accommodation that enabled all students to pass the skill test. The accumulated rate of students who passed the main test, additional test, and the final test was 79.8%, 91.3 %, and 100%, respectively.



Discussion And Conclusion

After the optimization for years, BLS lessons have been developed and transformed into the ideal style. Following the concept of mastery learning, the valid goal of chest compression which all students can pass has been fixed. The real-time feedback device was used successfully as the learning strategy and the learners' assessment tool.

Take Home Messages

Developing the objective assessment protocol and multidisciplinary cooperation of teachers have improved the outcomes quality-CPR of the students at our university. The optimized goal of skill assessment enhances the students' learning and ensures their competency.



3J2 (1617)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:30

Location of presentation: Rhone 2

Do formative quizzes promote knowledge assimilation and clinical performance in a neurology clerkship?

Laurie Knepper¹, Claire Yanta¹

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Background

Medical students are overwhelmed with the amount of information that they need to learn during clinical rotations, often using question banks to study. Repeated exposure to topics can promote knowledge retention. Studies of voluntary quizzes in science courses report an association between performance on summative exams and quiz participation. Choosing to complete quizzes seems characteristic of a self-regulated learner. This study objective was to assess whether giving students formative quizzes, before weekly case-based sessions would help them identify gaps in knowledge, prepare for sessions and improve their final neurology exam and clinical grades.

Summary Of Work

The subjects were medical students during a 4-week neurology clerkship. A multiple-choice question bank was collated by the authors. Five questions for each of the 12 case-based topic didactics were embedded in the online curriculum website. Students were instructed to take the weekly quiz before each didactic day. The quizzes closed the night before the session. Students received detailed information about correct answers but not quiz grades. They received extra credit for quiz completion. Data was blinded and compared to their final NBME neurology exam score and final neurology clerkship numerical grade.

Summary Of Results

From 2019 – 2021 128 students completed pre didactic quizzes and 126 students completed them from 2020 – 2021. 66% of students felt the quizzes were helpful.

Statistics: mean, standard deviation, range of values and interquartile range of NBME Exam Score, Final Clinical Grade, Quiz Score, and number of quizzes completed in the entire sample of 2019-2020 and 2020-2021 cohorts (N=254). The relationship between Exam Score and Final Clinical Grade (Pearson correlation coefficient r ; p -value).



	NBME Exam	Final Clinical Grade
Quiz Score	$r = 0.25$ $p\text{-value} < 0.0001$	$r = 0.29$ $p\text{-value} < 0.0001$
Quizzes completed	$r = 0.16$ $p\text{-value} = 0.01$	$r = 0.18$ $p\text{-value} = 0.01$

Discussion And Conclusion

Weekly quizzes prior to case based classroom sessions improve the final summative neurology exam grade and clinical clerkship grade. Students who had higher grades completed more weekly quizzes suggesting they were self-directed and intrinsically motivated learners.

Take Home Messages

Formative quizzes before weekly didactics improve summative neurology exam and final clinical grades in a neurology clerkship



3J3 (3224)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:45

Location of presentation: Rhone 2

Paediatric procedural skills for final year medical students

Amnuayporn Apiraksakorn¹, Kulwipa Tantanatewin¹

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Background

The Thai Medical Council (TMC) has revised the medical competency assessment criteria for national licence (NL) for medical graduates in 2020. Of the 62 required procedures, ten are in paediatrics: seven are tested on individual performance and three are assessed under supervision. This study aimed to assess paediatric procedural skills according to the new criteria for final year medical students.

Summary Of Work

The self-administered questionnaires for paediatric procedural skills were distributed to the final year medical students in paediatric rotation at the Khon Kaen Medical Education Centre. Students recorded their experiences in: paediatric advanced life support (PALS), radial artery puncture for blood gas analysis (ABG), capillary puncture (CP), nasogastric intubation (NG), neonatal resuscitation (NCPR), injection, intravenous fluid infusion (IV), lumbar puncture (LP), endotracheal intubation (ET), and umbilical vein catheterization (UVC), with number of performed cases during 2019 to 2021. The objective structured clinical examination (OSCE) scores of NCPR were recorded in 2020-2021.

Summary Of Results

Ninety-two final year medical students rotated in paediatrics, with a 100% response rate. There were 39, 29, and 24 students in 2019, 2020, and 2021 respectively. The paediatric procedural skills reported in “does” level in 2019-2021 were NCPR 100%, LP 95-100%, ABG 92-100%, injection 88-92%, CP 59-88%, PALS 42-72%, ET 43-59%, NG 29-73%, UVC 24-31%, and IV 23-33%. All students underwent formative assessment and feedback during mid-block rotation and the end of the block by the neonatologist. The average OSCE scores of NCPR were 75.9±8.3, and 85±9.3 (of 100) in 2020-2021, respectively.

Discussion And Conclusion

This study assessed the final year medical students’ experiences in paediatric procedures according to the revised criteria for national licences in 2020 by TMC. NCPR was the only procedure in which every student consistently met the criteria in both formative and summative assessments. Over half of the students reported having limited experience in five procedures. The data expressed which



paediatric procedural skill needed to be addressed to improve the competency of the final year medical students prior to graduation.

Take Home Messages

Paediatric procedural skills in the final year medical students should be implemented in the curriculum development to ensure the student competency and patient safety.



3J4 (3690)

Date of presentation: Monday 29th August

Time of session: 10:45 - 11:00

Location of presentation: Rhone 2

Six Medical Schools' Experience of Night-onCall – an end of medical school readiness for residency assessment

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Background

Funded by the Macy Foundation, we created a Night-onCall consortium with six medical schools to assess near-graduates on their readiness for residency. Night-onCall (NOC) is a 3-hour activity during which a student rotates through authentic simulated scenarios including evaluating a patient and writing a coverage note; presenting via phone to an attending; formulating and answering a clinical question using library resources; recognizing culture of safety skills; and handing-off to a peer. We investigated schools' experiences running NOC, potential improvements, and the impact of NOC on schools' curriculum.

Summary Of Work

A structured protocol was used to explore NOC preparation, fit with school's curriculum, value for readiness for residency assessment, and impact on the school. A total of 34 consortium members (3-8 members/group) participated in 7 focus groups organized by school (6) or role (1 librarians only). Groups were recorded and transcribed. Two reviewers conducted a thematic analysis, reconciled themes through consensus, and summarized results in narrative. The findings were discussed with NOC leadership and participants to establish "ground truth."

Summary Of Results

Implementing NOC is time and resource intensive. Participants discussed the necessity of early preparation when first implementing NOC. They noted the breadth of knowledge and expertise needed, including information technologists, administrative and faculty support, and standardized patients to play diverse roles.

Participants suggested running NOC earlier in the semester to allow time for remediation based on performance in NOC prior to transition to residency.



NOC identifies medical school curriculum gaps and provides evidence to convince stakeholders to address shortcomings. For example, identifying poor evidenced based medicine searching skills or poor patient handoff performance can be addressed by improving curriculum.

Participants reported that NOC improves readiness for residency as it focuses on student competence through comprehensive assessment and student confidence by allowing students to “try on” the resident role without endangering patients.

Discussion And Conclusion

The focus groups highlight the importance of timing NOC in medical school curriculum. Though time and resource intensive, NOC is a robust program that provides valuable feedback to students, faculty, and medical schools.

Take Home Messages

Focus groups provide insight on 6 medical schools’ NOC experience and demonstrate how NOC data provides feedback to school curricula.



3J5 (2613)**Date of presentation:** Monday 29th August**Time of session:** 11:00 - 11:15**Location of presentation:** Rhone 2

Understanding the development of communication skills over 4 years of medical schools: Does early assessment predict future skills?

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Background

Assessment of communication skills is essential throughout medical students' training. This study used latent profile analysis to identify unique profiles and explore developmental trajectories of communication skills using routinely collected Objective Structured Clinical Examinations (OSCE) scores.

Summary Of Work

Medical students (N=1155) at NYU from 2009-2019 completed a three case introductory clinical examination (ICE) OSCE in the first week of school, a two case OSCE 1.5 years into school (POM; pre-clerkship), and a high-stakes, 8 case OSCE towards the end of medical school (CCSE; post-clerkship).

Communication skills were consistently measured using the Clinical Communication Skills Assessment Tool (CCSAT) -a 15- to 17-item, 3-point Likert Scale (scale: not, partly, or well done) across 4 subdomains: information gathering, relationship development, organization/time management, & patient education. Using item level data from the CCSE, 6 communication profiles emerged clustered into three sub-groups: two high (HP1 n=84, HP2 n=97), two average (AP1 n=358, AP2 n=99), and two lower performing profiles (LP1 n=96, LP2 n=435). Communication subdomain scores on the ICE and POM were analyzed to determine how patterns of medical student performance varied over time by profiles.

Summary Of Results

High and average performing profiles (HP, AP - 55%) improved on each communication subdomain from ICE to POM to CCSE. Lower performing profiles (LP1 8%) improved between ICE and POM, but dropped on each subdomain in the CCSE. Profile differences across the subdomains of the ICE were identical to the CCSE, but the differences between the three-subgroups were more pronounced, and within student differences were smaller. For POM, differences in scores between high, average and lower performing profiles were much smaller than in ICE or CCSE. In the patient education subdomain, the profile order did not match ICE or CCSE, with HP1 scoring the lowest.



Discussion And Conclusion

These communication patterns help target students for coaching. Students who enter with strong to average communication skills improve over time, while lower performers improve pre-clerkship, but drop off post-clerkship; this group needs extra support. The significant heterogeneity in skills of entering students narrows after introduction to clinical medicine curriculum but then diverges after clerkship.

Take Home Messages

Early clinical examinations predict future outcomes and identify students needing additional support.



3J6 (2935)**Date of presentation:** Monday 29th August**Time of session:** 11:15 - 11:30**Location of presentation:** Rhone 2

Practicum Script, a clinical reasoning simulator: results of an international multicenter experience at the undergraduate level

Eduardo Hornos¹, Eduardo Pleguezuelos¹, Amir H Sam², Carlos Fernando Collares³, Adrian Freeman⁴, Laksha Bala⁵, Cees van der Vleuten³

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Background

The development of effective approaches for training and assessing clinical reasoning, under conditions of uncertainty, remains a great challenge within medical education. This study, coordinated by the Practicum Institute and the European Board of Medical Assessors, was aimed to investigate the utility of the simulation-based programme Practicum Script (<https://universities.practicumscript.education/>), grounded in the dual process theory, as a clinical reasoning training methodology in undergraduate teaching and assessment.

Summary Of Work

Medical schools implemented Practicum Script as a formative tool for final year students. The assessment material consisted of 20 internal medicine clinical cases, drawn from real patients. Cases were validated by 20 experienced internists from 16 faculties across Europe, USA and Latin America. For each clinical case, students were asked to generate hypotheses in a 'free-text' format, assign them a probability estimate and justify them. Subsequently, they had to report, in 5 different clinical scenarios, how new data might affect the likelihood of their original hypotheses. Feedback was based on experts' opinions, and clinical evidence. Students' satisfaction was evaluated, and reliability and confirmatory factor analyses of the students' answers were also performed.

Summary Of Results

A total of 1502/2457 (61%) volunteer students from 21 medical schools in 10 countries completed all cases. 89,8% of responders to a satisfaction survey rated the experience as "excellent" or "good". Cronbach's alpha coefficients were excellent for hypothesis generation (alpha = 0.909, 95% CI = 0.902-0.916) and hypothesis argumentation (alpha = 0.926, 95% CI = 0.920-0.931) and adequate for knowledge application (alpha = 0.786, 95% CI = 0.768-0.803). Goodness-of-fit indices RMSEA and SRMR, from confirmatory factor analysis, were also adequate: 0.025 and 0.059, respectively.



Discussion And Conclusion

Our findings support the conclusion that Practicum Script is a useful resource to help students strengthen their clinical reasoning skills and their ability to manage uncertainty during decision making, with evidence of reliability and validity. The analysis of the data using a cognitive diagnostic modelling approach shall be further explored.

Take Home Messages

Practicum Script can meaningfully contribute to improve clinical care decisions of future physicians, by helping students to develop effective thinking skills to deal with complexity and ambiguity in clinical practice.



ePosters - Student Characteristics & Learning Styles

3K01 (2793)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:05

Location of presentation: Tete d'Or 2

Deal with Bullying: How to Make a Better Choice?

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Background

Bullying is one form of violence that can be found in medical school. It can inflict wounds on the victim's feelings. The bullying cycle could happen repeatedly, leading to being the culture of that society. Moreover, the victims may turn out to be perpetrators.

Summary Of Work

This study was a cross-sectional survey of 69 medical students from 4th-6th year on Academic Year 2021 at the Medical Education Center, Chiang Rai Prachanukroh Hospital. The samples were asked to answer anonymously to the survey during January-February 2022 in the Google form.

Summary Of Results

Results revealed that 27.9% of the students reported exposure to some sort of bullying, among this 15.5 % was LGBTQ students. The top 3 bullies were teachers, other professionals, senior medical students and friends at 57.9%, 42.0% and 37.6%, respectively. The top three methods of bullying were sarcasm/vulgarity, being cold/ignorant/overlook and humiliating to friends/patients/others at 52.2%, 47.8% and 37.7%, respectively. No sexual harassment was found. The methods used by medical students to encounter this situation were ignore at 68.1%, avoid approaching/ meeting the bullies at 63.8%, and tolerate at 15.9%. However, it was found that most of them chose more than one method of adaptation. The impact of bullying was 85.5% on psychology and 30.4% on education. In addition, the study reflected the need to promote values and a proper system for handling bullying, including channels for requesting help practically.

Discussion And Conclusion

Recognizing the importance of bullying is imperative because being bullied results in negative effects on physical, mental, behavioural, and motivation on studying of medical students. Raising awareness to Medical Education Center to provide a safe learning environment. Having an accessible and



efficient supporting system is necessary to create confidence in the rights and equality which will lead to a new culture of acceptance of differences and respect to the rights of each other.

Take Home Messages

Bullying makes a negative impact and may create a culture that hinders learning. Promoting creative communication and having an efficient supporting system can prevent this problem.



3K02 (4713)

Date of presentation: Monday 29th August

Time of session: 10:05 - 10:10

Location of presentation: Tete d'Or 2

Cognitive Processing Course: A Student-Faculty Collaborative Small Group Program for At-Risk Students

Andrea Vaughans¹

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Background

Rebounding from failure is one of the most challenging feats for any student. The fear of future failures, the misery of retaking a course, and the loss of self-confidence can be crippling. Hence, this presentation will outline the components of a collaborative small group program created for students repeating the third semester of medical school. The initiative paired student-led groups with faculty advising/ mentoring.

Summary Of Work

All remediating students in the third semester of the basic science curriculum were enrolled in a mandatory program with the college's education support department. Students were divided into groups of ten to fifteen, supervised by a physician faculty member. During these sessions, students participated in a 14-weeks program built on four pillars: identification of individual learning techniques, organisation of knowledge, time management and retrieval of knowledge. Students received individualised advice from their assigned faculty advisor in congruence with self-regulated learning strategies. The advising sessions occurred in three stages: identification of weak areas and creating strategies to address them, implementation of strategies, and reviewing what worked and what could be carried into the next semester to avoid future failures.

Summary Of Results

The program has now completed over seven cycles. One hundred percent of the repeating students showed immediate improvement in their end of semester grade. Continued follow-up will allow us to see long term results. The percentage of improvement in scores, thus far, ranged from 6.27% to 23.8%, with a mean improvement of approximately 14%. These positive results led to the development of a similar program to address the needs of at-risk students taking their United States Medical Licensing Examination. Over 50% of those students successfully completing their requirement for this.



Discussion And Conclusion

Details of this fourteen-week four-pillar program will be discussed and analysed. The presentation will highlight how these strategic peer-review groups, individualized learning approaches, and individual faculty advising, enhanced students' potential to pass examinations. Participants can expect to gain ideas which can be adapted to their institutions.

Take Home Messages

The implementation of structured learning strategies paired with student-led integrative review groups resulted in improved students' scores.



3K03 (2089)

Date of presentation: Monday 29th August

Time of session: 10:10 - 10:15

Location of presentation: Tete d'Or 2

COVID-19 pandemic and clinical year medical teaching in Kalasin hospital:the students' concerns for online teaching program.

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Background

After COVID-19 pandemic, online teaching was proposed to be a safer learning method to be used in every school including clinical training year medical students. In Kalasin Hospital, each learning module was separated into 2 sessions: 1-2 weeks for online theory sessions and the other 1-6 weeks for clinical practice at ward. This study investigated about concerns of clinical year medical students related to online teaching.

Summary Of Work

Self-report questionnaires using 5-point rating scales were sent to the medical students. Survey questions aimed to study concerns about online teaching in clinical year medical students in the year 2020-2021. We grouped the students into 2 groups which were 5th VS 6th -year medical students, we compared the concerns between groups using independent t-test. The statistical significant differences were reported by p-value < 0.05.

Summary Of Results

A Total of 57 students (100%) responded. All of them were vaccinated. There were 25 students (43.9%) in 5th year and 32 students (56.1%) in 6th year. Forty-seven students (82.4%) strongly agreed that online learning sessions and policies to decrease face-to-face classrooms were the safer way to prevent them from COVID-19 infection. Fifty-four students (95%) thought that online learning session decreased their procedural and communication skills. Majority (80%) of students disagreed with the strategy to reduce their time to practice at wards. Sixth-year medical students were significantly not afraid of risk of infection (score 4.0 vs 3.3 mean difference 0.6, SD 0.2, p-value= 0.004) and hoped that online learning sessions and policy should be discontinued since that would decrease their clinical practice session in ward (score 2.73 vs 2.0 mean difference 0.68, SD 0.27, p-value= 0.013), as compared to Fifth-year medical students.



Discussion And Conclusion

In clinical training years, the students felt that online learning policy decreased their procedural and communication skills. They hoped to return to normal clinical learning situations with a strategy to protect themselves such as getting the COVID-19 test for every suspected patient and wearing personal protected equipment. In pandemic year 2020-2021, with these learning methods, no students were infected with COVID-19.

Take Home Messages

The medical students were concerned that online learning strategy decreased their procedural and communication skills.



3K04 (0187)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:20

Location of presentation: Tete d'Or 2

Why fulfilling the mandatory rural services is still interesting for new-generation medical students?: A qualitative study at Ramathibodi Hospital Medical School, Thailand.

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Background

Thailand has experienced a long-term shortage of rural doctors. As a result, three-year mandatory rural services following graduation had been introduced by the government to help solve the problem. Despite the recent changes allowing newly graduated medical students to have more choices following graduation, many still choose to fulfill the mandatory rural services, which may lead to uncertainty for both workplace and future career paths. This study aims to understand ideas, perspectives, and factors affecting the decision-making process to choose mandatory rural services among final-year medical students at Ramathibodi Hospital, Mahidol University.

Summary Of Work

In-depth interviews with 14 final-year medical students of Ramathibodi Hospital Medical School, Mahidol University were carried out from June 2020 to January 2021. Purposeful sampling and Snowball techniques were used to collect the data until the data was saturated. Verbatim transcription and content analysis were performed by researchers independently. Investigator triangulation was conducted to achieve result consensus.

Summary Of Results

Fourteen medical students, 11 females and three males, median age 23 years, were participated in this study. The main perspectives that led medical students to do the mandatory rural services were its challenges to prove their competencies, comfort, security in welfare and income, and their social accountability to work for underprivileged people. An important factor affecting their decisions might be their personalities, including resilience, autonomy, multi-potentiality, and adaptation. Other factors include coming from an open-minded family, having good role models, hierarchy in medical curriculum, relaxing and independent rural lifestyle, and good experiences for future residency training.



Discussion And Conclusion

The mandatory rural services are still attractive for new-generation medical students because it is the way to gain both professional and life experiences and have a gap year to restore self-esteem. New-generation medical students are unique, for which medical schools and policymakers should understand and recognize their perspectives and needs.

Take Home Messages

More than financial incentives, mandatory rural services allow new-generation medical students to gain experience and work in a suitable environment should be considered.



3K05 (3879)

Date of presentation: Monday 29th August

Time of session: 10:20 - 10:25

Location of presentation: Tete d'Or 2

Learning in clinical practice during COVID-19 – Nursing students' voices

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Background

The COVID-19 crisis had a great impact on nursing education as a large part of it is carried out in clinical practice. Based on nursing students' perceptions of their learning the intention of the present study was to provide knowledge on how to prepare students for uncertainty and unknown situations.

Summary Of Work

Seven focus group discussions were conducted with 21 nursing students on different study levels who performed clinical practice during the outbreak of COVID-19. Interpretative content analysis related to theoretical assumptions about learning was applied.

Summary Of Results

Being part of the chaotic situation was challenging and stimulated as well became a hindrance for learning. The students' experiences depended on own worries and approach, how they were treated and the management of the clinical education. Some students felt they got space for own initiatives and responsibility while others felt lost and abandoned. The unique situation exposed the importance of hygiene, organisational matters in a crisis and the meaning of obstructions in communication. Students discovered a multifaceted role of the nurse.

Discussion And Conclusion

Despite the confusing situation the students appreciated to be part of the unique situation and found it valuable for their learning. An interesting observation is that the extraordinary situation caused by the pandemic made the ordinary visible and can be understood in relation to the theory of variation. The students faced many challenges which is an important driving force for learning, if not overwhelming or too much at a time. Students need support from the supervisors to take on the challenges and turn it into learning.



Learning during an insecure time are signified by complexity and depend on several different interacting factors. The students' worries should be addressed both at the clinical placement and the university and a better collaboration is needed. Learning theories that explain students' experiences and insights on how to cope with the unknown future should be considered when preparing students.

Take Home Messages

The pandemic offered unique learning opportunities for an unknown future.



3K06 (3828)

Date of presentation: Monday 29th August

Time of session: 10:25 - 10:30

Location of presentation: Tete d'Or 2

Students' motivation for research: Is research a goal or a strategy?

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Background

Research abilities contribute to the holistic formation of medical professionals whether or not they pursue a clinical path. However, students' participation in research during the undergraduate years has only been mandatory for some. Whereas students' behaviour toward research is a reflection of their motivators, it is considered highly valuable or just another task to accomplish. A good start for building strategies to engage students in research is a need assessment of medical students' motivations to participate in research. This project aimed to explore undergraduates' research motivations.

Summary Of Work

231 medical students participated in a voluntary online survey in a private university in Latin America. The students' posture was explored using a 5-point Likert scale regarding personal time, career, bureaucracy, finances, confidence, social and personal relevance. Statistical analysis was carried out using Stata IC Version 15. The medical student's posture mean was compared between years, and a one-way ANOVA determined the attitude differences in each academic year.

Summary Of Results

There was no significant difference between preclinical and clinical student participation, sex ratio, and age ranges. Students considered performing research relevant (4.18), advantageous (4.41) and as a necessity (4.30). They did not consider bureaucracy (3.68) or financial burden (2.60) major obstacles in research conduction. Also, they did not perceive it challenging to combine a research career with a clinical one (2.73).

Discussion And Conclusion

As intrinsic motivation correlates with deep learning and greater well-being, it is the most desirable motivator in the students. Incorporating research longitudinally along the curriculum will positively affect students' recognition of its value, obstacles, and significance on their professional future. Suppose institutions create more relevant and meaningful opportunities where research is integrated. In that case, students will understand its use in clinical practice and basic sciences,



translational medicine and, hopefully, in medical education, shifting the learning process towards the construction of new knowledge and its effect on science.

Take Home Messages

Well supported compulsory research activities that incorporate group learning and diverse projects may serve as the pathway to develop students' genuine interest in knowledge generation. Educators should provide need-supportive teaching to enhance students' feelings of autonomy, competence and relatedness.



3K07 (1826)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:35

Location of presentation: Tete d'Or 2

Longitudinal Integrated Clerkships – Are they the best preparation?

Simon Field¹

¹ *Dalhousie University, Halifax, Canada*

Background

Canadian medical students are matched to postgraduate specialty training directly from graduation. A common perception among students is that Longitudinal Integrated Clerkships (LICs) are intended towards, or a preferred route for, students intending careers in family medicine, and that they do not prepare students for residencies perceived as being more competitive or prestigious.

Summary Of Work

An optional LIC was established at our institution in 2013. We have gathered data on residency matching results, and one offshoot has been the ability to help inform future applicants to LICs as to the competitiveness of LIC students across a broad range of disciplines.

Summary Of Results

Our data indicates that students in our LICs are able to match to a broad range of specialties, including some regarded as extremely competitive due to their relative scarcity of positions. Approximately 50% match to family medicine, which is representative of the proportion of positions across the country.

Discussion And Conclusion

We have used this information to educate prospective LIC students that LICs are about a style of learning and not a method for streaming learners towards a specific discipline. Students have been receptive to this information and recognize the benefits of training in an LIC, such as increased flexibility and longer relationships with preceptors, which may actually improve their competitiveness in applying to training programs.

Take Home Messages

LIC students in our institution have demonstrated that they are able to compete with their peers in applying to postgraduate training positions in a broad and representative range of specialties.



3K08 (3812)

Date of presentation: Monday 29th August

Time of session: 10:35 - 10:40

Location of presentation: Tete d'Or 2

The relationship between autonomous learning on the LMS and pre-clinical clerkship OSCE performance in online learning.

Yusuke Karouji¹, Katsumi Nishiya¹

¹ *Kansai Medical University, Osaka, Japan*

Background

The COVID-19 pandemic forced a shift in medical education from face-to-face learning to online learning. As online learning allows learners to manage their learning time, it is more important than ever for learners to autonomously access and learn from educational resources (e.g., learning materials on the LMS). This study examined the relationship between autonomous learning (i.e., LMS usage time) and performance in the pre-clinical clerkship (pre-CC) OSCE among students who learned face-to-face (2019) and those who learned online (2020-2021).

Summary Of Work

A total of 356 fourth-year students at Kansai Medical University were included in the analysis: 120 students learned face-to-face in 2019 and 236 students learned primarily online in 2020 and 2021. The third-year GPA and total time spent on the LMS during the fourth-year were obtained from school records. At the end of the fourth-year, students took the pre-CC OSCE. We conducted the hierarchical regression analysis to predict pre-CC OSCE scores. The learning environment (coded 0 for face-to-face, 1 for online), the third-year GPA, and LMS usage time (log transformed) were entered in step 1, and the interaction terms were entered in step 2.

Summary Of Results

Regression analysis revealed that learning environment ($B = -.47$), the third-year GPA ($B = .48$), and LMS usage time ($B = .30$) significantly affected pre-CC OSCE scores. Moreover, a significant interaction term between learning environment and LMS usage time ($B = .36$) suggested that LMS usage time were positively correlated with pre-CC OSCE scores in online learning but not in face-to-face learning. An interaction term between the third-year GPA and LMS usage time was also significant ($B = -.17$), indicating that LMS usage time predicted higher performance in pre-CC OSCE for students with low GPA (-1SD) rather than students with high GPA (+1SD).



Discussion And Conclusion

The results showed that autonomous learning time on the LMS predicted higher pre-CC OSCE performance in online learning. Furthermore, autonomous learning time were more strongly related to pre-CC OSCE performance for low-achieving students. It suggests that autonomous learning will play a greater role in online learning than ever before.

Take Home Messages

Autonomous learning will be more important in online learning than ever, especially for low-achieving students.



3K09 (2471)

Date of presentation: Monday 29th August

Time of session: 10:40 - 10:45

Location of presentation: Tete d'Or 2

Learning Styles of Allied Health Undergraduate students in a South-East Asian country

Gary Jek Chong Lee¹, Shermaine Png¹, Jazlin Xiu Wen Sng², Allan Kah Keong Tang², Joan Yuet Meng Toh², Ping Liao²

¹ Ng Teng Fong Hospital, National University Health System, Singapore, Singapore ² Singapore Institute of Technology, Singapore, Singapore

Background

It is generally acknowledged that learning styles influence the way in which learners master skills. This is the first study to assess the learning style preferences of students enrolled in undergraduate healthcare programs in Singapore. Seven professions were examined: nursing, occupational therapy(OT), physiotherapy(PT), speech-language therapy (SLT), Diagnostic Radiology(DR), Dietetics and Nutrition(DN) and Radiation Therapy(RT).

Summary Of Work

The Kolb Learning Style Inventory LSI-IIa (KLSI) and Honey and Mumford Learning Style Questionnaire (LSQ) were used to determine the preferred learning styles of first and second year students enrolled in the Singapore Institute of Technology. Participation is voluntary and each participant received a report on their learning style. A total of 100 and 104 students completed the KLSI and LSQ respectively. One-way ANOVA and Pearson Chi-square test were used to find any significant difference between learning style domains and demographic profiles of students.

Summary Of Results

The preferred Honey and Mumford learning style of healthcare students was reflector (73.3%) followed by theorist (10.5%). Reflector learning style was the dominant LSQ learning style for the main allied health professions (PT,OT, DR, SLT, DN). The KLSI yielded even distribution of learning styles: 29% accommodators, 24% divergers, 18% convergers 29% assimilators. For both KLSI and LSQ, Chi-square test also showed significant difference in the learning styles of nursing compared with other allied health students. The nursing group showed a slight preference for concrete experience and reflective observation, whereas the allied health groups preferred abstract conceptualization and active experience.



Discussion And Conclusion

The first study on learning styles of allied health students in Singapore found similar learning style preferences within the allied health professions. Age, gender and education background do not influence a student's learning style significantly.

Take Home Messages

It is part of an on-going study the learning styles on allied health educators and students within the hospital setting. This work sets the stage for students and educational institutions to think about the theories of learning. Interestingly, we found that 24% of our students showed very low preference in one of the four learning styles. These findings provide opportunities for students and educators to utilise a broader repertoire of approaches to maximize learning outcomes.



3K10 (3391)

Date of presentation: Monday 29th August

Time of session: 10:45 - 10:50

Location of presentation: Tete d'Or 2

Undecided or committed? A four-year longitudinal study of medical students' career intentions

Eva Pfarrwaller¹, Lionel Voirol², Stephane Guerrier², Anne Baroffio¹

¹ Faculty of Medicine, University of Geneva, Geneva, Switzerland ² Geneva School of Economics and Management, University of Geneva, Geneva, Switzerland

Background

Previous research suggests that most students' career intentions change between matriculation and graduation. The career decisions' timing might affect the impact of educational experiences and students' career support needs. This study's aim was to expand on previous research by analysing career intentions over four years in a cohort of medical students.

Summary Of Work

The sample of 262 undergraduate medical students (61% female) completed a yearly survey from their third (end of pre-clinical curriculum) to their sixth (graduation) academic year. Outcome measures included career intentions (specialty and practice type) and student-related variables (age, gender, motives for becoming a physician, personality, empathy, coping strategies, and specialty choice). A career indecision score was calculated for each student by quantifying changes of career intentions (0 = no changes in career intentions, 10 = change every year or undecided). The relationship between the score and the other variables was investigated through a stepwise regression analysis.

Summary Of Results

The career indecision score's mean was 3.07 (SD=2.37) and median was 3. Thirty-three students (12.6%) had the same career intention over the four years (score = 0); seven students indicated being undecided in at least three of the four years (score = 10). The intention to work in private practice in year 3 was associated with more stable career intentions (estimated coefficient -0.67, $p < 0.001$). Three motives to become physicians were significantly associated with the score (*altruism* with less stability; *cure diseases* and *care for patients* with higher stability). The other variables were not statistically associated with the career indecision score.



Discussion And Conclusion

Most students changed their career intentions over time. Only a minority of them had very stable career intentions. Career indecision was associated neither with personality, empathy, or coping strategies, nor with specific specialties. Only an intention to work in private practice in year 3 was strongly associated with more stable career preferences, meaning that these students might already have a firmer idea about their future profession.

Take Home Messages

Many students' career intentions do not seem to be strongly fixed; they might thus be recruitable to specialties dealing with workforce issues.



3K11 (2525)

Date of presentation: Monday 29th August

Time of session: 10:50 - 10:55

Location of presentation: Tete d'Or 2

Understanding medical student paths to communication skills expertise using Latent Profile Analysis

Lisa Altshuler¹, Tavinder Ark^{1,2}, Jeffrey Wilhite¹, Khemraj Hardowar¹, Ruth Crowe¹, Adina Kalet^{1,2}, Sondra Zabar¹, Colleen Gillespie¹

¹ NYU Grossman School of Medicine, New York City, NY, USA ² Medical College of Wisconsin, Milwaukee, USA

Background

Graduating medical student skills vary widely. Identification of patterns of communication skills development could guide coaching of students. Students at NYU Grossman School of Medicine have been required to pass a Comprehensive Clinical Skills Exam (CCSE) at the end of required clerkships. Thirteen years of consistent case content and checklist use allows us to use latent profile analysis (LPA) to identify/describe distinct communication profiles exhibited by clinically experienced students.

Summary Of Work

Data from 1135 third year medical students who completed the eight case CCSE from 2011-2019 were analyzed. Communication was measured by a 17-item Clinical Communication Skills Assessment Tool (CCSAT), where items are rated by SPs as not, partially, or well done. Assessment domains included: information gathering (6 items) relationship development (5 items), patient education (3 items), and organization/time management (3 items).

Item response patterns across all cases enable us to cluster learners with similar strength/weakness into profiles. One-way analysis of variance (ANOVA) was performed with profile as the between subject factor for each item on the checklist to determine if significant differences by profile existed for items.

Summary Of Results

Six profiles were identified with adequate model fit estimations. These clustered into three groups: two high performing (HP1 and HP2), two average performing (AP1 and AP2), and two lower performing (LP1 and LP2). Each group had two performance patterns. Profiles were distributed similarly within each of the nine years.



Selected items differentiated skill profiles. “Asked questions to see what you (the patient) understood” differentiated between HP1 and HP2, and between AP1 and AP2. “Allowed you (the patient) to talk without interrupting” and “nonverbal behavior enriched communication” differentiated between AP1 and AP2. Some items (i.e. patient education) were challenging across all profiles, with learners scoring lower on those items relative to their average performance. “Asked questions to see what you understood,” had the lowest average score across communication items, with “collaborated in identifying possible next steps” only slightly higher.

Discussion And Conclusion

Knowledge of unique performance patterns provides rich, benchmarked guidance for supporting students in mastering clinical communication, remediating those who underperform and making promotion decisions.

Take Home Messages

Findings provide clear steps for further exploring specific patterns of learner development.



3K12 (2660)

Date of presentation: Monday 29th August

Time of session: 10:55 - 11:00

Location of presentation: Tete d'Or 2

The importance of culture amongst medical and health professions students - a collaborative study from 20 universities

Radhika Patel¹, Rahul Goel², Cecilia Brassett³, Sean McWatt⁴, Mandeep Gill Sagoo², Richard Wingate², Chung-Liang Chien⁵, Hannes Traxle⁶, Jens Waschke⁷, Franziska Vielmuth⁷, Anna Sigmund⁷, Takeshi Sakurai⁸, Yukari Yamada⁸, Mina Zeroual⁴, Jorgen Olsen⁹, Salma El-Batti¹⁰, Suvi Viranta-Kovanen¹¹, Kevin Keay¹², Shuji Kitahara¹³, Neus Martinez-Abadias¹⁴, Maria Esther Esteban-Torne¹⁴, Jill Helms¹⁵, Chiarella Sforza¹⁶, Nicoletta Gagliano¹⁶, Madeleine Norris¹⁷, Derek Harmon¹⁷, Yae Kanai¹⁸, Sammi Lee¹⁹, Shaina Reid²⁰, Ariella Lang¹, Carol Kunzel²¹, Laureen Zubiaurre Bitzer²¹, Michael Joseph²², Leo Buhler²³, Mark Hardy²⁰, Snehal Patel²⁰, Paulette Bernd²⁰, Heike Kielstein²⁴, Geoffroy Noel²⁵, Alexander Green²⁶, Anette Wu²⁰

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Background

Training in cultural competency (CC) skills of medical and health professionals has become an important element of many curricula around the world. While there is consensus on the necessity of training in cultural competency, little is known about why students believe cultural competency is important. The aim of the current study was to qualitatively assess why junior medical and health professions students at 20 universities from around the world believe culture is important and to quantitatively test for differences across various global regions. Results from this study will aid medical educators in the assessment of the extent of cultural competency required to be included internationally in health education curricula.

Summary Of Work

436 students pursuing various medical and health professions from 20 universities worldwide participated via an anatomy-based student exchange program. The students completed an online questionnaire prior to the start of the program, in order to assess their attitudes and behaviors regarding CC. One specific question asked the students to write about why they believe CC is important. The qualitative data from n=260 responses were thematically coded and stratified by global region - North America (NA), Europe (EUR), United Kingdom (UK), East Asia (EA), and Australia (AUS). The quantitative data were analyzed to assess geographic differences.

Summary Of Results

The results suggest that students residing in several global regions define culture using similar dimensions, but they did vary in importance across global regions. While External Outcomes was most frequently chosen in all five global regions, the second most frequent dimension of culture was Knowledge in EU and NA, and Attitudes in the UK, AUS, and EA.

Discussion And Conclusion

Overall, the data provides support for why students from most global regions in the world see value in CC training. However, definitions may depend on other characteristics such as context and experience. Longitudinal studies are required to assess changes over time.

Take Home Messages

Students across the globe appreciate the importance of CC. It is hoped this discussion will inform future research and training practices in order to achieve quality and respectful care to patients across cultures, and to remove health inequities that exist between cultural groups.



3K13 (1847)

Date of presentation: Monday 29th August

Time of session: 11:00 - 11:05

Location of presentation: Tete d'Or 2

Learning to Learn: Supporting Transition to Medical School

Sarah Aynsley¹, Penny List¹, Becki MacKenzie¹

¹ Keele University Medical School, Newcastle -under - Lyme, UK

Background

Starting university can be daunting: thrust into a busy course and building new relationships. In recent years, we have noticed that some students struggle with basic learning tools. This raises a crucial question: have our students learnt how to learn? We wanted to develop an interactive session at the start of Year 1 to encourage students to explore their learning preferences, think about how these would fit with the MBChB curriculum and reduce their worries. The session was built around three areas: communication, learning preferences and note-taking.

Summary Of Work

The cohort was split into 6 groups of ~30 students for a 90-minute session during their first week. Each group was further split into groups of 5-6 for parts of the session. In their small groups, they played a communication game 'Oracle', developed in-house, which encourages active listening, narrative building and summarising. They also completed a modified Memletic learning style quiz and engaged in a note-taking exercise. Sessions were facilitated by experienced medical school staff.

Summary Of Results

All groups engaged with the activities: students were animated in discussing their experiences with their peers. At the start of the session, many students said they were confident in their study skills and communication. However, during the session most students expressed some surprise at the results they obtained from the quiz. When asked how they would approach different subjects at medical school, they identified areas that would complement (or not) their learning preferences and considered how they could adapt their approach. Most groups enjoyed playing 'Oracle' and reflected that they found active listening challenging: students talked about how they had supported each other and recognised the importance of this skill.

Discussion And Conclusion

Students enjoyed being able to explore their skills early in the course and there was a high level of engagement. The session gave students an opportunity to consider how they would adapt their learning styles to tackle Year 1. We intend to run further activities to scaffold their development.



Take Home Messages

We believe that students starting medical school can benefit from interactive learning to learn activities. Informal feedback during and after the sessions was positive.



3K14 (4122)

Date of presentation: Monday 29th August

Time of session: 11:05 - 11:10

Location of presentation: Tete d'Or 2

Factors influencing the choice of specialization of medical students at the Saint Joseph University of Beirut

Khalil Jabbour¹, Georges Jarrache¹, Maria Al Rachid¹, Hicham Jabbour¹, Nicole Naccache¹, Samia Madi Jebara¹, Eliane Ayoub¹

¹ *Saint Joseph University of Beirut, Beirut, Lebanon*

Background

After 7 years of studies, medical students face the most important decision of their career, their choice of specialty.

This choice will determine their future and has an impact on the country's health care system.

Student choice is multifactorial encompassing intrinsic and extrinsic factors and including personal experiences.

Our study aims to define the different factors affecting the choice of students at the Faculty of Medicine of Saint Joseph University of Beirut.

Summary Of Work

A questionnaire, divided into eight parts, was sent to the 661 students of the Faculty of Medicine of Saint Joseph University: sociodemographic data, specialty(ies) considered, influencing and discouraging factors, part reserved for students with a parent who is a physician, factors influencing the choice of a medical and surgical specialty, factors affecting the choice of a specialty without too much patient contact, effect of the COVID-19 pandemic on the choice of specialty.

The data were then analyzed and cross-tabulated to find possible correlations between the different factors.

Summary Of Results

Medical students are still primarily influenced in their choice by their passion and interest in a certain specialty, with a view to valuing the patient.



They are also placing more importance on lifestyle factors and their life outside of work.

There is still a gender disparity in specialty choice.

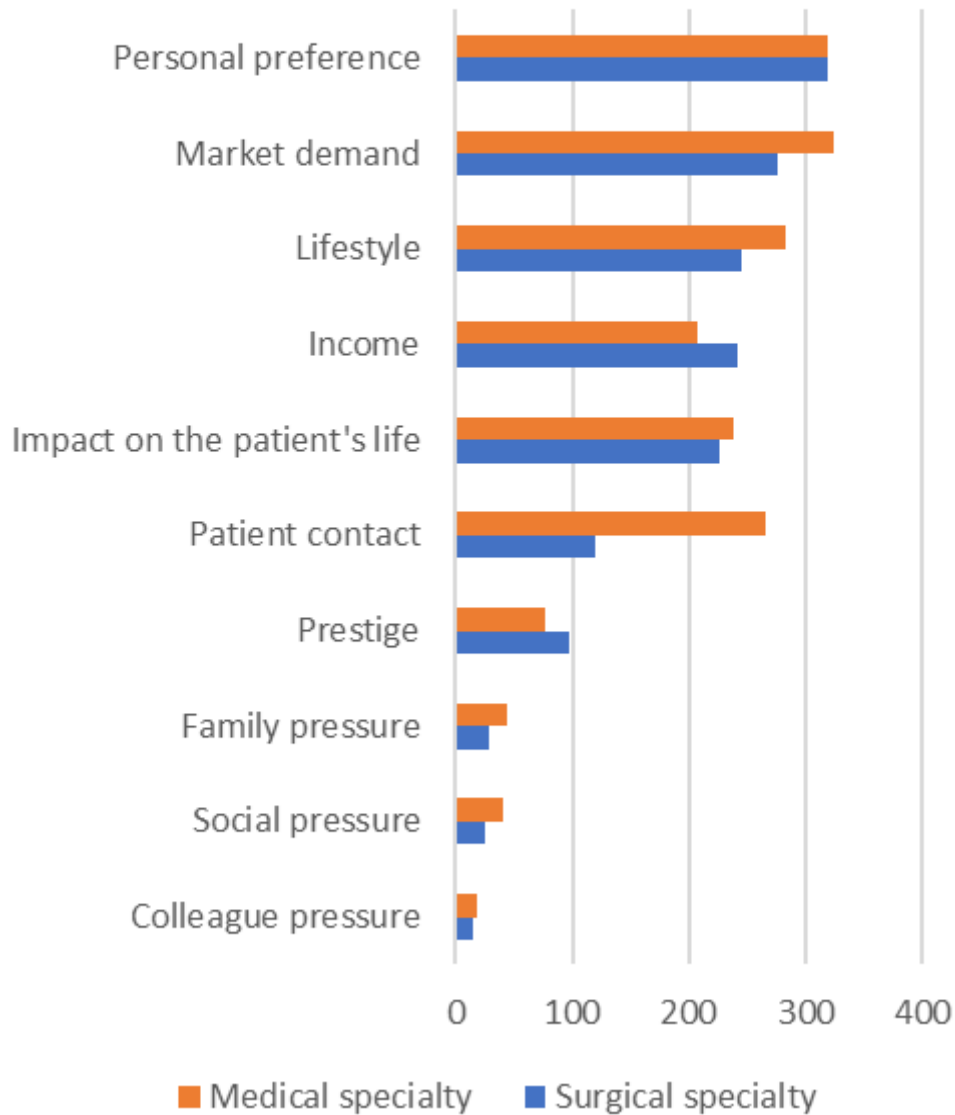
Participation in volunteer activities outside of medical school correlates with several factors and values in specialty choice.

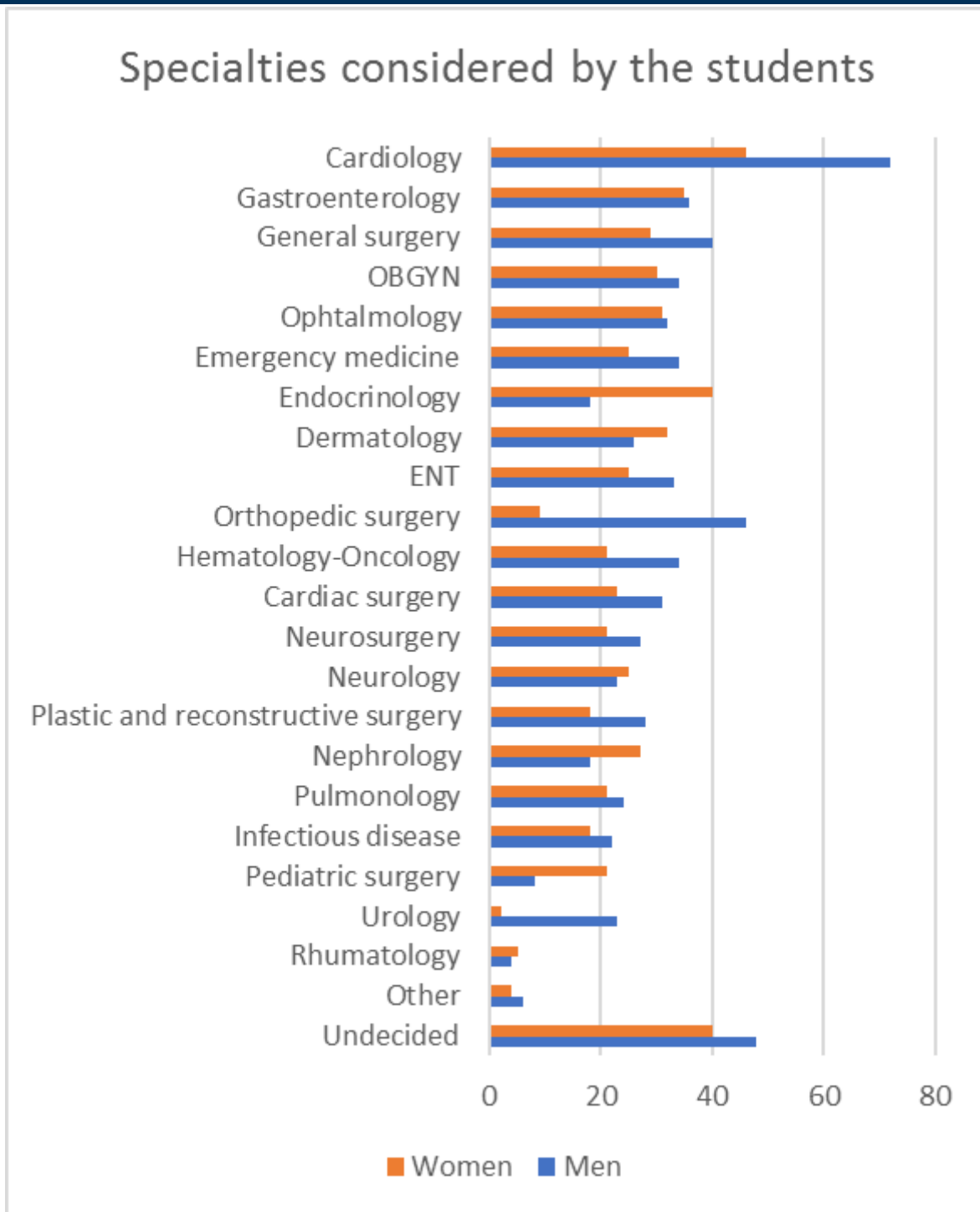
Physician parents do not influence their children's choice.

The COVID-19 pandemic affects 20.2% of students who reconsider their choice of a non-contact specialty to avoid exposure, protect themselves and protect their loved ones.



The different factors that would influence students to choose a surgical or medical specialty





Discussion And Conclusion

Students' choice of specialty is primarily affected by their personal choices and the values they hold.

It is also affected by various factors, mainly gender through a difference in value and priority system between the different genders, and other factors such as lifestyle and participation in volunteer activities.



The COVID-19 pandemic has affected the choice of several students while physician parents have no influence on the choice of specialty for their children.

Take Home Messages

The COVID-19 pandemic has affected the choice of several medical students for the specialty.

There is still a gender disparity.



ePosters - Curriculum Approaches 2: Interprofessional Education, Integration and Miscellaneous

3L01 (3667)

Date of presentation: Monday 29th August

Time of session: 10:00 - 10:05

Location of presentation: Salon Tete d'Or

Hidden Curriculum of Bias Across Medical Disciplines: Validation Results from a Newly Developed Survey

Karen Schultz¹, Nicholas Cofie¹, Mala Joneja¹, Shayna Watson¹, John Drover¹, Laura MacMillan-Jones¹, Heather Braund¹, Nancy Dalgarno¹

¹ *Queen's University, Kingston, Canada*

Background

The phenomenon of the hidden curriculum (HC) appears to be a common feature of medical institutions, yet very few studies have empirically and comprehensively measured its scope and impact. A hidden curriculum has the potential to reinforce or undermine the values of an institution. We assessed the validity of a newly developed HC survey and make recommendations for future use and improvement.

Summary Of Work

In a random survey of medical students, residents, and faculty ($n=470$) conducted at Queen's University, we measured their experiences of the HC at the personal level, their perceptions of respect and disrespect for different disciplines, the settings in which the HC was experienced, the impact of the HC, their own actions, the efficacy of interventions, and the HC at the organizational level. Exploratory factor analysis and item response analysis were used to test the validity and reliability of the newly developed HC constructs.

Summary Of Results

Overall validation statistics including factor loadings, variances explained, and reliability coefficients provided moderate to adequate measures to many of the HC constructs examined in relation to interactions between different areas of medicine and its impacts on learners and faculty. Reliability measures were as high as 0.93 and variances explained ranged from 52% to 93%.



Discussion And Conclusion

More domains of the HC phenomenon exist than have been previously documented. The results validate some domains of the HC more than others in the current sample. Researchers can add other theoretically relevant measures to any of the constructs examined based on their unique goals, context, and scope of their research.

Take Home Messages

The hidden curriculum has the potential to reinforce or undermine the values of that institution. The phenomenon of the hidden curriculum appears to be more pervasive and comprehensive than has been previously studied. Many of the constructs examined provided moderate to adequate measures of the dimensions examined. Researchers intending to use these constructs could incorporate other measures that are compatible with their conceptual or theoretical foundations if desired.



3L02 (2522)

Date of presentation: Monday 29th August

Time of session: 10:05 - 10:10

Location of presentation: Salon Tete d'Or

COVID-19 Vaccine Curriculum (2.0) for University of Toronto Students: A Model for Inter-Faculty Curriculum Development

Aleksandra Bjelajac Mejia¹, Karen Cameron¹, Shaza Fadel², Joanne Louis³, Leslie Nickell⁴, Sharon Switzer-McIntyre⁵, Heather Thomson³

¹ *Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Canada* ² *Dalla Lana School of Public Health, University of Toronto, Toronto, Canada* ³ *Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Canada* ⁴ *Temerty Faculty of Medicine, University of Toronto, Toronto, Canada* ⁵ *Department of Physical Therapy, Temerty Faculty of Medicine, University of Toronto, Toronto, Canada*

Background

In December 2020, the first COVID-19 vaccine was approved in Canada necessitating a rapid curricular response to meet the learning needs of our health sciences students.

Summary Of Work

In early 2021, curriculum development began with select pharmacy faculty who conceived broad content categories. An inter-professional working group of faculty members from Medicine, Nursing, Pharmacy, Physical Therapy and Public Health formed to further develop curriculum content and co-create the common 'COVID-19 Vaccine Curriculum.' The overarching goal was to equip health sciences students with foundational knowledge, skills, and tools to be effective vaccine ambassadors, educators and vaccinators. Drawing on their individual expertise, group members collaborated to create a curriculum grounded in evidence based practice using reputable resources developed for health professionals. Stakeholder groups consulted included students, faculty, external partners (e.g., academic teaching hospitals, professional agencies), Equity Diversity and Inclusion experts, and educational technology staff to ensure content was appropriate, engaging and reflective of current practice.

Summary Of Results

The curriculum consists of five self-paced interactive online modules engaging students in key content areas: Module A: What do we know about the COVID-19 vaccines?, Module B: How do I respond to questions about the vaccines?, Module C: How do I help someone navigate the system?, Module D: I will be involved in preparing and/or administering the vaccine, what do I need to know?, and Module E: Wrap-up and sign-off. Content examples include vaccine efficacy/safety, effective



communication strategies, supporting vaccine confidence, and improving patients' vaccine experience.

The curriculum contains four authentic case studies highlighting emerging questions/concerns about vaccines. Eight quizzes assess application of knowledge using varied test item formats. Students receive immediate results with explanations, and may re-do quizzes to solidify learning.

Discussion And Conclusion

The curriculum was completed by over 2,500 students from seven health sciences programs, preparing them for patient care and community outreach. Preliminary student/faculty feedback was positive and informed version 2.0. This approach/model has led to continued collaboration resulting in the updated curriculum for a new cohort of learners and preceptors.

Take Home Messages

Drawing on multi-professional faculty expertise resulted in the development of a comprehensive and timely curricular response to address rapidly evolving subject matter to meet students' learning needs.



3L03 (3605)

Date of presentation: Monday 29th August

Time of session: 10:10 - 10:15

Location of presentation: Salon Tete d'Or

Undergraduate interprofessional learning in public health service

Iris Demmer¹, Lia Espe¹, Sina Biermann², Melanie Misamer², Juliane Leinweber²

¹ *Department of General Practice, University Medical Center, Goettingen, Germany* ² *Health Campus, GCG, Goettingen, Germany*

Background

Alongside outpatient and inpatient care, public health service represents the third pillar of the German healthcare system. However, student involvement and later professional activities are mostly focused on the outpatient and inpatient sector. The integration of public health service into student education and interprofessional learning can contribute to an improved healthcare system and thus to optimal health care.

Summary Of Work

UNITE "Gemeinsam lernen und studieren in öffentlichen Einrichtungen der Gesundheit in der Gesundheitsregion Göttingen", created a collaboration between the Health Campus Göttingen (GCG) and the University Medical Center Göttingen (UMG). The project aims to increase the attractiveness of the professional field of public health care and to counteract the staff shortage in the public health service. Medical students and students of Social Work in healthcare get to know the multiprofessional field of the local public health service. We conducted interviews with all department managers of the local health department (LHD) Göttingen concerning their roles as practical trainer and medical teachers.

Summary Of Results

The local health department (LHD) Göttingen has been identified as an interprofessional learning site, and a cooperation was built. Students of both professions got insight into the diverse activities of the LHD in the context of internships and job shadowing which were accompanied by interprofessional workshops. The workshops focused the other respective of professions. By using interprofessional methods, students were invited to critically examine both the opportunities and the limits of interprofessional collaboration.

Discussion And Conclusion

An evaluation of the workshops and the gained experiences will expand opportunities for a further implementation of interprofessional modules in the curricula of both study programs. To create



impact and deepen the understanding of interprofessional collaboration in the public health service a cooperation between students, faculty members and partners in the LHD is indispensable.

Take Home Messages

An evaluation of the workshops and the gained experiences will expand opportunities for a further implementation of interprofessional modules in the curricula of both study programs. To create impact and deepen the understanding of interprofessional collaboration in the public health service a cooperation between students, faculty members and partners in the LHD is indispensable.



3L04 (3940)

Date of presentation: Monday 29th August

Time of session: 10:15 - 10:20

Location of presentation: Salon Tete d'Or

Planning for a potential national paediatric bronchiolitis surge: how Inter-Professional Education (IPE) was used to promote competence, confidence and team-working in a local district general hospital

Fiona Frame¹, Michael Raffles¹, Heather Prowse¹, Princy Suresh¹, Suzanne Webb¹

¹ *Royal Berkshire NHS Foundation Trust, Reading, UK*

Background

Bronchiolitis is the most common cause for paediatric respiratory hospital admissions in young children in the UK. Following the relaxation of international SARS-Cov-2 lockdown measures a potential national surge in cases was predicted, highlighting a need for more collaborative working across core specialities. This prompted the use of the principles of Inter-Professional Education (IPE) to prepare and deliver an intervention to improve outcomes for these patients.

Summary Of Work

A team from the Adult Intensive Care Unit (AICU) and the Paediatric High Dependency Unit (PHDU) delivered an inter-professional teaching session focussed on caring for the sick child with bronchiolitis. The patient journey was utilised as a framework to teach the core knowledge, skills and attitudes needed to clinically manage a child from the Emergency Department (ED) to the Intensive Care Unit (ICU). Each session included a lecture about bronchiolitis; a skills and drills tutorial; and a practical simulation scenario focussed on the stabilisation and management of a sick child awaiting retrieval.

Summary Of Results

135 healthcare professionals from a range of disciplines involved in the care of children across the patient journey attended one of fourteen teaching sessions provided between September to December 2021. Attendees completed a feedback questionnaire. One hundred and twenty-two (90%) reported an extremely high degree of satisfaction overall, with many saying they would recommend the teaching session to others. Areas of personal and professional development were highlighted across the following main themes: gaining theoretical knowledge; understanding key equipment; performing drug calculations; preparing for intubation and ventilation; assessing the need for chest physiotherapy techniques; and more collaborative team-working.



Discussion And Conclusion

On-going evaluation is taking place as the teaching sessions continue throughout the year, facilitating the inclusion of additional inter-professional groups from across the core specialities. These sessions have been used as a template for the development of further planned IPE across a range of paediatric clinical cases and presentations. It is hoped they will build transferable knowledge and skills that increase competence and confidence in caring for the sick child whilst developing a more collaborative practice-ready workforce.

Take Home Messages

Inter-Professional Education (IPE) can be used to build competence, confidence and team-working.



3L05 (2366)

Date of presentation: Monday 29th August

Time of session: 10:20 - 10:25

Location of presentation: Salon Tete d'Or

Introduction of a novel and effective foundation module in an undergraduate medical education program

Fareena Bilwani¹, Syeda Sadia Fatima¹, Romana Idrees¹, Rukhsana Ali¹, Nousheen Akbar Pradhan¹, Hasan Salman Siddiqi¹, Kauser Jabeen¹, Anita Allana¹, Hassan Ali¹, [Kulsoom Ghias](#)¹

¹ *The Aga Khan University, Karachi, Pakistan*

Background

Various stakeholders' (faculty, students, administrators, examiners, curriculum reviewers) at Aga Khan University Medical College in Karachi, Pakistan highlighted the need to strengthen the pre-clinical curriculum comprising of integrated, clinically-oriented, systems-based modules to ensure deeper learning of basic science concepts. A greater emphasis on public health and widened exposure to broad-based education was also suggested.

Summary Of Work

A large collaborative group developed a 15-week novel foundational module including an expanded version of humanities and social science courses, stand-alone courses on human body systems, molecular biology, pharmacology and public health, and longitudinal themes such as ethics, reflection, resilience, leadership and social accountability. Biological science courses were integrated through appropriate scheduling and conceptual themes were adopted. With student engagement as a core guiding principle, innovative learner-oriented sessions such as PechaKucha were utilized. Regular review sessions were conducted to recap and integrate important concepts. Special attention was given to both formative and summative assessment opportunities to gauge student performance and provide timely feedback.

Summary Of Results

The Foundation module was implemented at the start of the first year of the five-year undergraduate program; it was delivered entirely online due to COVID-19. Up to 78% of student agreed that the courses were an enriching and enjoyable learning experience. Students appreciated course organization, content, pedagogy, formative assessment opportunities, targeted review and feedback sessions, and faculty commitment and accessibility. An academic safety net was successful in identifying students who needed help early. External examiners lauded the students "strong grasp of basic concepts". Students also appreciated the enhanced exposure to humanities and social sciences.



Discussion And Conclusion

The structure and content of the Foundation module is novel for an undergraduate medical program in Pakistan. This module was purposefully designed keeping in mind best practices of student engagement, pedagogical approaches, formative and summative assessment opportunities. Despite several hurdles involved in its forced delivery online, it proved to be successful as evidenced by student evaluations and feedback from external examiners.

Take Home Messages

Acquisition of core concepts and a broader-based education was strengthened using foundational courses upon entry of students into the program. A similar intervention may be considered at other institutions looking to strengthen basic science and broader education competencies.



3L06 (3590)

Date of presentation: Monday 29th August

Time of session: 10:25 - 10:30

Location of presentation: Salon Tete d'Or

Integrated Curriculum in Pharmaceutical Sciences: Needed for millennial generation

Shazia Irum¹, Sumreena Mansoor¹

¹ *Shifa College of Medicine, Shifa Tameer-e-Millat University, Islamabad, Pakistan*

Background

21st century's Pharmacy graduates need to be fully equipped with evolving challenges to keep themselves abreast with latest trends and innovations in the fast-evolving field of Pharmacy. Within pharmacy, curriculum integration is an extremely important factor to produce right kind of graduates who have the capacity to apply their knowledge to a range of complex problems where available information is often incomplete. An integrated curriculum is one where the summation of different academic disciplines forms a coherent whole and, importantly, where the relationships between the different disciplines have been carefully and strategically considered when forming the composite.

Summary Of Work

This study aimed to get the perceptions of faculty members before and after the conduction of series of workshops on Integrated Contextual Modular Curriculum (ICMC) at Shifa College of Pharmaceutical Sciences. This descriptive study was conducted on 30 male and female faculty members at Shifa College of Pharmaceutical Sciences, who completed an already validated Questionnaire before and after the series of workshops on Integrated Contextual Modular Curriculum (ICMC). Data was collected after ethical approval. Quantitative analysis will be done by using SPSS version 22. Qualitative data was assessed by thematic analysis.

Summary Of Results

83 % of the faculty members were agreed and satisfied with the workshops, 10% were found it overwhelming and 7% wanted to remain neutral. Thematic analysis showed that most of the faculty members were in favour of implementation of Integrated curriculum as this was the very first in our region and they were really enthusiastic about being pioneers. Some found it very challenging and was doing it just because it's the demand of the higher authorities. One theme was common among more than 95% that they insist on formal continuous faculty development program to keep themselves abreast with latest trends and challenges.



Discussion And Conclusion

Innovation can be a challenging target but it can be achieved with the strategic planning and collaborative efforts of both faculty and Administration with the help of health professions department.

Take Home Messages

Collaborative team efforts always paid off and always keep thriving for excellence.



3L07 (4613)

Date of presentation: Monday 29th August

Time of session: 10:30 - 10:35

Location of presentation: Salon Tete d'Or

Malignant Hyperthermia Preparedness through Interprofessional Education (MH-PIE)

Leonard Loh¹, Pamela Chia², Chong Shin Yuet³

¹ *Singapore General Hospital, Singapore, Singapore* ² *Department of Women's Anaesthesia, KK Women's and Children's Hospital, Singapore, Singapore* ³ *Department of Anaesthesiology, Singapore General Hospital, Singapore, Singapore*

Background

Malignant Hyperthermia (MH) occurs in susceptible individuals after exposure to triggering anaesthetic agents which is fatal without early treatment.

The Malignant Hyperthermia Preparedness through Interprofessional Education (MH-PIE) programme allows interdisciplinary learners to build on their knowledge and skills in managing MH as a team in a safe environment.

Summary Of Work

Baseline needs analysis revealed staff lacked knowledge, experience, confidence and skills in managing MH.

MH-PIE adopts a blended simulation based medical education model (B-SBME), blending on-line briefing sessions on MH management followed by high-fidelity in situ simulations, concluding with immediate face-to-face debriefing sessions. Learners build on their knowledge and skills in a constructivist manner.

48 participants in 4 groups underwent 2 simulation scenarios with a high-fidelity full body mannequin (SimMan 3G) after completing the on-line training sessions. Participants were anaesthesiologists, nurses, radiologists and radiographers. A questionnaire assessing participants' knowledge and confidence of managing MH was administered pre- and post-simulation. We also measured the timings to achieve critical milestones in management.



Summary Of Results

Learners' confidence and knowledge level increased from a mean score of 14.7 to 19.4 (upon a total of 22), an improvement of 32% ($p < 0.05$).

All groups improved their timings in achieving key tasks and met international guidance of <10 minutes for Dantrolene administration.

Workplace latent threats were identified during debriefings.

Discussion And Conclusion

The MH-PIE programme increases learners' knowledge and confidence in the recognition and management of MH. It also enhances the interdisciplinary teams' effectiveness in MH management by quicker times to achieve critical management milestones.

In situ simulation facilitates realistic learning in a safe environment in an iterative fashion with colleagues. This builds confidence and experience in managing MH crises while allowing acquisition of non-technical skills.

MH-PIE has uncovered latent workplace threats which after rectification enhance patient safety and successful MH crisis management.

Take Home Messages

The adoption of a blended simulation based education model was effective in improving the confidence and knowledge of the interprofessional team in the management of MH.



3L08 (1772)

Date of presentation: Monday 29th August

Time of session: 10:35 - 10:40

Location of presentation: Salon Tete d'Or

Medical Drama for Interprofessional Education: Teaching Learners How to 'Think,' 'Feel' and 'Reflect'

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Background

Interprofessional education (IPE) is an exemplary model aimed at improving patient care by educating health care professionals to be better collaborators. Scholars have asserted that simply bringing members of different groups together for IPE activities is insufficient and often worsens professional stereotypes and hierarchies. We developed a medical drama as an instructional tool to enable health care students to learn with, from, and about each other to promote team clinical reasoning and non-technical skills development.

Summary Of Work

To ascertain the validity of the content, we iteratively developed a movie script based on literatures and inputs from multi-professional experts. To ensure quality movie production, we used professional actors and production crews. We used a concurrent, convergent parallel mixed methods approach using a survey to evaluate its effectiveness and simultaneously gaining insights on viewing and learning experiences through focus group interviews of students and professionals. We used an interpretivist approach to integrate quantitative findings (descriptive statistics) and qualitative survey narrative responses and focus groups (thematic analysis with triangulation checking).

Summary Of Results

From April to October 2021, we enrolled 172 students and 90 professionals, including physicians, nurses, pharmacists, radiologists, and medical technicians to view a 75-min movie. Participants rated the movie highly on production, entertainment, relevance, accurate portrayal, and lesson learned. Participants suggested the use of subtitles to clarify medical terminologies. We identified five themes



from qualitative data: 1) Fostering transformative learning through critical thinking and reflection of purposefully crafted stories, 2) Enhancing emotional engagement with rooms for improvement in cognitive engagement (e.g. imprecise representations, not covering some topics), 3) Gaining insights on intergroup relationships and collaboration through explicit portrayal of synergies of roles and responsibilities, 4) Teaching team clinical reasoning and non-technical skills through dramatic events, 5) Highlighted the importance of team working and communication to optimize safety during a crisis.

Discussion And Conclusion

Our results and mixed insights affirm medical drama as an effective instructional approach for IPE. The stories, dramatic events, emotional engagement, and entertaining features could provide enhanced interprofessional learning experience beyond being put together in a classroom.

Take Home Messages

Medical Drama could create learning for Interprofessional Education by making learners 'Think,' 'Feel,' and 'Reflect.'



3L09 (2020)

Date of presentation: Monday 29th August

Time of session: 10:40 - 10:45

Location of presentation: Salon Tete d'Or

Future Directions for Studying Interprofessional Identity: Perspectives from a Scoping Review

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¹ *Massachusetts General Hospital Institute of Health Professions, Boston, USA* ² *George Washington University School of Medicine and Health Sciences, Washington, USA*

Background

Researchers have recently suggested that an interprofessional identity may be essential to interprofessional practice. The limited research conducted to date on the construct of “interprofessional identity” has generally focused on brief learning activities and their short-term impact on students (Khalili et al. 2013, 2020). We sought to explore the literature for other types of learning activities that may foster an interprofessional identity.

Summary Of Work

A scoping review was conducted to identify articles, abstracts and dissertations published between 2000-2020. Included papers reported empirical findings to support the impact of planned or spontaneous learning activities, involving two or more healthcare professions, on fostering an “interprofessional identity” or a sense of belonging to an interprofessional community.

Summary Of Results

After screening 857 papers, 12 were identified for inclusion. Papers varied regarding the professional groups studied and the developmental level of their participants. A wide variety of learning activities were described in the identified studies, including designed activities and programs, as well as those occurring spontaneously in authentic clinical environments. Of particular interest to the research team were several articles that reported on longitudinal and integrated programs, including those involving post-licensure trainees and professionals. Imafuku et al. (2018) reported the impact of the first year of a multi-year integrated interprofessional education program on health professions students. It involved a variety of learning activities including didactic instruction, problem-based learning, early field work, and interprofessional residential hall living. Meyer (2015) studied the impact of a combined program involving nurse practitioner and internal medicine residents. This curriculum involved combined educational sessions and practice partnerships where participants shared patient panels in the clinic and had regular trainee interprofessional huddles.



Discussion And Conclusion

The construct of an interprofessional identity and its potential impact on interprofessional practice has yet to be sufficiently studied. The results of this scoping review suggest that a variety of experiences that occur throughout the professional development trajectory may foster an interprofessional identity.

Take Home Messages

Longitudinal, integrated interprofessional learning programs may result in a more long-lasting impact on interprofessional identity. Such programs should be the focus of future research.



3L10 (3554)

Date of presentation: Monday 29th August

Time of session: 10:45 - 10:50

Location of presentation: Salon Tete d'Or

Students' reflection on Longitudinal Integrated Clerkship (LIC): Experience of Yala Hospital and Rural Hospitals Network

Damrong Waealee¹

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Background

To overcome the shortage of rural doctors, longitudinal placements rather than short-term rotations in rural hospitals will provide opportunities for student learning in relation to real life health care system. This study is to explore students' perception and reflection on effectiveness and satisfaction of LIC.

Summary Of Work

LIC was designed for clinical students of Collaborative Project to Increase Production of Rural Doctor at Prince of Songkla University, using Yala Hospital and 4 rural hospitals. The 5-scale Likert-type questionnaire and focus group were used to compare the 4 th year students' opinion and reflection between the first (2019) and the second (2020) batches.

Summary Of Results

Eighteen of 20 students of 2019 and 16/19 students of 2020 participated this study. Cronbach's coefficient of 30-item questionnaire was .905. The second batch students agreed more significantly ($p < .05$) than the first batch on preparation before rural placement, clinical skills achievement, satisfaction on tele-consultation, formative assessment and feedback. They also felt more satisfied, more confident and happier in LIC learning ($p < .05$).

Discussion And Conclusion

Helping students understand the pedagogy and anticipated benefits of LIC, preparing them, appropriate roles of clinical preceptors including monitoring student progress and giving feedback, using technology advantages, maximize learning and wellness during their clerkship will give more satisfaction on LIC.



Take Home Messages

LIC is a curricular structure for extended clinical clerkships in rural hospital environments and experiences. Appropriate student orientation and preparation, continuing formative assessment and supervision, collaboration and administration will give a better result and growth mindset.



3L11 (3976)

Date of presentation: Monday 29th August

Time of session: 10:50 - 10:55

Location of presentation: Salon Tete d'Or

“Well Me—mobilising the Longitudinal Integrated Clerkship: designing, delivering and implementing a health literacy and population health improvement project”

Ffion Williams¹, Katie Webb², Mike Larvin¹, Stephen Riley²

¹ Bangor University School of Medical and Health Sciences, Bangor, UK ² Cardiff University School of Medicine, CARDIFF, UK

Background

The Community and Rural Education Route (CARER) is an example of a Longitudinal Integrated Clerkship (LIC) placing third year Cardiff C21 and C21 north Wales medical students in underserved areas of Wales, with most of the clinical placement in Primary Care. Integral to LICs is for students to learn in and from a community.

Summary Of Work

The C21 north Wales programme delivers undergraduate medical education in north Wales (UK), through partnership of Bangor and Cardiff Universities. All Year 3 students experience CARER. Social accountability is a key component of LICs. "Well me" is a project to improve health literacy in secondary schools within communities LIC students are embedded.

Summary Of Results

Initially “Well me”, piloted in two schools, comprised two one-hour workshops: managing common minor illnesses and recognising serious illness. Sessions conducted with Year 6 (aged 10-11) were interactive discussing various topics: tonsillitis, diarrhoea, anaphylaxis, epilepsy.

Benefits were bi-directional, students learned from developing workshop sessions while also experiencing the unique opportunity to learn about children and relate back to the community they are living in (e.g. the number of children unable to read). “Well me” has evolved through subsequent Year 3 students with additional mental health and well-being sessions. “Well me” is an agile vehicle enhancing social accountability while fostering sustainability for those on the LIC and the community in which they learn.



Discussion And Conclusion

Projects such as these are difficult to maintain long-term as students generally experience community placements for short blocks. Benefits to students include improving their communication skills with children, engaging with teaching early in their careers, understanding the importance of health literacy and being able to give back to the community they learn from and live with. Undertaking “Well Me” demonstrates such projects can be sustainable over time and agile to challenges of having to adapt pedagogy in light of Covid restrictions.

Take Home Messages

At scale the potential for considerable impact on how the population interacts and engages with Primary Care is achievable.



3L12 (1685)

Date of presentation: Monday 29th August

Time of session: 10:55 - 11:00

Location of presentation: Salon Tete d'Or

Improving Interprofessional Practice and Cultural Competence with Interprofessional Education

Jennifer Volberding¹, Emily Madrak², Amy Harrison¹, Natasha Bray¹, Nicole Farrar¹, Kelly Murray³, Matthew O'Brien¹, Randy Wymore¹, Brenda Davidson¹, Sally Drinnon⁴

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Background

Interprofessional education (IPE) and cultural competence (CC) training have become a staple to improve patient care. IPE, where students from two or more professions learn from, about, and with each other to optimize care, resulting in great team building, sharing of knowledge, communication, and collaboration. CC involves an individual's ability to recognize, assess, appreciate, and respect unique backgrounds to make greater informed decisions in healthcare and minimize inequities. Our purpose was to identify the impact of a Diversity, Equity, and Inclusion IPE single-day event on the perceptions of IPP and ability to provide CC care in students enrolled in Doctor of Osteopathy (DO), Pharmacy, and Athletic Training (AT) programs.

Summary Of Work

Participants (205 pre and 200 post) enrolled in DO, pharmacy, and AT programs at two Midwestern universities completed pre/post measures around a one-day conference that included a panel discussion, lectures, and small group discussions. Participants completed the Interprofessional Collaborative Competences Attainments Survey (ICCAS) and three modified components of the Tool for Assessing Cultural Competence Training (mTACCT). Due to uneven sample sizes in the pre- and post-test, and violations of normality and homogeneity of variance, Kruskal Wallis tests were used to assess differences in the intervention.

Summary Of Results

Five ICCAS items and all mTACCT items demonstrated significance. This demonstrated that discussing the professions in general and utilizing case studies and small group discussions allowed students to understand the roles, skills, and responsibilities of peer professionals which improve communication and teamwork resulting in improved patient outcomes and satisfaction for both patients and staff. The results of the mTACCT demonstrated overall improvement in CC but



highlighted students are consciously incompetent. Students felt that initially they lacked the ability to identify bias and stereotyping in healthcare but after the intervention felt better equipped.

Discussion And Conclusion

Interprofessional practice and cultural competence are essential to optimize patient care and are foundational tenants of medical education programs regardless of profession. Our findings demonstrate improved perceptions in both interprofessional practice and cultural competence.

Take Home Messages

The use of large scale IPE events can be utilized as an avenue to improve allied healthcare students' knowledge and understanding of cultural competence, communication, and teamwork.



Workshop 3M (2313)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 3A

Helping students manage problematic mindsets by fostering self-awareness, self-compassion, and cognitive restructuring

Diann Eley¹, Stuart Slavin², Jo Bishop³, Aviad Haramati⁴

¹ *The University of Queensland, Brisbane, Queensland, Australia* ² *Accreditation Council for Graduate Medical Education, Chicago, Illinois, USA* ³ *Bond University, Gold Coast, Queensland, Australia* ⁴ *Georgetown University School of Medicine, Washington, DC, USA*

Background

Many factors are associated with increasing psychological distress in students as medical training progresses. These include individual personality characteristics, a highly competitive environment, and a hidden curriculum that encourages unhealthy striving for perfection and comparison with peers. Many students begin medical school with what is referred to as “problematic mindsets”¹, in part, driven by years of striving to become a doctor and the increasing influence of social media².

This workshop will demonstrate how to help students develop the skills to become more self-aware and self-accepted. We describe ways to help students turn around problematic mindsets, understand their strengths and weaknesses, and the importance of self-compassion. Helping students realise and embrace these concepts as personal attributes may help build their unique capacity for resilience to cope with setbacks now and in their future clinical careers.

1. Slavin SJ. 2018. *Med Sci Edu* 28:13-15. 2. Curran T, Hill AP. 2017. *Psych Bulletin* 145:410-429.

Who Should Participate

Educators and students / trainees

Structure Of Workshop

PART 1: Overview on the importance of being self-aware. Everyone is unique in how they see the world and themselves within it. Understanding ourselves as individuals can help develop our unique capacity for resilience and self-compassion.



PART 2: Cognitive re-structuring, as an approach to turn around problematic mind-sets, is a conscious action of identifying ineffective patterns in thinking and changing them to be more effective. Activity 1

PART 3: Temperament and character strengths and weaknesses can leave us vulnerable or help us resist problematic mindsets.

PART 4: Activity 2: General audience discussion of activity with feedback.

PART 5: Perspectives on: 1) becoming more self-aware through our temperament and character, which may help us; 2) develop our unique capacity for building resilience and resisting problematic mind-sets; and 3) the importance of learning self-compassion which is vital to fight against problematic mindsets.

Intended Outcomes

This session will discuss the critical role that medical educators can play in fostering greater self-awareness and self-acceptance in students. In doing so, we urge educators to incorporate skills into the required curriculum that enable students to build their resilience by confronting themselves and learning to bounce back from disappointment.



Workshop 3N (4822)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 3B

Competency-Based Education: Frameworks and Foundations for Building a Competency Based Curriculum

Jonathan (Yoni) Amiel¹, Karen Schultz², Shelley Ross³, Teri Lee Turner⁴, Jennifer Hodgson⁵, Daniel DuBois⁶, Leila Niemi-Murola⁷, Denyse Richardson⁸

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Background

Competency-based education (CBE) is a fundamental shift in how training is developed and delivered. CBE focuses on mastery learning and performance and ensuring optimal training outcomes while allowing variation in the time it takes an individual learner to become competent. This workshop is aimed at those who will be starting a competency-based program in a health profession. Using van Melle's key components of CBE as an organizing framework, it will provide basic concepts, a vocabulary for use, and focus on the practicalities of implementation. The van Melle Core Components Framework consists of five key components of a CBE program: 1) outcome-based competences, 2) progressive sequencing, 3) tailored learning experiences, 4) competency-focused instruction and 5) programmatic assessment. Participants will leave with a draft of a plan to create their CBE program

Who Should Participate

Anyone who is planning a competency-based program in a health profession training program or who is experiencing barriers during implementation.

Structure Of Workshop

This will be a hands-on workshop where participants will spend the majority of the time developing a curricular outline for CBE. The session will begin by conducting a needs assessment of where the participants are on the implementation timeline followed by purposeful grouping to facilitate peer feedback. A brief didactic on programmatic design using Van Melle's Core Components will be given to provide a framework for small group work. Participants will draft outcome-based competencies for their proposed program and then work backwards to align learning experiences and assessment to these competencies. Participants will work on their individual drafts in small groups and share their ideas with the small group. After each small group activity, volunteers will be selected to share their work and pose questions to the large group. Kotter's 8 Step Model for Change will be briefly discussed and how it can be leveraged as a tool for implementation. Participants will then develop a timeline for implementation of CBE at their institution followed by a discussion of likely barriers and



methods to overcome those barriers using the Kotter model. Participants will leave with their curricular outline as well as a useful toolkit for implementation.

Intended Outcomes

Identify key components and principles of a CBE program

Describe best practices in the design and development of an effective CBE program

Create a curricular outline focused on competencies, learning experiences and assessment which can be used in one's clinical learning environment

Develop a timeline for implementation of CBE at your institution



Workshop 30 (0866)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 4

Decolonial Research Methods in Medical Education

Tasha Wyatt¹, Zareen Zaidi², Gareth Gingell³, Thirusa Naidu⁴

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Background

As social scientists, medical education researchers have forwarded practices that are harmful to minoritized communities, even while trying to support them. In this session, presenters will describe how the dominant methods and practices in medical education research are rooted in colonial practices, which inadvertently reifies harmful framings, perspectives, and processes that oppress and marginalize the experiences of minoritized groups. In an effort to shape the research landscape, panel members will describe some of the more common decolonial research methods that work to challenge dominant framings and understandings of research.

Who Should Participate

Advanced Researchers

Structure Of Workshop

The session will begin with a short overview detailing the prevailing myth that educational research is 'neutral.' This framing is harmful to minoritized communities because it has prevented researchers from engaging in discussions on how research is a tool for reifying oppression. This overview will be followed by a presentation on ways that researchers can conduct decolonial research in medical education, including the orientations and tools that are needed for these kinds of studies. The audience will then be divided into small groups and be provided case-studies employing colonial research methodologies. They will be asked to apply what they have learned and suggest a broad outline of a decolonial methodology instead. The facilitators will sit with each of the groups and help structure and guide the application process. After 30 minutes, the small groups will reconvene to a large group and discuss where they experienced tension in shifting their work to a decolonial approach. This discussion will help to generate ideas on how best to further support medical education interested in decolonial research approaches, as well as provide researchers with perspective on how to overcome tensions. The presentation will end with closing comments about the application of decolonial approaches in research.



Intended Outcomes

- Describe how dominant research models are based on colonial epistemologies (ways of being seeing and doing in the world)
 - Differentiate decolonial methods that might be used in medical education research to support minoritized communities
 - Practice critiquing a typical research study, and apply a decolonial approach to the methods and methodology
-



Workshop 3R (1105)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Roseraie 1

Using Social Learning Principles in the Workplace to Improve Engagement in CPD and Improve Care

Mila Kostic¹, Helena Filipe²

¹ *Stanford University School of Medicine, Palo Alto, USA* ² *Faculty of Medicine, University of Lisbon, Lisbon, Portugal*

Background

The science of teaching and learning in medical education has focused mostly on the developmental and cognitive advances that shine the light on how to structure learning opportunities for individual clinicians with the goal of positive changes in behaviors and improvements in clinical care. However, social aspects of learning in the workplace can play a critical role in overcoming barriers to continuous improvement by impacting engagement, motivation and readiness for learning and change. Recent focus on online education and virtual learning environments provides exciting opportunities for collaborative, sequenced and impactful learning.

Who Should Participate

Faculty, educators, CPD planners and others interested, responsible and engaged in designing effective CPD interventions.

Structure Of Workshop

During this interactive session evidence from sociological studies of human behaviors in the workplace will be shared with participants. We will attempt to address the challenge in CME/CPD today to assist clinicians to create strategies for continuous improvement in the workplace. Examples of successful CME/CPD and IPCE redesign using social learning principles and practices such as “communities of learning and practice” and “shared learning spaces” will serve to provoke thinking and sharing of ideas, stories and resources within the group.

This session is structured to engage participants in several ways:

1. Address evidence in support of the need to refocus our efforts on social principles of learning in the workplace – provide resources
2. Provide shared small- and large-group space to allow participants to react to material presented and generate new ideas



3. Model application of social learning principles in creating opportunities to exchange relevant personal stories from practice
4. Invite participants to join a community of practice to extend learning and conversation.

Intended Outcomes

The main intended outcomes of our workshop are to:

- Discuss the role of CPD professionals and educators in designing “shared learning spaces” to facilitate co-construction of knowledge leading to practice improvement.
 - Examine how social constructivist learning theories and collaborative models like communities of learning and practice can inform the design of virtual learning environments.
 - Partner with organizational leaders to embed life-long-learning in the work experience, including less structured, just-in-time peer learning, often in the virtual environments.
 - Apply evidence-based social learning principles in our CME/CPD/IPCE.
-



Workshop 3S (1524)

Date of presentation: Monday 29th August

Time of session: 10:00 - 11:30

Location of presentation: Roseraie 2

An introduction to realist synthesis and evaluation: a research methods workshop

Jan Illing¹, Amelia Kehoe², Gareth Edwards³

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³ *Health Professions Education Centre, RCSI University of Medicine and Health Sciences, Dublin, Ireland*

Background

Healthcare education and training is delivered in multiple contexts around the world, and it is a recurring challenge that educational interventions developed in one context may not translate to others. Understanding complex interventions, such as those in medical education, requires an approach that seeks to explain how and why things work in different contexts. This workshop focuses on realist inquiry, which seeks to offer explanatory power drawing from the philosophy of critical realism.

Realist research aims to develop theory to explain why and intervention works and why not. The approach can be with either primary (realist evaluation) or secondary data (realist synthesis).

Who Should Participate

Those interested in learning about realist inquiry.

Structure Of Workshop

- The workshop will commence with a short introduction on realist methods.
- Participants will be invited to identify potential theories and given the opportunity to code papers and practise refining theory together in small groups.

The workshop will end with tips on how to do realist research. It will provide tips about using realist synthesis and realist evaluation and focus on how to ensure success.

We will be reflecting on our experiences using realist methodology and will provide examples to highlight lessons learnt

Intended Outcomes

1. Learn about the strengths of the realist approach
2. Learn about the importance of exploring initial candidate (grand) theories



3. Learn about the importance of middle-range theories (from the data)
 4. Learn how to identify context, mechanisms and outcomes
 5. Learn about both realist synthesis and realist evaluation
 6. Learn about the challenges and difficulties in conducting realist studies
-



Symposium 4A (1152)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Amphitheatre

Artificial Intelligence: What medical educators should be doing now

Kimberly Lomis¹, Alison Whelan², Javaid Sheikh³, Cornelius James⁴, Teresa M. Chan⁵

¹ American Medical Association, Chicago, USA ² Association of American Medical Colleges, Washington DC, USA ³ Weill Cornell Medicine - Qatar, Ar-Rayyan, Qatar ⁴ University of Michigan School of Medicine, Ann Arbor, USA ⁵ McMaster University, Hamilton, ON, Canada

Background

Educators are challenged to continually anticipate evolving competency demands in order to best prepare learners for future practice. Artificial intelligence (AI) is a rapidly expanding capability having profound impacts on health care that will only escalate. Approaches to augment human performance in health care by successfully partnering with machine intelligence (augmented intelligence) require concomitant innovations in medical education.

The Global Forum on Innovation in Health Professional Education brings together interprofessional and international stakeholders to illuminate key issues. The Forum recently published a call to action, urging medical educators *“to act now to incorporate training in AI across health professions or risk creating a health workforce unprepared to leverage the promise of AI or navigate its potential perils.”*¹

This session will elucidate the urgency of this issue and provide actionable steps.

Topic Importance

Mainstream societal impressions of artificial intelligence vary drastically. A lack of knowledge of AI among medical educators, combined with traditional challenges associated with introducing new content, has delayed an appropriate response from the medical education community. This session will empower educators to access existing resources and take concrete steps to advance necessary training.

Format and Plans

Making the case for AI training

T minute 0-:05

Introduction (Whelan, moderator)

T :05-15

What AI is and how it is used in healthcare (James)



T :15-20

Example – a pilot from Qatar (Sheikh)

T :20-30

Foundational learning objectives in AI (Lomis)

T :30-40

Activity (tables / chat function)

Concept mapping – how does training in AI connect to current curricula?

Moving forward

T :40-50

Integrating AI training into existing programs (James)

T :50-60

Precision Education – applying AI to processes of education (Lomis)

Learning analytics (Chan)

T :60-70

Next steps for educators & Resources (Whelan)

T :70-80

Activity (tables / chat function)

Identify opportunities to integrate AI at your institution

Action plan - digital worksheet

T :80-90

Group discussion

Take Home Messages

1. Artificial intelligence will drastically change health and healthcare delivery.
2. Medical education programs must take concrete steps now to advance training in AI across the continuum.
3. This session will provide actionable guidance to advance the integration of AI at participants' home institutions.



Symposium 4B (1066)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Auditorium Lumiere

Planning, patience, and perseverance – implementing and sustaining a programmatic approach to assessment in traditional university cultures.

Suzanne Schut¹, Anna Ryan², Karen Mattick³, Glendon Tait⁴, Neil Rice³

¹ Maastricht University, Maastricht, The Netherlands ² Melbourne Medical School, Melbourne, Australia ³ University of Exeter, Exeter, UK ⁴ University of Toronto, Toronto, Canada

Background

Programmatic assessment aims to optimize assessment at a programme level. It involves the careful selection and combination of a variety of assessment methods and activities, which are meaningfully embedded in educational design. Furthermore, it removes pass/fail decisions from individual assessments. Assessment data is leveraged to guide coaching and individualized learning plans, and high-stakes decisions about academic progress are made holistically using expert judgement following review of aggregated longitudinal assessment evidence. Medical schools have been implementing programmatic assessment to various degrees, as part of an increased movement to competency-based education across the continuum. Adopting such a radically different approach to assessment and implementing it in practice is a major challenge, arguably even more so within traditional university structures.

Topic Importance

Assessment innovation within traditional university cultures can seem impossible. In this symposium, we're going to provide real examples of implementation, highlighting key enablers for and barriers to change within very traditional university structures to help others see what might be possible in their contexts.

Format and Plans

First, we'll briefly introduce the model as it is proposed in theory. Second, three assessment leads will present examples from their programmatic assessment implementation, illustrating the following key aspects:

1. leveraging the potential for learning from assessment
2. improving the decision-making process and outcomes of assessment
3. facilitating longitudinal development with assessment



Each implementation experience (ie. starting point, ongoing iterations, enablers and barriers) will facilitate discussion allowing participants to share their own vision for programmatic assessment, and the anticipated problems and possible solutions in their context.

In a wrap up we will bring the experiences and discussion back to theory, summarize the key challenges, possible solutions and lessons learned when implementing such significant change

Take Home Messages

- Identify the elements that will have the biggest impact on desired outcomes and culture change
 - It will take time (perhaps years); so plan for incremental changes.
 - Technology is your friend (mostly)
 - It takes a village
 - To be determined with the participants.
-



Symposium 4C (4704)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Bellecour 1

Professional Identity Formation of Biomedical Scientists and their Pathways into Health Science Education

Neil Osheroff¹, Bonny Dickinson², Ming-Jung Ho³, Kimberly Dahlman⁴, Kelly Quesnelle⁵

¹ *Vanderbilt University School of Medicine, Nashville, TN, USA* ² *Mercer University School of Medicine, Macon, USA* ³ *Georgetown University Medical Center, Washington, USA* ⁴ *Vanderbilt University Medical Center, Nashville, USA* ⁵ *School of Medicine Greenville, University of South Carolina, South Carolina, USA*

Background

Biomedical science faculty are intensively trained in a specific discipline to conduct research and often receive little experience teaching students outside of graduate programs. Yet many pursue rewarding careers as medical educators. A better understanding of this career transition may help to support those interested in following this career pathway by identifying key intrapersonal, interpersonal, and institutional supports and challenges.

Topic Importance

Biomedical science faculty play a vital role in the education of medical students, yet the factors that shape their professional identity and their pathways into the profession have not been explored. Understanding these factors will better support the medical education career pathway.

Format and Plans

The symposium will present the background of Professional Identity Formation and the results of an IAMSE-sponsored study examining professional identity formation of biomedical science medical educators and their pathways into medical science education. The personal testimonies of 3 educators will be presented in a brief moderated panel discussion, sharing facilitators and barriers they've encountered in this journey. The panel will then present the results of a study of basic science medical educators from seven medical schools and open them up for discussion. In the interactive discussion with the audience, the panelist will share how they have successfully mentored graduate students, post-doctoral fellows, or junior faculty to encourage their pursuit of a career in medical education, and the symposium participants will be invited to share their own pathways into medical education.



Take Home Messages

Establishing clear career and promotion pathways for medical educators and creating robust communities of practice are viable ways to support the professional identity formation of biomedical science medical educators. The confluence of serendipity, mentoring, and “on-the-job” training as the most common pathway to enter medical education careers suggest a need for formal educational training programs.



Symposium 4D (4841)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Bellecour 2

Apprentissage du raisonnement clinique : thèmes et variations selon plusieurs professions de santé

Mathieu Nendaz¹, Marie-Claude Audetat¹, Maxime Ducret², Etienne Panchout³, Anne Demeester⁴
(Modérateur), Sebastien Couraud⁵ (Modérateur)

¹ *Faculté de Médecine - Université de Genève, Geneva, Switzerland* ² *Université Claude Bernard Lyon 1, LYON, France* ³ *Université d'Orléans, Orléans, France* ⁴ *Aix-Marseille Université, Marseille, France* ⁵ *Université Lyon 1, Lyon, France*

Background

Symposium organisé en marge du congrès de l'AMEE, en langue française, par la Société internationale francophone d'éducation médicale (SIFEM). Ouvert à tous les professionnels de santé inscrits à l'AMEE-Ottawa Conference.

Le raisonnement clinique est un processus cognitif qui correspond à un ensemble de pensées et prises de décisions permettant de résoudre les problèmes de santé posés aux professionnels de santé par leurs patients. Depuis une trentaine d'année, le raisonnement clinique fait l'objet de nombreuses recherches qui permettent de mieux en comprendre les processus, de repérer les difficultés d'apprentissage et d'améliorer la formation des professionnels de santé. Ce symposium, organisé en français, par la Société internationale francophone d'éducation médicale (SIFEM), en marge du congrès de l'AMEE, associe des experts du raisonnement clinique et des enseignants en sciences de la santé. Il est largement ouvert aux enseignants, formateurs et tuteurs de toutes les professions de santé. Il apportera des informations issues de la recherche et sur un mode participatif, montrera comment à partir d'une même situation médicale, le raisonnement se décline selon les compétences et responsabilités de chaque professionnel impliqué dans la prise en charge pluridisciplinaire du patient : diagnostic, traitement, soins, réévaluation de la situation.



Short Communications - Competency Based Medical Education 1: Innovations

4E1 (4685)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Bellecour 3

The WHO competency model for provision of WHO Academy lifelong learning

Siobhan Fitzpatrick¹, Ibadat Dhillon¹, Ian Bates², Henry Campos³, Wanicha Chuenkongkaew⁴, Address Malata⁵, Senthil Rajasekaran⁶, Sean Tackett⁷, Olle ten Cate⁸, Val Wass⁹, Cynthia R. Whitehead¹⁰, Jim Campbell¹, Giorgio Cometto¹

¹ World Health Organization, Geneva, Switzerland ² International Pharmaceutical Federation, The Hague, The Netherlands ³ The Network: Towards Unity for Health, Mexico City, Brazil ⁴ Mahidol University, Bangkok, Thailand ⁵ University of Malawi, Zomba, Malawi ⁶ World Federation for Medical Education, Wayne State University School of Medicine, Detroit, USA ⁷ Johns Hopkins Bayview Medical Center, United States, Baltimore, USA ⁸ University Medical Center Utrecht, Utrecht, The Netherlands ⁹ World Organization of Family Doctors (WONCA), Staffordshire, UK ¹⁰ University of Toronto, Toronto, Canada

Background

Competency-based health worker education is essential to meet population health needs. However the many different conceptual models relating to competency-based learning have contributed to ambiguity and limited its potential.

Summary Of Work

WHO developed a Global Competency and Outcomes Framework for Universal Health Coverage to guide the specification of learning outcomes. Methods used included an extensive literature review, iterative expert consultations involving more than 200 stakeholders, and a content analysis of over 300 competency, competence and outcomes frameworks.

Summary Of Results

We identified more than 200 terms, 120 definitions of competency and 47 definitions of competence. Two dominant models of competencies emerged from a literature review, 1. Emphasising behaviours driving task performance (behavioural) and 2. Emphasising tasks to be performed (functional). Both are founded on knowledge, skills and attitudes. A third application of the terms is apparent within the frameworks, whereby the component knowledge, skills and attitudes are identified as competencies. The use of the same terms to mean different things and



different terms to mean the same things has compounded ambiguities limiting the promise and potential of competency-based education.

Discussion And Conclusion

Merits and criticisms of competency-based education relate to either behavioural or functional competency models. Merits can be harnessed and criticisms addressed in the design of learning taking a holistic approach to competence. Competence is a multi-faceted measure of an individual's performance of practice activities (groups of related tasks) to the standard required for the context, incorporating the required competencies (demonstrated through behaviours) to do so. The outcomes of lifelong learning should be oriented towards the performance of practice activities, integrating the competency-based behavioural standards of performance. The Global Competency and Outcomes Framework for UHC identifies the 24 competencies and behaviours (behavioural), and 35 practice activities (functional) relevant for health workers towards UHC.

Take Home Messages

With the conceptual model of the WHO Global Competency and Outcomes Framework for UHC, the WHO can build lifelong learning that is competency focused.

WHO lifelong learning course design emphasises the acquisition of knowledge, skills, attitudes and behaviours in the context of the practice activities to be performed.



4E2 (3199)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:15

Location of presentation: Bellecour 3

An example of a unique competency-based master's program in health professions education: a decade of lessons learned.

Dawn Harris¹, Larry Gruppen¹

¹ *University of Michigan Medical School, Ann Arbor, MI, USA*

Background

The University of Michigan Master of Health Professions Education (UM-MHPE) Program uses a competency-based education (CBE) model with the principles of: time-variability, learner centeredness, and evidence-based decision making. It contrasts with traditional programs by using Entrustable Professional Activities (EPAs) instead of courses.

Summary Of Work

Time variability

The program requires 32 credits to graduate. Some learners have completed this in as little as 1.5 years and others in as much as 6 years. It is common for a learner to take time off from the program for work/family responsibilities and restart when it is convenient for them.

Learner-Centeredness

Each learner's path to the degree is unique in the content and sequence of EPAs selected. Learners choose from 22 EPAs that map onto 12 competencies. The EPAs represent authentic activities an academic educator would likely engage in during their career.

Evidence-Based

Learners submit EPAs to an independent Assessment Committee for review and determination of competence.

Summary Of Results

The program began in 2013 and has 32 graduates who have submitted more than 300 EPAs for assessment. The following three EPAs illustrate authentic work-based activities and outcomes:

1. Write a Grant Proposal: 11 learners wrote grant proposals and were awarded grants resulting in 6 publications
2. Design and Implement a Research Study: 17 EPAs submitted, 13 publications resulted from the studies



3. Evaluate an existing education program: 15 learners evaluated various educational programs.

Discussion And Conclusion

The program's time variability and learner-centeredness appeal to working professionals. It uses work-based learning and assessment, which leverages existing educational responsibilities. Learners and graduates become a part of a unique community of interprofessional scholars and participation in the program has led to promotions, job opportunities, research and grant funding, and publications for many of our learners. Many of our graduates continue to be active participants in the program as mentors and subject matter experts.

Take Home Messages

- The program is not for everyone
 - It is pragmatic at an institutional and a learner level
 - Flexibility is key
 - It is truly learner centered (not faculty centered)
-



4E3 (3738)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:30

Location of presentation: Bellecour 3

The added value of virtues to competence-driven medical curricula

Jos Kole¹, Anne-Fleur van der Meer¹

¹ *Radboud university medical center - IQ healthcare, Nijmegen, The Netherlands*

Background

Many medical curricula in medical schools are competence-driven nowadays. Often they are build on the Canmeds-competence framework. Traditionally, virtues played an important role in medical education in general and in medical-ethical education specifically. In the 2nd half of the 20th century medical curricula, however, their role diminished. In curricula, competences came to the fore, in medical ethics, ethical principles became dominant over virtues.

Since the revival of virtue ethics in the 80-ties of the 20th century, there is renewed interest in the role and relevance of virtues for medical (ethical) education. But how do these virtue relate to the now common competences? Do they have any added value? If so, which?

Summary Of Work

This paper present a conceptual and ethical-theoretical analysis of the concepts of competence(s) and virtue(s). It compares the meaning, role and relevance of the two, in relation to medical education in general and medical ethics specifically and explores the added value of virtues to competences.

Summary Of Results

The comparative conceptual analysis results in three insights: to a certain extent the concepts of virtue and competence conflate. Yet, virtues may also compensate some risks and disadvantages of competences and may complement competences in other respects.

Discussion And Conclusion

Competences and virtues appear to conflate with respect to their likeness to *skill*. Yet, both also differ in important aspects from this concept. It is concluded that virtues add teleological focus, integration of personal and professional identity-formation, and explicit articulation of the intrinsic moral dimension of medicine to medical education and formation. Therefore, they have considerable added value for medical curricula.



Take Home Messages

- Virtues can compensate and complement the current dominant competence-driven framework in medical education and therefore, have considerable added value.
 - More explicit attention to virtue development in medical curricula supports integration of personal and professional identity formation of future physicians and strengthens their ethical development.
-



4E4 (3803)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:45

Location of presentation: Bellecour 3

Creation and Initial Evaluation of Accreditation Council for Graduate Medical Education (ACGME) Clinician Educator Milestones (CEM)

John Mahan¹, Tyler Cymet², Rebecca Daniel³, Amy Miller Juve⁴, Joseph Kaczmarczyk⁵, Laura Edgar⁶

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Background

Background: The importance of Clinician Educators in delivery of competency based medical education (CBME) is well-recognized and effective Milestones could aid in development and assessment of competency of educators. In 2020 a CEM Work Group was convened, consisting of 16 experienced medical educators, a medical student and resident, representing the continuum of medical education, to create CEM to serve as a roadmap for progression in the role of a clinical educator from novice to mastery.

Summary Of Work

Summary of work: In a process led by the ACGME Vice President for Milestone Development, Milestones were generated synchronously over a virtual platform and asynchronously utilizing Google Drive. The workgroup met 9 times and performed asynchronous work between each meeting, using a modified Delphi approach to define an initial group of 141 education related tasks of a clinician educator which was then iteratively refined to 4 domains of competencies and 15 unique Milestones.

Summary Of Results

Summary of results: The CEM workgroup ultimately identified 4 domains of competence for the clinician educator: 1) Administration, 2) Educational theory and practice, 3) Well Being, and 4) Diversity, Equity, and Inclusion. Each Milestone includes 5 levels of more increasingly sophisticated behaviors reaching from novice to mastery. A pilot group of 105 clinical educators, distributed across academic ranks in the USA, felt these Milestones would be meaningful in promoting professional development of medical educators (89.5% agreeing or strongly agreeing). None of the 15 Milestones were judged not likely to be useful by more than 7% of the evaluators.



Discussion And Conclusion

Discussion and Conclusions. These CEMs could be used to: 1) define developmental plans for clinician educators; 2) assess clinician educator teaching behaviors and performance; and, 3) assess clinician educator skills and performance in educational leadership activities. The pilot assessment supports the value of these assessments across the continuum of medical education as important measures of teaching performance. As the Clinician Educator role continues to expand, this ACGME tool could aid in enhancing teaching effectiveness and developing valued medical educators.

Take Home Messages

Take home message: CEM are now available for further exploration in development and assessment of education skills in clinical educators and deserve careful implementation trials.



4E5 (3180)

Date of presentation: Monday 29th August

Time of session: 12:45 - 13:00

Location of presentation: Bellecour 3

Explorative mixed methods study on medical competencies in undergraduate medical students (acc. NKLM2.0): Status Quo & student demands for competency-based learning activities in Family Medicine at Saarland University

Kerstin Schuster¹, Sara Volz-Willems¹, Johannes Jaeger¹, Fabian Dupont¹

¹ *Institute for Family Medicine, Saarland University, Homburg, Germany*

Background

Introduction: With the new licensing regulations in Germany, many medical schools are redesigning their medical curriculum with a focus on competency-based learning and entrustable professional activities to improve the preparation of graduates for medical practice. To date, it is widely unknown when and what clinical competencies students acquire in reality during their current medical training. The aim of this study is to evaluate how self-assessment of medical competence and the desire for specific practical learning opportunities change during different years in medical school.

Summary Of Work

Methods: This study is an explorative mixed methods study. Medical students from the first to the fifth year of medical school were anonymously surveyed by a three-part questionnaire at Saarland University in winter semester 2021/2022. Descriptive and analytical statistics were done with Jamovi. Semi-structured interviews were conducted with students, who consented to digital interviews. The interviews were transcribed and then coded using MAXQDA plus 2020. The analysis was based on content-structuring qualitative content analysis.

Summary Of Results

Results: [preliminary] To date, 1st, 3rd, 5th, 7th, 8th, 9th and 10th semester students participated in the quantitative study (N=69). Based on preliminary data evaluation, it may be said that a variety of medical psychomotor competencies are acquired during medical school. The competence level: “performed independently” and “fully mastered” are underrepresented, even at the end of medical school. With regard to the desired learning activities, there is a tendency towards patient-related activities and technical examination techniques. To date, 10 interviews with medical students have taken place. Based on preliminary data assessment we assume that practical examination methods were unanimously mentioned as a prerequisite for competent, practical medical work. All participants expressed the desire for a better link between theory and practice and for patient contact from the first day of medical school. [to be completed]



Discussion And Conclusion

Conclusion: These findings may suggest that the required medical competencies cannot be fully acquired by the students with the current learning activities, when aiming for high complexity skill levels.

Take Home Messages

These preliminary results may be understood as a plea for more structured learning opportunities/activities with training courses to acquire clinical psychomotor skills with real patients.



4E6 (3188)

Date of presentation: Monday 29th August

Time of session: 13:00 - 13:15

Location of presentation: Bellecour 3

Experiences from a competency-based, blended-learning curriculum redesign project in Family Medicine and its parallel medical education research project at Saarland University, Germany

Fabian Dupont¹, Sara Volz-Willems¹, Johannes Jaeger¹

¹ *Institute for Family Medicine, Saarland University, Homburg, Germany*

Background

Introduction: Undergraduate medical education has changed for faculty and students. During the last months, educators have increasingly included digital learning-activities into their traditional curriculum (blended-learning). This new situation has increased the amount of self-directed learning within medical schools. At Saarland University, the Department of Family Medicine has implemented a competency-based, blended-learning curriculum in 2020 in cooperation with Amboss (digital publishing-house) and IMPP (Govt.-agency-for-state-examinations). This presentation aims to provide an overview of our curriculum redesign and it's parallel medical education research project, focusing on motivation in learning, digital behavior and learning and key feature multiple choice formative and summative assessments.

Summary Of Work

Methods: Overall, data from 203 anonymized students from two consecutive cohorts (winter-semester-2020-21, summer-semester-2021) was analyzed. Data from the YouTube-creator, anchor.fm, and Amboss analytical-data was extracted for this study. Data storage permission and ethics approval was granted prior to data-collection. Standardized, translated survey tools (e.g.: Academic Motivation Scale: AMS) were used to assess motivation to study. Descriptive and analytical statistics were analyzed with Jamovi. Parallely, qualitative studies have been addressed, using MAXQDA Software.

Summary Of Results

Results: In winter-semester 2020-21, an additional 455 learning-hours, with 39,165 answered MC-questions were created by formative assessment-exercises. An additional 358,4 hrs of podcast consumption were created in the same semester. On visual inspection, study behaviour differed between podcast usage and formative-assessment exercises. Podcast-consumption was more evenly distributed over the semester, whereas formative-assessment exercises were primarily used within 14 days prior to the exam date. There was a significant difference in the type of motivation presented between the Family Medicine curriculum and Medical School in general [autonomous motivation: ($W=986$; $p=0.003$)](to be completed)



Discussion And Conclusion

Conclusion: These findings may suggest a benefit for digital learning activities. However, faculty may need to use them more purposefully with the respective student-study behaviour in mind.

Take Home Messages

As educators, the element of purposefully fostering motivation through providing autonomy in blended-learning, may improve learning and academic performance in future blended learning curricula. This may improve the learning quality and progress even further in the future.



Patil Teaching Innovation Awards 2

4F1 (0672)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 1

Breaking the silence: a content analysis of medical students' perceptions of failure in medicine

Nicolas Germann¹, Lana Fourie², Sandra Lutz³, Jimmy Beck⁴, [Jennifer M Klasen](#)²

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Background

Failure is a powerful teacher, but an emotionally stressful experience. Before entering residency where failure is inevitable, medical students should ideally learn how to talk about and cope with failure in a productive manner. However, educational interventions to support learners to regulate fear of failure and its consequences are rare. Therefore, a four-day workshop entitled "How physicians deal with failure in medicine" was offered to medical students at an academic institution to open the conversation about failure in medicine.

Summary Of Work

Two surgeons and a life coach developed and tutored the curriculum to provide insights into the ubiquity of failure in medicine. 30 participants wrote reflective essays about their perceptions of failure as a pre-intervention task. Tutors then facilitated presentations, group discussions, and journal clubs about failure, fear of failure and described potential coping strategies. As a post-curriculum activity, participants wrote another reflective essay to assess for knowledge transfer.

Summary Of Results

The content analysis of 60 reflective essays revealed various self-experienced and observed failures in the clinical context. Experiencing and witnessing failure was emotionally draining and often in conflict with expectations of being a physician. Fear of failure was omnipresent, while students realized that failure in medicine is human and inevitable. Gaining insights into failure stories of the tutors, helped students internalize this aspect. Perceived clinical supervision often protected medical students from failure and its potential consequences. However, open communication about failure rarely occurred. Overall, medical students emphasized the importance of open conversations about failure to learn from it



Discussion And Conclusion

Medical students wish to discuss failure before entering residency. Without open discourse about failure, medical students feel left alone with their experiences, triggering fear. Medical schools should integrate curricula around failure and supervisors should support medical students entering clinical training by being more transparent about their own failures and sharing their coping strategies which will ultimately help them to make sense about failure experiences and learn from it.

Take Home Messages

Failure in medicine is inevitable. Therefore, medical students need to be prepared and supported regarding these challenges. This novel curriculum about failure could be adapted to other sites to empower students and break the silence around failure.



4F2 (0782)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 1

Student-led 3D global health learning in UK-Kenyan virtual flipped classrooms

Yuhui Zhou¹, Edward Lau¹, Elijah Kameti², Maria Fala¹, Lilian Kamita Maithya², Abiuty Omwenga Omweri², Eunice Ondego², Isabelle Thornton¹, Jonathan Nthusi², Arthur Hibble³, Charlotte Tulinius¹

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Background

Doctors need to understand their local health issues in a global perspective.

Previously, medical students/doctors have travelled to gain this understanding, but the pandemic and the environmental crisis have made alternative learning strategies necessary.

Our aim was to create virtual and mutual learning opportunities about working as a doctor in the UK and Kenya healthcare systems.

Summary Of Work

UK medical students and Kenyan family medicine residents participated in two-hour long virtual flipped classrooms.

Using individual learning needs and a nominal group technique, topics were decided to be 'the public healthcare system', 'palliative care' and 'stigma in health'.

Communication was supported by a WhatsApp group, a shared google folder, and Zoom meetings, using smartphones, ipads or laptops.

For each classroom, participants paired up to prepare presentations, all mapped against their curriculum.

For the evaluation, the participants produced written reflections, and shared creative accounts of painting and baking, exploring what they had learned working in the flipped classrooms.

Summary Of Results

Through this format of exchanging knowledge and experiences, the participants described to have gained a more 'vivid understanding' of global health issues applicable to their home healthcare system.

The development of presentations in pairs led to a deeper understanding of the topics in both contexts, increased 'ownership and participation', encouraged 'collaborative/peer learning' and gave them 'more control' over the direction of individual learning.

Key themes of the creative representations were 'appreciating the broader picture', 'integration of perspectives', and building a deeper level of understanding than textbooks can provide.



The effectiveness of the classrooms was also reflected in both countries with the desire to continue and others asking to join.

Discussion And Conclusion

For pragmatic reasons the Kenyan participants were trainee family physicians, and sometimes clinical priorities prevailed over the education session.

The means of communication were adequate and effective.

The nominal group technique reinforced the learner-led ethos.

Despite few/no previous experiences with learner-directed learning, all participants gained in-depth/three-dimensional learning.

Take Home Messages

1. It is possible without travelling, and on a shoe-string budget, to succeed with in-depth/3D learning in student-led virtual flipped classrooms on global health.
 2. Despite differences in resources and contexts, the learning opportunities can be mutual and relevant to all curricula.
-



4F3 (2120)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 1

Clinical skill boot camps: an innovative learning and teaching strategy during the COVID19 pandemic

Annali Fichardt¹, Champion Nyoni¹, Yvonne Botma ¹

¹ *University of the Free State, Bloemfontein, South Africa*

Background

Higher education institutions were confronted with prevention and control measures during the Covid19 pandemic to limit the transmission of infections. These measures varied from hard lockdown to limited access to the university and clinical environment which raised concerns specifically for the learning and teaching of clinical skills. Immediately after lockdown the School of Nursing, supported by the theory of deliberate practice, implemented boot camps as an innovative learning and teaching strategy to support the mastery of clinical skills. This study described the outcomes of implementing the boot camps strategy for the learning and teaching of clinical skills.

Summary Of Work

A parallel convergent mixed-methods design was used. Data was collected through interviews with educators (n=7) involved in the bootcamps, module evaluations by 219 students, and summative practical assessment scores for all students in the undergraduate programme. The qualitative data was thematically analysed through an inductive approach, while quantitative data was analysed by applying central tendency and frequencies. Ethics approval was obtained.

Summary Of Results

Three themes emerged from the narrative data, "Rationalizing the boot camps", "Executing the boot camps" and "Learning from the boot camps". Quantitative data supported each of the themes. Faculty and students reported their appreciation of the boot camps. Furthermore, student objective summative assessment results improved when compared to previous years.

Discussion And Conclusion

Not only were the lockdown restrictions under the COVID-19 pandemic a stressful transition, it led to further growing concern for the clinical competence of nursing students in higher education. The pandemic compelled education institutions to adopt a variety of innovative educational strategies such as boot camps. Boot camps appeared to have positively influenced the learning and teaching of



clinical skills at a nursing school. The need for robust longitudinal research evaluating the long-term effect of such innovative educational strategies was identified.

Take Home Messages

Boot camps can be considered as an educational strategy to prepare learners during transition periods in clinical training programmes. However, the impact on faculty and staff should be considered.



4F4 (2930)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 1

'Jugaad-Simulation' - simulations made of inexpensive things in a resource limited set-up to teach clinical skills

Saurav Sarkar¹, Priyadarshini Mishra¹, Pradipta Parida¹

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Background

Teaching clinical skills was difficult with no patients to examine due to lockdowns and the risk of transmission of infection.

We planned to train the undergraduate students' clinical skills on a hybrid simulator using inexpensive and readily available materials, a stuffed toy, a glass, and balloon.

Their performance then compared with students trained on real patients.

Summary Of Work

Otoscopy and tuning fork examination were taught to the students using trivial simulation technique. For tuning fork test a stuffed teddy was used and for otoscopy a glass. A resident acted like a patient responding to the questions asked during clinical examination by the students.

Feedback was taken from the students. Their performance during their Professional examination assessed.

Summary Of Results

28/84 (33.33%) students gave feedback on the training. 18/28 (64.3%) students liked the training. For tuning fork tests -22/28 (78.6%) were confident to transfer the skill in real life scenario, while for otoscopy 11/28 (39.3%) were confident to transfer the skill in real life scenario. Out of 10, the average rating for the teddy bear simulation was 7.3 ± 1.7 and otoscopy simulation 5.5 ± 2.4 .

Performance in the Professional-examination:

Difficulty-index Otoscopy-Station $23/84 = 0.27$



Difficulty-index Tuning-Fork-Station 02/84 = 0.02

High score/performance index for tuning fork test 79/84 = 94%

High score/performance index for otoscopy 37/84 = 44%

The scores of 90 students of the next batch, trained on real patients were obtained and compared. Fishers exact test found that the difficulty index between the simulator trained group and patient trained are not statically significant. The difference in high score index between the two groups were also not statistically significant.

Discussion And Conclusion

Health care training institutions in developing countries lack the financial means to purchase high fidelity simulators. A hybrid simulation approach has the potential to provide them with limited budgets a more affordable simulation option. Our study results reflect that creating simulators using available resources can effectively train medical students the required clinical skills effectively. Students trained on these simulators have comparable scores compared to ones trained on patients.

Take Home Messages

Inexpensive simple material can be used to create simulators. These can be effective teaching tools in resource limited set ups.



4F5 (3807)

Date of presentation: Monday 29th August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 1

Training Medical Students on Structural and Social Determinants of Health: The role of student demographics

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Background

Understanding how institutionalized poverty impacts health outcomes is critical to systems-based practice, a core competency for physicians-in-training. Poverty simulations have shown promise in increasing medical students' understanding of the systemic and structural impacts of disease morbidity and mortality by changing attitudes toward poverty. The purpose of this study was to examine whether a poverty simulation activity would change attitudes toward poverty, as well as whether the demographics of medical students were uniquely associated with attitudes toward poverty.

Summary Of Work

Two hundred and forty-four first-semester medical students at a Caribbean medical school completed a poverty simulation as part of their introduction to structural and social determinants of health. Students completed pre- (N=244) and post-activity (N=190) measures of demographics (e.g., "My family was on welfare at some point". (yes/no)) and the 21-item Attitude Toward Poverty Scale.

Summary Of Results

T-tests indicated that there were significant decreases in stigma related to poverty between pre- and post-simulation activity ($t(243)=2.22$, $p=.03$). Linear regression indicated that being a man was associated with increased beliefs that poverty was a personal deficiency, stigmatization of poverty, and beliefs that poverty was not a structural issue. Controlling for time, food security as a child (OR=0.60, 95% CI 0.40-0.88) and growing up in an abusive home (OR=1.27, 95% CI 1.03-1.57) were uniquely associated with increased beliefs that poverty was a personal deficiency; being a sexual minority was uniquely associated with decreased stigmatization of poverty (OR=0.81, 95% CI 0.66-0.98) and growing up on welfare were uniquely associated with increased beliefs that poverty is a structural issue (OR=0.79, 95% CI 0.66-0.96).



Discussion And Conclusion

The poverty simulation activity was successful in reducing only stigma related to poverty. Additionally, food insecurity, growing up in abusive home, being a sexual minority, and growing up on welfare were all uniquely associated with attitudes toward poverty. Simulated activities should focus more on reducing perceptions that poverty is a personal deficiency, and increasing perceptions that poverty is a structural issue.

Take Home Messages

Continued work is needed to design a poverty simulation activity that more comprehensively modifies attitudes toward poverty for physicians in training, especially among those who may not have grown up in disadvantaged homes.



4F6 (4380)

Date of presentation: Monday 29th August

Time of session: 13:00 - 13:15

Location of presentation: Gratte Ciel 1

Enhancing the Mental Health and Well-being of Junior Healthcare Professionals: Evidence from a Well-being Intervention

Emily Hibbert^{1,2}, Nickolas Yu³, Narelle Brown¹, Shanta Dey⁴, Anya Johnson⁴, Helena Nguyen⁴, Lorain Squire², Marvin Nguyen⁵, Nhi Nguyen⁶, Suzy Green⁷

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Background

Mental health in junior medical officers (JMOs) is poor. Burnout increases through post graduate year 1 (PGY1) to 75% of JMOs (Willcock et al 2004). We present the first project of two at Nepean Hospital, Australia, designed to develop junior healthcare professionals' (JHCPs) skills in monitoring, managing and enhancing their well-being and to embed this within their work environment.

Summary Of Work

All JHCPs within 10 years of graduation were invited to participate in a series of eight one-hour well-being workshops, comprising evidence-based mindfulness meditation, positive psychology and coaching, delivered over 16 weeks. Psychological markers of well-being and poor mental health were assessed at baseline, 4 and 8 months.

Summary Of Results

31 JHCPs were recruited, including 18 PGY1 JMOs. 22 JHCPs attended workshops with 95 workshop attendances (36 via videoconference). Workshops were facilitated by a trained facilitator team. JHCP surveys demonstrated that well-being measures (Warwick Edinburgh Mental Wellbeing Scale, Solution Focused Inventory (SFI), Depression, Anxiety and Stress Scale-21, Maslach Burnout Inventory) were within normal range for the general population (mean and median) at baseline and were maintained at 4 and 8 months. SFI scores increased significantly from baseline to 4 month follow-up ($p=0.037$). Formal and informal mindfulness practice (IMP) increased significantly from baseline to 4 months ($p<0.001$) and IMP was maintained at 8 months.



Discussion And Conclusion

Increased mindfulness practice at 4 and 8 months after baseline is likely to be associated with reduced burnout and medical errors and improved performance and JHCP well-being. Increased SFI scores are likely to be associated with increased focus on achieving goals and improved performance. Unlike Willcock's study, well-being was maintained in the normal population range with no burnout, depression, anxiety or stress present after 4 months.

Participation in the evidence-based well-being program for JHCPs was associated with a significant increase in mindfulness practice and solution focus in JHCPs, with maintenance of well-being and no features of burnout. These changes are likely to be associated with improved JHCP well-being and performance and reduction in medical errors.

Take Home Messages

An evidence- based well-being program for JHCPs:

- improves mindfulness practice and solution focused behaviour
 - maintains their well-being
 - prevents burnout, depression, anxiety and stress.
-



4F7 (4021)

Date of presentation: Monday 29th August

Time of session: 13:15 - 13:30

Location of presentation: Gratte Ciel 1

Devising an Education Programme for Refugee Doctors

Fionnuala Ryan¹, Olivia Corn¹, Mohammad Alam¹, Emma Young¹, Alice Kitt¹

¹ *Barts Health NHS Trust, London, UK*

Background

Extensive research has highlighted the difficulties faced by international medical graduates (IMGs) on adapting to a new healthcare system. In our trust refugee doctors on the Clinical Assistantship Programme (CAP) and Medical Support Worker (MSW) Schemes are traditionally grouped with their foundation level contemporaries for teaching, despite having different learning needs. This project aimed to devise a new education programme to address this gap in training focusing on supporting participants in their acclimatisation to the NHS.

Summary Of Work

A literature review and focus group discussions with existing CAPs doctors were used to tailor learning objectives and design the curriculum. The overall aim was to provide holistic clinical teaching alongside an opportunity for peer support and mentorship. The initial programme was delivered in five small-group tutorials and simulation sessions. Following evaluation and feedback we modified this course and delivered the teaching programme for MSW doctors. This two month programme combined small group tutorials, simulation and roleplay teaching complimented by a peer mentorship scheme with existing IMGs acting as mentors. Both programmes were evaluated with face to face discussion with participants, anonymised feedback, verbal feedback from supervisors and self-reflection by educators.

Summary Of Results

The CAP and MSW teaching programmes were well received by participants, with all respondents saying they would recommend this programme to similar doctors starting work in the NHS. Participants identified the continuous support, simulation and roleplay opportunities and tailored nature of the training as highlights. Objectively as educators we found the mentorship aspect and opportunity to discuss challenges with peers were extremely valuable in building confidence and helping with acclimatisation.

Discussion And Conclusion

There are now more IMGs joining the GMC register every year than UK and European Economic Area graduates combined, illustrating the pressing need for medical educators to address their training needs. This project illustrates that a tailored teaching programme alongside mentorship and peer



support helps refugee doctors to improve in confidence when faced with the challenge of starting work in a new healthcare system

Take Home Messages

Peer support, mentorship and tailored teaching helps to integrate refugee doctors into the NHS.



Short Communications - Postgraduate Education 2: Education & Training 1

4G1 (1389)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 2

Can a Situational Judgment Test Identify Learners at Risk for Professionalism Issues? A Multi-Institutional, Prospective Cohort Study

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Background

A critical, understudied question in graduate medical education is how to identify early warning signs of potential problems in medical trainees. Research demonstrates that situational judgment tests (SJTs) correlate with important outcomes, including in-training and after-training competence, supervisory ratings of performance, and clinical skills licensing OSCEs, but no studies have examined whether an SJT is associated with the full continuum of concerning trainee behavior across specialties.

Summary Of Work

In 2019, 17 residency programs from 12 institutions administered an online 15-scenario professionalism-oriented SJT to trainees. The authors conducted analyses to determine whether SJT scores are associated with (1) clinical competency committee (CCC) ratings of trainee professionalism and (2) concerning trainee behaviors ranging in their level of seriousness.

Summary Of Results

SJT scores correlated positively with overall mid-year and year-end professionalism ratings ($r = .21$ and $.14$, respectively, $p < .01$ and $p < .05$). Holding race and gender constant, a one standard deviation (SD) increase in SJT scores was associated with a .20 SD increase in professionalism ratings at mid-year, and a .22 SD increase in professionalism ratings at year-end (both $p < .01$). Holding race and gender constant, a one standard deviation increase in SJT scores decreased the odds of a trainee displaying any concerns by 37% (odds ratio (OR) 95% confidence interval (CI): [.44, .87], $p < .01$) at



mid-year and 34% (OR 95% CI: [.46, .95], $p < .05$) at year-end and requiring active remediation by 51% (OR 95% CI: [.25, .90], $p < .05$) at mid-year.

Discussion And Conclusion

The SJT correlated positively with professionalism ratings and was associated with early warning signs of problem behavior in medical trainees. Future research should investigate whether other potential professionalism assessments (e.g., structured interviews, competency-oriented biographical presentations) are associated with problem behavior in trainees and whether using SJTs in conjunction with these measures leads to meaningfully stronger relationships with remediation and other relevant outcomes than using these measures alone.

Take Home Messages

SJTs can be a useful tool for identifying a range of problem behavior in residency program trainees. This study provides program directors with a potentially useful tool for identifying at-risk trainees, encouraging professional identity formation, and potentially, selecting program applicants.



4G2 (0241)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 2

Insufficient competencies in CanMeds among residents dismissed from various specialties

Judith Godschalx-Dekker^{1,2}, Frank Gerritse³, Jurjen Luykx^{4,5,6}

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Background

A small percentage of the trainees are forced to discontinue residency training because of insufficient performance. There is no recent research on the reasons why the training directors terminate training nor on the relevant performance insufficiencies. It is also unknown how the residents underperform and whether their underperformance differs between specialties. We aimed to identify insufficient CanMeds competencies among residents dismissed from training in the Netherlands.

Summary Of Work

Structured analysis of case law of Dutch residents dismissed from training between 2011 and 2020.

Summary Of Results

We found 116 cases of trainees who were forced to discontinue training. Most trainees performed insufficiently on more than one CanMed (90%; mean number of insufficient competencies 3,42). The competencies that were considered insufficient in most cases were medical expert, communicator and professional. Less frequently, insufficiencies were reported in the competencies of manager 56%, collaborator, scholar, or health advocate. In specialties whose task is primarily diagnostic, the most frequently reported insufficiency was in the competence of scholar. The medical expert competence was insufficient in 100% of the surgery cases, while manager and collaborator competencies were more frequently insufficient in psychiatry, internal medicine, and family medicine.

Discussion And Conclusion

When Dutch program directors terminated residency, this was frequently due to insufficient competencies in multiple CanMeds roles. The relevance of each CanMeds role to resident dismissal



differed per role. In terms of training suitability, there are specialty-specific differences between how important some CanMeds roles are.

Take Home Messages

1. The most common reasons for dismissing residents are insufficient performance on the competencies of medical expert, communicator, or professional.
 2. Most dismissed residents performed insufficiently on several competencies.
 3. In surgery and specialties with a primarily diagnostic task, dismissal of residents is more often due to deficiencies in hard skills (e.g. medical expertise and knowledge), while in psychiatry, family medicine and internal medicine, dismissal is more often due to deficiencies in soft skills (communication and collaboration).
-



4G3 (3601)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 2

How workplace-based assessments can evidence synergistic learning across programmes and curricula: aligning the Foundation Programme, Internal Medicine Training, and Emergency Medicine with the ‘Enhance’ programme outcomes

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Background

UK postgraduate medical education is guided by robust curricula provided by the Foundation Programme (FP) and respective professional colleges, and delivered by the NHS and Health Education England (HEE).

In response to the Future Doctor Report and disruption from the COVID-19 pandemic, HEE are developing a wraparound professional development offer to supplement current training. This ‘Enhance’ programme aims to embed generalist skills across healthcare education, alongside specialty skills development, to empower professionals to better meet patient needs. The ‘Enhance’ programme is designed to run alongside traditional clinical work and training.

Summary Of Work

We compared learning outcomes across the curricula for the FP, Internal Medicine Training (IMT-1) and core Emergency Medicine (ACCS EM) training against the ‘Enhance’ handbook for the ‘Person-Centered Practice’ and ‘Complex Multimorbidity’ modules. These 3 curricula were chosen as future learners will be studying these alongside ‘Enhance’ pilots across England. Example workplace-based assessments (WPBA) were identified for each learning objective.

Summary Of Results

Several objectives could be mapped to the ‘Enhance’ programme in 11 out of 14 outcomes in IMT-1, with 24 of 94 specific learning outcomes co-achievable. For FP examples of co-achievement were found in 6 of 13 outcomes, and 7 of 11 outcomes for ACCS.



Common themes across all were communication and consultation, shared decision making, biopsychosocial approach, MDT working (including community based), research/QI, frailty, complexity, uncertainty and multimorbidity.

Several WPBA could evidence co-achieved learning, including Mini-Cex's, Case Based Discussions, Multi Source Feedback, patient surveys and reflection.

Discussion And Conclusion

Our results show promising overlaps between the 'Enhance' objectives and the 3 curricula assessed, suggesting the 'Enhance' programme could not only provide additional skills for trainees, but could help co-achieve curriculum outcomes.

Only 2 of 6 'Enhance' modules were reviewed. More outcomes could potentially be co-achieved if all were assessed.

Take Home Messages

This complementary programme enhances generalist skills across 3 training programmes whilst also providing new learning opportunities outside of purely clinical work to meet clinical curricular WPBA requirements in areas of complexity, multimorbidity and person-centered practice.



4G4 (1534)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 2

International Radiology Crash Course - From the Dark to the Light

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Background

Junior doctors report that radiology teaching at undergraduate and postgraduate levels is highly inadequate. Despite this, they are expected to interpret imaging daily. Here we demonstrate a national comprehensive programme in the interpretation of common imaging modalities taught by radiologists which addresses this gap.

Summary Of Work

Radiology webinars covering chest, abdominal, pelvic and musculoskeletal X-ray as well as the basics of CT head, thorax, abdomen and pelvis were taught over a 3-month period. Feedback was collected to evaluate confidence pre and post teaching sessions, subjective improvement in clinical safety and the effectiveness of teaching methodologies.

Summary Of Results

Although intended for junior doctors, 3426 healthcare professionals from a vast variety of disciplines and from 103 countries registered for the webinars. Of these, 1702 attended and 1189 provided qualitative feedback. 92% of attendees strongly agreed that the webinar series format was engaging, helpful and reported improvements in their confidence as a direct result of the session. 84% of attendees strongly agreed that the webinar series has made them safer in their clinical practice. Qualitative feedback provided a detailed overview of specific aspects that can make radiology teaching more effective.

Discussion And Conclusion

We confirmed the poor confidence in radiological interpretation amongst junior doctors and showed that it extends to all healthcare professions internationally. We also demonstrated how this could be effectively addressed in an engaging dynamic format with a three month programme. Our results, show that a large audience of junior doctors were able to significantly benefit from a comprehensive radiology teaching programme which increased their knowledge and improved clinical safety. Our results enhance the growing body of data supporting the introduction of structured radiology teaching, exploring how this could be effectively achieved to an audience of any size at a low cost



Take Home Messages

The literature shows that radiology interpretation is inadequately delivered at both an undergraduate and postgraduate level

We delivered a comprehensive course to an international audience of multiple healthcare professional disciplines.

Feedback from a large cohort suggests we are meeting this gap successfully at low cost.



4G5 (3725)

Date of presentation: Monday 29th August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 2

Trainee feedback: Not just a matter for individuals

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Background

Trainees rely on feedback to guide their learning, yet feedback processes are far from perfect. How feedback unfolds depends not only the individuals involved, but also the surrounding professional cultures and contexts of training. While the impact of professional culture on feedback is the subject of increasing scrutiny, the influence of different cultures within medicine remains largely unexplored. Therefore in this study, we investigate the differences and similarities between intensive care and surgical feedback cultures.

Summary Of Work

We employed focussed ethnography, observing intensive care and surgical training within two Australian hospitals. 26 observations were conducted with four intensive care trainees and three surgical trainees, including in-the-field and follow-up interviews. Data collection focussed on conversations about performance in a range of clinical contexts. In our analysis we adopted a sociomaterial approach to consider how feedback conversations unfold in arrangements of people, social practices and places.

Summary Of Results

Feedback conversations in intensive care and surgical training share many commonalities. For example, all trainees appeared to seek credible information sources, particularly privileging consultants. Feedback processes also diverge. There are notable differences with respect to: (1) how and when the trainee and consultants are co-located and therefore the role of direct observation; (2) how other disciplines and specialties contribute to discussions of performance; and (3) the role of the patient and family in conversations. This leads to different feedback practices. In intensive care, consultant observation contributes rarely to feedback processes, while surgical training privileges this direct oversight and therefore omits attuning to complementary and valuable sources. This underscores how clinical and feedback cultures are enmeshed with each other.



Discussion And Conclusion

Different specialty cultures accommodate certain types of feedback conversations while constraining others. Our work offers an opportunity for specialties to reflect on their feedback oversights and to strategise about how to create space for deliberate and fruitful feedback conversations. In conclusion, this study demonstrates that feedback cultures vary and when conducting faculty development, consideration should be given to the role of space, time and specialty practices.

Take Home Messages

Focussing on specialty feedback cultures offers opportunities to enhance feedback practices.



4G6 (2531)

Date of presentation: Monday 29th August

Time of session: 13:00 - 13:15

Location of presentation: Gratte Ciel 2

Examination of profession-related doubts in medical education and training

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Background

While dealing with uncertainty in medical knowledge is an essential part of medical training, the comprehension of doubts about oneself, one's training and one's entry in the medical profession is rare. Doubt is the questioning of things and events, that can lead to poorer academic performance. It can also cause psychological distress such as depression and burnout (Liu, Carrese, Colbert-Getz, Geller, & Shochet, 2015). Knowledge about doubt's content leads to better understanding of (future) doctor's struggles and is crucial for medical education.

Summary Of Work

We conducted semistructured interviews with 10 final-year medical students and 8 residents, who reported having had profession-related doubts. Data analysis was conducted with qualitative content analysis by Schreier 2012, using MAXQDA 22.

Summary Of Results

During analysis, content, experience, and consequences of profession-related doubts were elaborated:

The doubt's content included criticism of the working environment (rigid hierarchies, lack of appreciation), as well as working conditions (long working hours, lack of salary). The interviewees also reported self-doubt regarding their competencies and suitability for the profession. Especially the student-resident transition seemed to constitute a critical phase of doubt, interviewees felt poorly supervised and overwhelmed.

Ethical conflicts also arose in patient care, e.g., due to financial interests of hospitals.

The experience of doubt was described as despair, panic, or overload. Practical consequences were, for example, reduced professional commitment, change of profession or a changed attitude towards being a doctor. Likewise, coping strategies such as persevering through residency, communication of doubts, or psychotherapy were revealed.

Discussion And Conclusion



Doubts seem to affect not only the work of (future) physicians, but also their psychological well-being and perception of their own profession. Some reasons for doubt should be addressed during training, such as the student-resident transition, which is experienced as difficult. Systematic approaches to help trainees seem to be crucial, individually and for the future of the health-care system.

Take Home Messages

Profession-related doubt in medical education is an important topic, that can have consequences on individuals and the health-care system. Common contents of doubts are related to the medical profession itself, working conditions and training.

A better understanding of doubts creates the basis for (extra-)curricular approaches to action.



Short Communications - Research in the Curriculum

4H1 (2924)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 3

The demand for scientific publication on medical students in Saudi Arabia impacts the student's practice and attitude toward medical research

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Background

Disseminating research work in scientific journals demonstrates competency in medical student research training. Health profession training institutions started to put considerable weight on publications for admission into postgraduate medical education programs, a criterion that has promoted the publication desire in undergraduate medical students. However, the publication rate has remained below students' and schools' ambition. The study aimed to identify the attributes that enable or hinder the publication of medical students' research projects at a medical school in Saudi Arabia.

Summary Of Work

A concurrent mixed-methods approach was used. A quantitative causal-comparative analysis of four years records of student research projects was used to determine the factors associated with publishability, including those related to the students, the supervisors, and the projects. A qualitative interview was conducted to prompt students, supervisors, and the research office personnel to reflect on the attributes affecting the publishability of the student research.

Summary Of Results

Of the 187 projects analyzed, thirty-two projects (17.1%) resulted in peer-reviewed publications. The supervisor's primary affiliation (full-time vs. adjunct), but not the gender, specialty, work experience, or publication profile, showed significant association with publishability. Projects design and study subjects, but not the field of specialty or student attributes, including a previous degree or research experience, were also significantly associated with publishability. The semi-structured interviews revealed three common themes per respondent category. Examples of the themes include institutional support, effective mentorship, and students' behaviors as reflected by the supervisors, students, and research office personnel.



Discussion And Conclusion

The supervisor institutional support and mentorship themes support the association of supervisor affiliation with publication. At the same time, the study design and subjects were related to the students' research practice. The study revealed that the demand to publish had steered the students' research practice toward accumulation instead of interest and passion. Under the increasing demand for medical students to publish, medical schools need to explore options to modify their research programs, foster institutional support and diverse research practices to establish an authentic passion for research.

Take Home Messages

Urging future health professionals to publish early during undergraduate education without a well-developed program may result in ingenuine interest in medical research.



4H2 (2632)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 3

Research Integration in Medical Education

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Background

In the age of evidence-based learning, research is playing a vital role in our medical education. As future physicians, our duties include conducting new studies, updating our knowledge, and sharing our new findings with the medical community. Moreover, to allow improvement of medical care, healthcare workers need to have unrestricted access to high-quality research irrespective of language, financial, and geographical barriers.

Therefore, the Lebanese Medical Students' International Committee (LeMSIC) worked on advocating for the research integration in medical education (RIME) and raising awareness on the importance of access to research and research education (ARRE).

Summary Of Work

LeMSIC has been working on RIME on so many levels. From assessing medical students' involvement and access to research opportunities in Lebanese medical schools, promoting ARRE through awareness campaigns and sessions, increasing members' capacities in terms of delivering ARRE sessions and becoming peer-Education trainers, to finally advocating for RIME. Advocacy efforts include providing members with research opportunities and policymaking.

Summary Of Results

This project started in September 2020. Till now two National Research Camps have been conducted with a total of 425 participants. The sessions were in accordance with IFMSA's Basic Research Competencies Framework and clear regulations for these workshops were drafted. Two national social media campaigns on ARRE were held. More than 5 webinars related to research topics were hosted. LeMSIC managed to recruit 35 research projects and created a national research database. Finally, we adopted a policy document on ARRE.

Discussion And Conclusion

In many countries such as Lebanon, research is barely tackled in medical school curricula. Many medical students don't have the opportunity to start publishing and develop good critical thinking at



an early age. Consequently, comes the importance of equipping medical students with enough knowledge to become young researchers themselves.

In addition, COVID-19 has highlighted the gaps in our research infrastructure and the importance of global open science as an engine for discoveries.

In short, as future healthcare professionals, it is our duty to advocate for the RIME and raise awareness on the importance of ARRE.

Take Home Messages

By building students' capacities and awareness for ARRE and through advocating for RIME we are one step closer to achieving evidence-based medicine.



4H3 (4102)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 3

vSEMERa – Preliminary findings of an interdisciplinary virtual exchange program on scientific skills for health profession students

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Background

The “virtual Semester for Medical Research Aachen” (vSEMERa) is a multi-institutional, interdisciplinary, virtual education program developed for health profession students and hosted by the Medical Faculty of RWTH Aachen University (Germany) in cooperation with Centro Universitário Christus (Brazil) and Universidad Peruana Cayetano Heredia (Peru). The major aim of the international 3-months program is to provide students with skills in health science research and prepare them for scientific career paths through four pillars: 1. seminars on scientific skills, 2. individual research projects, 3. interdisciplinary keynote lectures by international experts, and 4. an intercultural social program to establish peer networks. vSEMERa builds on a virtual learning platform, “vSEMERa campus”, designed to foster students’ learning process and social interactions. Maximum flexibility is offered through synchronous and asynchronous learning, enabling participants to join via any device from any part of the Globe alongside their regular studies. For the program’s first edition (September - November 2021), health profession students from Germany, Brazil and Peru filled all 30 spots.

Summary Of Work

Satisfaction and perceived learning outcomes of this first edition were examined. Next to lecturers’ feedback and quantitative analysis of students’ social interactions, our study includes data collected throughout and at the end of the program in form of questionnaires that evaluate the quality of each seminar.



Summary Of Results

Preliminary results indicate that students were motivated by the prospect of future career paths in research that vSEMERa might open up for them. Participants preferred asynchronous over synchronous engagement in the digital learning environment, mainly due to scheduling conflicts with their studies at their home universities. Students used the “vSEMERa campus” for academic peer interaction, but preferred familiar social media for personal interaction. Despite cultural differences in social and academic aspects, vSEMERa fostered scientific, social, cross-cultural, and interdisciplinary exchange.

Discussion And Conclusion

vSEMERa is a prosperous example of an online international learning and exchange program, using pedagogical and technological elements of virtual collaboration and learning.

Take Home Messages

In addition to advancing future vSEMERa editions, our results may offer insights for similar future projects that address the targeted integration of scientific research education into an international, digital learning environment.



4H4 (0341)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 3

Indicators for successful outcomes of medical students' research projects: a focus-group based qualitative study

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Background

Many medical schools require individual scholarly projects as a component of their curricula. The fact that all students, and not only those with research interests, have to carry out a scholarly project puts high demands on the projects and their supervision. Our aim was to explore the observations of coordinators, who are external reviewers of students' research projects, regarding factors that predict the educational outcomes of medical students' scholarly projects.

Summary Of Work

Two focus group interviews were conducted with seven of the 16 faculty coordinators between March and May 2019. The audio-recorded interview transcripts were analyzed using qualitative content analysis. Nvivo was used to assist with coding of the transcripts. We employed a constant comparative approach to create categories firmly grounded in the participants' experiences. A successful project was defined as coordinators' perception that the stated learning outcomes were achieved, in terms of students' ability to demonstrate a scientific attitude.

Summary Of Results

Five categories were identified: *Supervision, Project setup, Student characteristics, Curriculum structure, and Institutional guidance*. According to the coordinators the supervisors' experience and availability to students were key factors for successful outcomes. Project-related factors that were also supervisors' responsibilities, were a clear aim and adaptation to the time frame. Significant student-related factors were skills related to taking ownership of and managing the projects, skills in scientific writing, and making use of feedback. Lastly, support and control, accomplished by faculty coordinators and the course requirements contributed to a successful outcome.

Discussion And Conclusion

Given the challenges inherent in medical research it is important to help the educators and course planners to assess students' scholarly projects before they are started. We recommend paying attention to supervisors' commitment and experience, and that the projects are suitable for the time



frame and have a clearly stated research question. Other aspects that strengthen attainment of the outcomes are students' prowess at scientific writing, ability to assume ownership of the project, adequate handling of feedback, and adherence to curricular instructions.

Take Home Messages

Supervisors commitment and experience, the scope and the aim of the project are important factors for a successful scholarly project.



4H5 (1381)

Date of presentation: Monday 29th August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 3

A remote mentorship model for empowering undergraduate students to undertake healthcare research

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Background

Undergraduate students are often underrepresented in academic research. In this study, we present an accessible-distributed research platform to facilitate mentorship and our findings in providing opportunities for undergraduate students.

Summary Of Work

Students were prospectively recruited between 1st December 2016 and 31st January 2019. All members received one-to-one, group and training-based mentorship from peers and academics, and were invited to complete surveys six months after the end of the recruitment period.

Summary Of Results

A total of 38 researchers from six countries were included. Nine teachers (2 undergraduates; 3 junior faculty [<6 years of experience]; 7 senior faculty) were matched to 28 mentees. Three researchers served as both teachers and mentees. As a result of this collaboration, 31 publications were generated. Of the 30 students included, 26 responded to our survey. On a scale of 1 to 5 (from least to most satisfied), the mentees were satisfied by being mentored by both academic staff and student peers (4.4 ± 0.8 vs 4.4 ± 0.8 , respectively). The mean frequency of one-to-one peer mentoring session was once a month (Q1: once; Q3: 3 times). Five students met with their mentors for ≥ 10 times per month. After the mentorship programme, most mentees found that they gained a better understanding (4.3 ± 0.7) and became more interested in medical research (4.2 ± 0.9). On peer learning, they agreed that it promoted active learning (4.3 ± 0.7). A female undergraduate student who was new to academic medicine, now has a H-index of 11 with more than 60 publications including 15 first/ co-first authorships and 5 as a corresponding or co-corresponding author.



Discussion And Conclusion

The decentralized system allows easy access for research guidance and inspiration, raising the interests of undergraduates in academic medicine, and breakdown barriers in the lack of mentorship for early-career talents. The distributive element of the group is demonstrated through the decentralized system. Differ from the conventional approach of the principal researcher executing all elements of the project, the decentralized approach involves different talents involved in various aspects of the research project management. The accessible-distributed research team model has successfully achieved gender equity and provided opportunities to undergraduates.

Take Home Messages

A remote mentorship model empowers undergraduate students in global medical research.



4H6 (3989)

Date of presentation: Monday 29th August

Time of session: 13:00 - 13:15

Location of presentation: Gratte Ciel 3

Novice academic researchers: faculty and students' engagement

Nancy de los Ángeles Segura-Azuara¹, Mildred López-Cabrera¹

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Background

Although many universities acknowledge the importance of increasing their medical education research productivity, very few have focused activities for its development. Faculty and students have few opportunities for engaging in academic research due to lack of time and experience in the field. Faculty time is spent in and preparing for classes, at meetings, in labs and clinics. They are absorbed in their everyday work with little time to spare in extra projects. Nonetheless, both faculty and students would greatly benefit from mutual support and engagement in these activities (1). Research-experienced faculty can guide these “novices” and build a collaborative network for developing medical education research.

Summary Of Work

We implemented an online writing lab for novice faculty and students interested in participating in academic research and writing. We selected topics and tailored activities according to the participants' load of work in their academic responsibilities throughout the academic periods: sessions' number, periodicity, and duration. This writing lab consisted in a 12-session workshop on introduction to academic research, qualitative and quantitative research, applied statistics, academic writing, and medical education. 52 faculty and 35 students in health sciences voluntarily enrolled in the workshop. Students were offered 3 extra, optional sessions for mentoring with research-experienced faculty.

Summary Of Results

From a thorough literature research, structured manuscript organization with introduction, methods, results to discussion, and a continuous advisor-reviewing process, the final manuscripts were built from scratch. An interview script was created for the qualitative research. At the end, the workshop participants have so far produced 33 revised questionnaires, and 2 articles and 4 book chapters which have been accepted for publication in indexed journals and books.



Discussion And Conclusion

Participant-tailored sessions aid in engaging assistants. Amid COVID-19, individual time is most valued, therefore, workshop design must take the most advantage of interaction among peers and with the tutor. Session recordings aid in revising the topics.

Take Home Messages

Online workshops engage participants into medical education research. Keeping sessions short and tailored to participants' interests are most appreciated. Monitoring the learning process and outcomes is achieved with the aid of technological tools.



Short Communications - Student Characteristics

411 (3269)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Tete d'Or 1

Professional Identity Formation Feels Like This: Mapping a Discourse of Shame through Student Essays

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Background

Professional identity formation (PIF) is a longitudinal process marked by the integration of professional and personal values, and is considered a critical outcome of medical school. Shame is a social and moral emotion which can impact identity development, and which often occurs in response to a perceived experience of inadequacy, failure, or misalignment with values. Recent research argues for the importance of understanding the role of shame in medical training and more specifically in PIF.

Summary Of Work

Students at our medical school complete the 9-question Professional Identity Essay (PIE) as a reflective educational tool 3 times during medical school and receive personal feedback on their development. We used a sentiment analysis searching 'shame' and its cognates 'embarrass/embarrassment' and 'humiliation/humiliated/humiliating' to assess the frequency of students explicitly discussing shame, and then performed a content analysis to understand how students are conceptualising shame with regards to PIF.

Summary Of Results

836 PIEs collected between 2015 and 2021 from students who consented for their educational data to be used in research were analysed. 5.8% (49) of PIEs discussed shame; 4.5% (38) discussed the cognate embarrassment. Qualitative review generated themes: 1) shame as a response to (fear of) failure, 2) shame in relation to personal and professional values, and 3) growing through shame. Students reflected on (un)realistic expectations educationally and professionally, and the potential negative or positive outcomes of shame.



Discussion And Conclusion

The PIEs illustrate how shame, as an identity-shaping emotion, is manifesting for students during their formative years of medical education. Forming a professional identity can potentially be shameful and marginalizing for students. The low number of students discussing shame may relate to the stigma associated with shame, which is an emotion that encourages self-isolation. Unpacking shame's role in medical education can potentially support student resilience, learning, and PIF. Discussing shame and other identity-shaping emotions in conversations around PIF can help to support diverse identities and destigmatizing challenging moments in training.

Take Home Messages

Shame may relate to students' understanding and development of a professional identity

Shame is taboo and so may be under-reported in students' experiences with PIF

Shame and PIF must be understood in relation to students' personal values and identities



412 (4113)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:15

Location of presentation: Tete d'Or 1

The growing of growth mindset of medical students' motivation.

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Background

Growing the intelligence by growth mindset which was believed that all failure were the opportunities. A growth mindset drives motivation and achievement. A fixed mindset believes that intelligence and talent could not develop.

Summary Of Work

A cross-sectional survey of undergraduate medical students. Categorized mindset type by scoring adapted from the mindset questionnaire. Evaluate the motivation and achievement using the Grit test, Reflection-In-Learning Scale (RLS), GPA, and Grade of internal medicine. The grit test is a self-reflection questionnaire for predicted success and reflects perseverance. A survey of the factors affected their mindset.

Summary Of Results

A total of 112 medical students were complete the questionnaires. 79 medical students (70.5%) had a growth mindset and 43 medical students (29.5%) had a fixed mindset. The growth mindset group was a statistically differenced higher score in evaluations of motivation and achievement using Grit and RLS than the fixed mindset group significantly. RLS and Grit mean scores of growth mindset and fixed mindset groups were 79.39 ± 9.32 VS. 68.92 ± 9.57 ($P < 0.001$) and 3.07 ± 0.61 VS. 2.55 ± 0.55 ($P < 0.001$), respectively. There was no significant difference in academic performance evaluated by GPA of growth mindset and fixed mindset groups (3.19 ± 0.39 VS. 3.21 ± 0.40 ; $P = 0.7942$). The percentage of good grades in internal medicine was higher in the growth mindset group (62%) than the fixed mindset group (53%).

Survey the factors affecting the development of the growth mindset, 64 medical students (57%) believe in self-improvement and 18 medical students (16%) believe in previous experience made success. Others believe in social environments, friends, parents, and mentors which are affected by developing their growth mindset. We assist students to provide resources and training for encouraging a growth mindset in a fixed mindset group with the associated of the student well-being support team.



Discussion And Conclusion

A growth mindset is associated with a greater effect on motivation and achievement. The academic performance evaluated by GPA was not different. The internal medicine grade which reflected the perseverance was better in the growth mindset group. Self-improvement is a good contributor to the growth mindset.

Take Home Messages

Mindset could be developed and improved. A growth mindset is associated with a greater effect on motivation and achievement.



413 (1903)**Date of presentation:** Monday 29th August**Time of session:** 12:15 - 12:30**Location of presentation:** Tete d'Or 1

Academic integrity: Student and faculty perceptions of unauthorized assistance and sharing of information/materials

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Background

Unauthorized assistance and sharing of information and materials is a reported problem among medical students. While many faculty view such sharing as dishonest, students do not always perceive these behaviors as a type of cheating. With the trend toward more small-group and team-based learning and the proliferation of resource sharing and study aid websites, collaboration and sharing may have become a student norm. It has also been suggested that the psychology behind collaborative cheating (loyalty and support of one's group) is different from that of individual cheating (personal gain). We conducted a multi-institutional, qualitative study to examine student and faculty perceptions of and student motivations for unauthorized collaboration and the institutional/environmental conditions that influence these behaviors and perceptions.

Summary Of Work

We conducted scenario-prompted semi-structured interviews with students and faculty in the preclinical curriculum. Participants were asked to reflect on the scenarios of unauthorized collaborative sharing and discuss their perception of student intent and motivation in the scenarios, the influence of personal or environmental factors, the boundary between what is acceptable and not, and appropriate consequences. We performed inductive thematic analysis of the interview transcripts using open and axial coding followed by abstraction and synthesis of themes.

Summary Of Results

We interviewed 17 students and 21 faculty across three institutions. Individual student and faculty responses varied greatly regarding the acceptability of unauthorized collaborative sharing behaviors, but similar themes arose for both groups. Positive intent was ascribed to learner behaviors in the scenarios even when the behaviors were felt to be unacceptable. Determinations of acceptable versus unacceptable behaviors related to the impact on others and disruption of the learning/curricular process. Behaviors were attributed to the interaction between learner



characteristics and environmental factors with varying blame on the environmental factors for resulting learner behaviors. Recommendations for consequences and solutions spanned the continuum from being learner-focused to environment/system-focused.

Discussion And Conclusion

There is substantial variation in perceptions of unauthorized collaborative sharing *among* students and *among* faculty, but not necessarily *between* students and faculty.

Take Home Messages

Solutions to address unauthorized collaborations will require frequent communication of clear expectations, student and faculty development, and implementation of systems safeguards.



414 (3383)

Date of presentation: Monday 29th August**Time of session:** 12:30 - 12:45**Location of presentation:** Tete d'Or 1

Undergraduate Medical Curricular in Thailand: The Changing Attitude to Extracurricular Activities

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Background

Activities in medical students can be categorized into curricular and extracurricular activities (EAs). Most of the pre-medical students at Phramongkutklao College of Medicine participated EAs as well. Hence, the objective is to critically explore students' attitudes to factors influencing EAs among pre-medical students and differences in perspective after participating in medical school.

Summary Of Work

A cross-sectional study was conducted on 85 recruits in 2021-2022. Their attitudes were collected by electronic standardized questionnaires on a 5-point Likert scale. Participants completed the questionnaires before and after entering the undergraduate medical curricula. During this period, we gave them interventions including the EAs orientation, improving EAs promotion, and increasing inspiration. Thus, four types of attitudes including personal perspective, communication, time-related perspective, and barrier were categorized by using an exploratory factor analysis (EFA). For analysis, a paired t-test was used to compare the means difference of the population, and an independent t-test was performed to compare the mean of each factor.

Summary Of Results

After conducting EFA, the independent t-test was undertaken to find that there were significant differences in all groups ($p < 0.001$). Furthermore, supporting their needs ($\lambda = 0.804$) and improving curriculum vitae ($\lambda = 0.563$) had the highest and lowest impact over personal perspective respectively. Improving communication skills ($\lambda = 0.793$) and improving networks ($\lambda = 0.504$) had the highest and lowest impact on communication respectively. While burden ($\lambda = 0.819$) and not necessary ($\lambda = 0.547$) had the highest and lowest impact over barrier respectively. Besides,



calculating the paired t-test indicated that significantly changes in group P ($-0.17, p < 0.005$), group C ($-0.20, p = 0.001$), and group B ($+0.32, p < 0.001$)

Discussion And Conclusion

There were good optimistic attitudes in this population. Despite this, a significant difference of perception in groups P, B, and C were considered. Due to medical learning and stress during the journey, these might be reasons for the change. Students were not free enough to remain their goals for extra work.

Take Home Messages

It is imperative to remain this perspective more perpetually by implementing some promotion or making them role models. Besides, adding vacant time in intra-curricula for doing EAs is an additional recommendation.



415 (3745)**Date of presentation:** Monday 29th August**Time of session:** 12:45 - 13:00**Location of presentation:** Tete d'Or 1

Perceptions of mental illness amongst medical students at two medical schools: a transnational, cross-sectional study

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Background

Mental illness remains a highly stigmatised area of clinical medicine that consistently prevents patients from receiving the support they need. There is limited evidence examining the prevalence of these attitudes amongst medical students – a key population for future clinical approaches towards mental illness. This study explores whether stigma is detectable in students at Imperial College School of Medicine, England (ICSM), and Lee Kong Chian School of Medicine, Singapore (LKCMedicine) and, if so, whether it is ameliorated by undergraduate medical education.

Summary Of Work

Undergraduate medical students (ICSM; n=2200), (LKCMedicine; n=732) were invited to complete the Opening Minds Scale for Health Care Providers (OMS-HC-15), a validated tool for studying stigma among healthcare professionals, over a 3-month period. Possible scores range from 15-75, with higher scores representing more stigmatising attitudes. Mann-Whitney U and Kruskal-Wallis tests were used for analysis [$p < 0.05$ throughout].

Summary Of Results

Respondents from ICSM (n=211) and LKCMedicine (n=141) displayed mean scores of 31.7 and 32.1 respectively, showing stigma to be present. ICSM (Median(M)=30, Interquartile Range(IQR)=16-34) displayed significantly less stigma than LKCMedicine (M=33, IQR=29-38), with no significant differences found between course stage. Cisgender females (n=201, M=30, IQR=26-35) were significantly less stigmatising than cisgender males (n=142, M=32, IQR=29-39). Datasets for other genders were too small for analysis.

Discussion And Conclusion

Stigmatising attitudes towards mental illness are present among medical students at both schools with mean values appearing relatively consistent across year groups but concealing a wide range of attitudes. Participant mean scores were comparable to the lower end of means found in similar literature, surveying healthcare professionals globally (range of means: 30.4-43.3) and were lower



than that of described psychiatric professionals (mean: 39.3). Qualitative interview data are concurrently being analysed to explore cultural factors shaping stigma and potential curricular changes that might mitigate persistent stigmatising attitudes. Future approaches might consider exploring the aforementioned trends in other centres globally.

Take Home Messages

Mental illness-associated stigma is present in two medical schools, comparatively, to other healthcare professionals. Attitudes differed across schools and genders, but not course stage. Current analysis on qualitative interview data will provide insight into these results.



416 (1866)**Date of presentation:** Monday 29th August**Time of session:** 13:00 - 13:15**Location of presentation:** Tete d'Or 1

“He said it’s alright to be uncertain”: A longitudinal, qualitative study exploring medical students’ uncertainty tolerance moderators

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Background

Medical educators are increasingly acknowledging the need for medical graduates to develop skills for managing the uncertainties of clinical practice. Researchers have largely taken methodological approaches to measure students’ responses to uncertainty, known as their uncertainty tolerance (UT). Although prior research supports UT as a dynamic state that may change with time and experience, few studies have taken methodological approaches to explore how education may develop students’ UT. As a first step to understanding how medical students’ UT may be influenced or ‘moderated’, we asked, *“What factors do medical students in their clinical years perceive as moderating their perceptions of, and responses to, uncertainty?”*

Summary Of Work

Utilising a social constructionist approach, 41 clinical years medical students, enrolled in an Australian medical school, participated in a longitudinal qualitative study. Participants described their experiences with uncertainty in reflective diary entries throughout the clinical year (n=230). Students’ perceptions of UT moderators were further explored through end of semester semi-structured group (n=20) or individual (n=20) interviews. We engaged a team-based framework approach to data analysis.

Summary Of Results

We identified four categories of moderators: 1) Individual factors, 2) Sociocultural factors, 3) Academic factors, and 4) Reflective learning. Individual students’ perceptions of moderators often varied. For example, assessments were perceived by some students as helpful to navigating uncertainty, and by others as hindering their engagement with the ambiguities of practice. Although primarily engaged for data collection, students described that completing reflective learning diaries could positively influence their UT, with students reframing the negative associations of uncertainty such as worry into opportunities for learning and personal growth.



Discussion And Conclusion

The moderators we identified suggest that medical educators are well placed to support medical students' UT development. Educational interventions suggested by this work include educators sharing their own uncertain experiences with learners (e.g. intellectual candour approaches), development of assessments that acknowledge uncertainty, and repeated, formative opportunities for students to engage in reflection.

Take Home Messages

This work highlights how medical educators can harness UT moderators to develop learners' UT, key among them being integration of reflective learning.



Short Communications - Assessment 2: OSCE

4J1 (2769)

Date of presentation: Monday 29th August

Time of session: 11:45 - 12:00

Location of presentation: Rhone 2

Validity Evidence Supporting that Socio-Psychological Status and daily habits of Medical Students is correlated to Computer-Based Test and OSCE Scores and placements at 4th-Year in Japan

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Background

In Japan, medical students will be required to pass both Computer-based Test (CBT) and Pre-clinical clerkship OSCE at 4th-year to proceed to clinical clerkship from 2023, and to take the National Board Examination (NBE) at graduation from 2025. Therefore, CBT and OSCE will be key examinations for medical students. We have revealed that the result of CBT and OSCE predicts whether they will match the training hospital and pass the NBE. However, there are few studies that comprehensively analyze the longitudinal predictive associations what will affect the results of CBT and OSCE.

Summary Of Work

Data were analyzed using 38 medical students at The University of Tokyo. Students were invited just after OSCE in 2021 to answer surveys asking their daily activities and study behaviors, such as meals, sleeping, self-studying hours, part-time job hours, and social activity hours. Survey responses were merged with scores on OSCE, CBT in 2021, and other university scores and were analyzed using the statistical software JMP(R).

Summary Of Results

Unsatisfactions with the whole university life and university classes were risk factors for failure at CBT ($p=0.0065$). Moreover, Unsatisfaction with the relationship between university staffs was a risk factor for failure at any station of OSCE (Odds ratio: 15, $p=0.0087$). Additionally, anxiety about their physical and mental conditions showed high correlation with failure at any station of OSCE



($p=0.0048$). Additionally, this study also revealed that self-studying hours was correlated with the score of neurologic examination station of OSCE ($R^2=0.47$, $p=0.029$).

Discussion And Conclusion

The socio-psychological conditions such as the relationship between university staffs, and physical and mental anxieties, and self-studying hours are significantly related to the scores and placements at CBT and OSCE. Integrating that the result of OSCE and CBT affects if they can get placement in training hospitals and is related to the placement of NBE, these findings suggest that the socio-psychological conditions and self-studying hours may affect OSCE and CBT and predict the outcome at NBE.

Take Home Messages

To deliver excellent educational outcomes, findings from this study promote educators to follow medical students on their socio-psychological and health conditions and if they have enough time for self-study before the OSCE and CBT.



4J2 (3784)**Date of presentation:** Monday 29th August**Time of session:** 12:00 - 12:15**Location of presentation:** Rhone 2

More Than Just a Number: The Use of Qualitative OSCE Data to Predict Future Student Performance

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Background

Quantification of medical student's performances provides a trusted yet incomplete view of their clinical competence. This study aims to evaluate how standardized patient's (SP) qualitative comments can supplement existing quantitative markers, early on in student's training, to accurately predict which students are at future risk of struggling with clinical skills.

Summary Of Work

SP comments from 360 students over two years of Objective Structured Clinical Examinations (OSCEs) at Einstein University were analyzed. An extensive descriptive codebook was developed to classify comments through an iterative process of coding individually and consensus building until no more unique codes could be identified (saturation). Student's clinical performance (clinical rotation/clerkship grades, STEP1 scores (US national licensing exam), and the internal medicine (IM) SHELF examination - a national, summative clinical rotation examination - were analyzed using latent class analysis (LCA). Differences in the prevalence of SP thematic codes in each profile will be analyzed for statistical significance.

Summary Of Results

A total of 75 unique, descriptive thematic codes were identified in the domains of interpersonal/communication skills, global rating, history taking, and physical examination. Negative comments were more prevalent regardless of domain. Global rating's most common positive and negative comments all centering around empathy.

The LCA revealed three significant profiles of students: high performing students, middle-range performing students, and low-performing students. The addition of multiple SHELF exam scores reduced the number of statistically significant and independent profiles from three to two.



Discussion And Conclusion

Our preliminary analysis reveals that SP's comments can be classified into useful thematic codes and be used to help identify a group of students that may be at risk. Themes identified within the domain of interpersonal and communication were often commented on in other domains (e.g, history gathering), suggesting these skills are important throughout the entire SP encounter. Next steps involve: (1) understanding the relationship between students flagged using this method and their clinical performance; and (2) whether this qualitative data provides meaningful feedback that is otherwise not captured by the quantitative measures used in these technical examinations.

Take Home Messages

Qualifying student performance may help identify at-risk students in ways that repetitive quantitative measures cannot.



4J3 (1538)**Date of presentation:** Monday 29th August**Time of session:** 12:15 - 12:30**Location of presentation:** Rhone 2

Perceived levels of stress upon first exposure to OSCE in medical students: the experience of a French medical school

Jean-Noel Evain¹, Alexandre Bellier¹, Sylvain Carras¹, Adrien Skora¹, Marie Chevallier¹, Thibaut Chollier¹, Bertrand Trilling¹, Marie-Pierre Brenier-Pinchart¹, Carole Schwebel¹, Anne-Claire Toffart¹

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Background

According to the national reform of medicine training, many French medical schools have started to integrate objective structured clinical examinations (OSCE) into their curricula. This study aimed to describe perceived levels of stress (PLS) in students during a first exposure to OSCE, to compare PLS in women and men, and to evaluate the correlation between the PLS and performance.

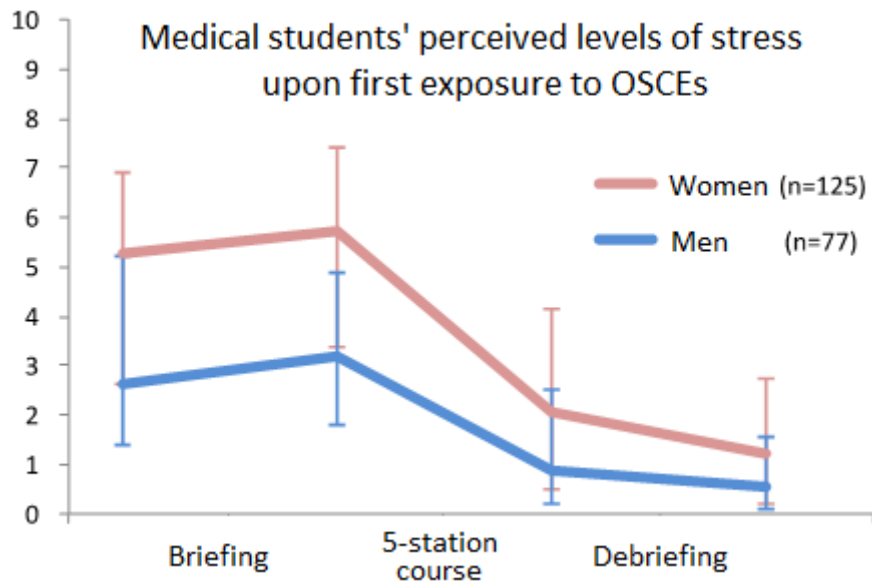
Summary Of Work

All third-year students from the Grenoble Alpes University medical school (n = 207) went through an inaugural OSCE course in May 2021. PLS was assessed on a visual analogue scale from 0 to 10 at four points during the session (at arrival, after the briefing, after the station course, and at discharge). Individual performance on stations was scored using previously established rating scales from 0 to 100.

Summary Of Results

Data from 204 students (99%, age: 21.6 (1.3) years, 61% women) were analysed. The average (standard deviation) baseline PLS was 4.2 (2.5). It was ≥ 4 in 110 students (54%), and ≥ 7 in 35 students (17%). PLS increased slightly during the briefing (+0.56 points; $P < 0.0001$), was significantly reduced after the 5-station course (-2.4 points; $P < 0.0001$), and then decreased further during the debriefing (-0.8 points; $P < 0.0001$) to reach 1.6 (1.9) at discharge (≥ 4 in 25 students, 12%; and ≥ 7 in 7 students, 3%). PLS were significantly lower for men than women at all measurement times ($P < 0.05$; Figure). The average performance score was 55 (10). No correlation was found between PLS after the briefing and the performance score ($\rho = -0.01$, $P = 0.88$).





Discussion And Conclusion

This work shows that a first exposure to OSCEs was a source of anticipatory stress for more than half of the examinees. Women had higher PLS than men in our cohort. Whether or not stress response can impair effective mobilisation of knowledge and skills, and thus performance, remains controversial. PLS went down after the stations and debriefing. In conclusion, OSCEs are a new and stressful skills assessment method for French medical students. Future studies should investigate whether repeated exposure to OSCEs is associated with a decrease in anticipatory stress levels.

Take Home Messages

First exposure to OSCEs is a source of anticipatory stress medical students.



4J4 (4171)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:45

Location of presentation: Rhone 2

Psychometric quality in an online format compared to face-to-face OSCE in a high-stakes examination at UNAM

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Background

The COVID-19 pandemic resulted in challenges in our assessment procedures; therefore, an online OSCE was developed and applied in 2021 to senior medical students from UNAM, Faculty of Medicine. The objective was to assess the OSCE online 2021 psychometric quality and compare it to a face-to-face format in 2020 in a high-stakes examination.

Summary Of Work

The OSCE was adapted from a face-to-face to an online modality. The clinical cases and the rubrics with four performing levels, previously designed according to the face-to-face OSCE, were also used for the online modality. For this last examination we used the Zoom platform. Training courses were offered to the assessors and patients to homogenize their knowledge and performance on this platform. Applicants of both formats had previously experienced three OSCEs in formative assessments. For the applicants we designed audiovisual resources to clarify the assessment procedure. We analyzed the applied procedure based on the design, implementation, and grade; also, we used the psychometric analysis to provide the validity evidence related to the internal structure of the test.

Summary Of Results

The two OSCEs modalities were composed of six-20 minutes stations. We assessed 927 applicants in the face-to-face format and 1190 in the online examination. We evaluated the 99 items that comprise the six assessed competencies with a <0.001 discrimination between the highest and the lowest scores. We distinguished six factors that explain the 60.7% of the variance in the face-to-face OSCE; similarly to the online format, that explained the 56.6% of the variance. We estimated a Chronbach Alpha of 0.96 for the face-to-face format and a 0.93 for the online OSCE.



Discussion And Conclusion

Both OSCE formats showed psychometric quality evidence based on the content validity, internal structure of the test, and the response process, these characteristics gave solid basis to both tests. This research showed that the online OSCE is a doable alternative for the evaluation of the practical phase in a high-stakes examination.

Take Home Messages

Educational institutions may focus on innovative resources to look forward into this type of online formats due to their validity evidences.



4J5 (2442)**Date of presentation:** Monday 29th August**Time of session:** 12:45 - 13:00**Location of presentation:** Rhone 2

Objective Structured Clinical Examination (OSCE) using a peer-training approach

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Background

French medical curriculum involves training students in Objective Structured Clinical Examinations (OSCE). The execution of OSCE sessions has several limits including the availability of senior physicians to manage it, therefore we have set up a course unit dedicated to the construction of formative OSCE by peer-students.

Summary Of Work

In 2021, 15 peer-students from the 4th to the 6th year of medical studies wrote six OSCE scenarios under direct supervision by senior physicians. These OSCE scenarios were released for the first OSCE session of 250 3rd year student-learners. Simulated patients were played by 2nd year students who had been especially trained. A pair composed by a senior physician and a peer-student who constructed the OSCE scenarios evaluated and debriefed student-learners. The satisfaction of 3rd year students was measured using a qualitative and quantitative questionnaire at the end of the training.

Summary Of Results

A total of 246 (100%) 3rd year student-learners answered the questionnaire. A proportion of 11% among them declared that they were well prepared for their first OSCE session. At the end, 65% of them declared that they feel now fully prepared for their future OSCEs. Nine out of ten students considered that the execution of these peer-OSCEs was a success, including scenarios conform to their level of study. An amount of 88% of respondents found simulated patients credible. One third of students considered that the debriefing was not adapted, notably due to lack of time; 97% of respondents would like to have access to new peer-OSCEs.

Discussion And Conclusion

Taking into account the satisfaction of student-learners, the execution of OSCE using a peer-training approach is a success. That encouraged the faculty pedagogic team to repeat the experience using a



higher level of peer conception: peer-students who wrote the first scenarios in 2021, actually mentor new peer-students in the elaboration of OSCE scenarios. Senior physicians indirectly supervise this process correcting released scenarios. Finally, new 3rd year student-learners will be evaluated by 2 peer-students.

Take Home Messages

Peer formative OSCE sessions constitute a qualitative opportunity for faculties to improve student's training. They provide to peer-students and simulated patients a better understanding of OSCEs that will help them for future assessments.



4J6 (0606)

Date of presentation: Monday 29th August

Time of session: 13:00 - 13:15

Location of presentation: Rhone 2

Interrater reliability in neurology objective structured clinical examination across specialties

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Background

Objective structured clinical examination (OSCE), as a standard method of assessment of competency, will be integrated into the French national ranking medical exam at the end of the 6th year from 2023. However, test reliability may be affected by examiner-related factors. We aimed to evaluate the potential impact of examiner medical specialty on inter-rater reliability in scoring of neurology OSCE for medical students.

Summary Of Work

Neurology OSCE stations were developed by our OSCE working group. A 5-station mock OSCE was organized with volunteer students from Lyon Est University's School of Medicine's 3-year undergraduate medical degree. Five randomly-chosen students were filmed while performing 1 of the 5 stations. Video recordings were scored by a range of physicians from the Lyon or Clermont-Ferrand university teaching hospitals to assess students performance using both a checklist scoring and a global rating scale. Inter-rater reliability between examiners were assessed using intraclass coefficient correlation for checklist scores and global ratings. Then inter-rater reliability between examiners nested under specialties (neurologists vs. non-neurologists) was assessed using residual intraclass coefficient correlation (i.e., the variance explained by the specialty) for multilevel models. Multivariable linear regression models were also performed to detect factors associated with checklist scores and global ratings.

Summary Of Results

Thirty examiners, including 15 (50%) neurologists, participated. The intraclass correlation coefficient of checklist scores and global ratings between examiners were 0.71 (confidence interval (CI) 95% [0.45-0.95]) and 0.54 (CI95% [0.28-0.91]), respectively. Considering examiners nested under specialties, residual intraclass correlation coefficient of checklist scores and global ratings were



1.37×10^{-22} [1.37×10^{-22} - 1.37×10^{-22}] and 1.47×10^{-22} [1.47×10^{-22} - 1.47×10^{-22}], respectively. No factor was associated with checklist scores, while male gender of examiner was associated with lower global rating (b coefficient= -0.37; CI95% [-0.62--0.11]) .

Discussion And Conclusion

Our study demonstrated through a video-based scoring method that agreement among examiners was good using checklist scoring while moderate using global rating scale in neurology OSCE, without any impact of specialties. Only gender of examiner affected global rating.

Take Home Messages

-Agreement among examiners is good using checklist scoring while moderate using global rating scale with a video-based scoring method.

-Specialties do not affect interrater reliability.

-Male gender of examiner is associated with a lower global rating.



ePosters - Surgery Education

4K01 (2954)

Date of presentation: Monday 29th August

Time of session: 11:45 - 11:50

Location of presentation: Tete d'Or 2

A Qualitative Study Exploring the Experience of Postgraduate Resuscitative Trauma Surgical Training and Practice in the UK

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Background

Prior research has scarcely addressed the experiences of surgeons training as resuscitative trauma surgeons in the UK, particularly from a qualitative perspective. There is no dedicated resuscitative trauma surgical specialty training programme in the UK. Historically, resuscitative trauma surgeons have followed a general or vascular specialty training programme, supplemented with fellowships in trauma. A new general surgery curriculum (2021) attempts to offer a pathway within existing programmes for surgeons in training to achieve the required experience needed to practice as trauma surgeons. This research explored the experiences of those who have trained as resuscitative trauma surgeons in the UK in recent years.

Summary Of Work

A qualitative approach was employed to identify, analyse, and report on current issues in the training of resuscitative trauma surgeons in the UK. The experience of practicing and training trauma surgeons were gathered through undertaking ten semi-structured interviews. Transcripts of these ten interviews subsequently underwent Thematic Analysis.

Summary Of Results

Four major themes were uncovered during the analysis process: *'Finishing School'* which considers the impact of fellowships as a dedicated period of exposure to high volume resuscitative trauma surgery, *'Becoming the Finished Article'* discusses key aspects of current trauma surgical training, *'From roadside to rehabilitation'* assesses the skills and duties required to care for the polytrauma patient, finally *'Specialties, subspecialties and interactions'* explores the role of the resuscitative trauma surgeon within the context of the wider healthcare workforce.



Discussion And Conclusion

The required skills of a resuscitative trauma surgeon and the routes that our participants have taken to achieve these skills have been described. The data highlighted the lack of clarity in training pathways towards resuscitative trauma surgical practice in the UK. Where additional exposure and competencies are not delivered in existing specialty training programmes, the provision of supplemental fellowships are important. The new surgical curriculum(s) and any effect that they may have on resuscitative trauma surgical training in the UK will require thorough evaluation.

Take Home Messages

There has historically been a lack of clarity in pathways towards becoming a resuscitative trauma surgeon in the UK. Our research suggests that it remains possible to achieve competent practice within this lack of clarity.



4K02 (1873)

Date of presentation: Monday 29th August

Time of session: 11:50 - 11:55

Location of presentation: Tete d'Or 2

Development of a procedure-specific assessment tool to evaluate surgical skills in laparoscopic complete mesocolic excision

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Background

In colon cancer surgery, laparoscopic complete mesocolic excision (LCME) has been associated with improved cancer-specific survival. To increase patient survival through LCME, it is imperative to differentiate between surgeons who master the LCME technique, and surgeons who need more training. However, few assessment tools for laparoscopic colon surgery exist, and none include evaluation of the oncological dissection quality or are developed for LCME specifically. Therefore, this study aimed to develop an assessment tool for LCME surgery and describe evidence for its content validity.

Summary Of Work

Assessment statements were revealed through 1) semi-structured expert interviews and 2) consensus by the Delphi method, both involving an expert panel of five LCME surgeons. Statements with >60% expert agreement were included directly, whereas statements with disagreement were rephrased and included in another Delphi round. The Delphi process were continued until consensus was reached. All included statements were subsequently reformulated as tool assessment items and approved by the experts.

Summary Of Results

Interviews revealed 69 skill assessment statements. Four Delphi rounds were performed to reach consensus. For left-sided LCMEs, statements of instrument handling around the pancreas; visualisation of landmarks before inferior mesenteric artery ligation; and lymphadenectomy around



the inferior mesenteric artery were included in all four rounds. For right LCMEs, statements describing instrument handling around the pancreas and division of the terminal ileum and transverse colon were included in all four rounds. The final tool content included 73 statements, converted to 48 right- and 40 left-sided items for LCME assessment.

Discussion And Conclusion

A procedure-specific, video-based tool, named Complete Mesocolic Excision Competency Assessment Tool (CMECAT), has been developed for technical skill assessment in LCME surgery. In the future, we hope it can facilitate assessment of LCME surgeons, resulting in increased survival for colon cancer patients.

Take Home Messages

The first procedure-specific assessment tool has been developed to measure surgical performance in LCME-surgery.



4K03 (4403)

Date of presentation: Monday 29th August

Time of session: 11:55 - 12:00

Location of presentation: Tete d'Or 2

Confidence of medical students performing female sterilization by tubal ligation and accuracy of their practices

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Background

Postpartum tubal sterilization by Pomeroy technique is effective permanent contraception and is one of medical license requirements. However, the fallopian tube identification before ligation is critical. Our study aimed to evaluate the learning ability of tubal sterilization in medical students in Thailand.

Summary Of Work

36 sixth-year medical students were enrolled during the first three months of their obstetrics and gynecology curriculum. All medical students attended formal lectures with VDO session and practice session with manikins at least one time on performing successful tubal ligation. Baseline characteristics of medical students and patients were collected by interviewing and questionnaire. Teaching staff scored performance competency based on the standard checklist of the Medical Council of Thailand. Learning curve were constructed with the cumulative summation method. Under supervision of the teaching staff, the success of tubal sterilization was obligated in all patients and we expected that there was no complication. Therefore, the effect of increasing experience was evaluated by teaching staff scores, procedure time, 11-point pain numbered rating scale of patients and self-assessment of performance accomplishment. We analyzed by Wilcoxon signed rank test and Chi-square test.

Summary Of Results

Of 106 vaginal delivery patients, 97(92%) had no previous history of abdominal surgery. Comparing the first to the last attempt of individual student, the median of procedure time and pain score was significantly decreased (30 ± 10 versus 15 ± 5 minutes, $p=0.02$)(7 ± 3 versus 6 ± 2 , $p=0.04$). In addition, the median of teaching staff score and proportion of self-successfulness was significantly increased (11 ± 5 versus 14 ± 1 , $p=0.02$)(66.7% versus 100%, $p=0.04$). After achieving 3 cases, the increasing experience transformed to a plateau phase. Top rank of tubal sterilization steps, concerned by medical students was fallopian tube identification. In meanwhile, the step that most medical students often missed was informed consent process. In patient perspective, 102(96%) of patients felt moderate to severe degree of worrisome, which involved about postoperative pain.



Discussion And Conclusion

3 minimum cases of postpartum tubal sterilization were required to achieve competent learning threshold in non-experienced medical students.

Take Home Messages

To achieve successful postpartum tubal sterilization in non-experienced medical students at least 3 cases were required.



4K04 (1571)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:05

Location of presentation: Tete d'Or 2

Evaluation of the time required to complete a cataract training program on EyeSi surgical simulator during the first-year ophthalmology residency

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Background

Virtual reality allows high-fidelity simulation and software have been created with the aim to accelerate surgical training. Although it has been shown that the training on simulator is associated with the reduction in the frequency of surgical complications, no data is published on the time needed to complete a cataract training program as this may be a limiting factor for the feasibility. The objective herein was to evaluate the time needed for first-year ophthalmology residents who had never practiced ocular surgery to complete a basic cataract training program.

Summary Of Work

We prospectively included first-year ophthalmology residents. The EyeSi simulator was used, and residents were able to follow the cataract training program, including course A (the easiest) through to course D (the hardest). In course B and above, a “cataract challenge” is proposed to the trainee and consists of a sequence of 4 cataract steps. To validate the curriculum of the first-year residency, the trainees were asked to complete a basic cataract training program corresponding to courses A and B, and to reach a score $\geq 300/500$ in at least one cataract challenge.

Summary Of Results

24 participants were included. During the study period, the mean total time spent on the surgical simulator was 815.6(+/-174.7) minutes. All the participants completed courses A and B within a mean of 366.7(+/-108.0) minutes. A total of 22 residents (91.7%) residents completed course C, and 5 (20.8%) course D. The mean best score on cataract challenge was 445.6/500(+/-40.2) and was obtained in a mean 7.6(+/-2.6) attempts. All the residents obtained a score $\geq 60\%$. The best score in cataract challenge was not correlated to the time spent to achieve courses A and B ($r=-0.37, p=0.0726$).



Discussion And Conclusion

The time required to complete a basic cataract training program is possible during first-year residency. The scores obtained in the cataract challenge also increased during the training program and should lead to better surgery skills in these young ophthalmologists.

Take Home Messages

A cataract training program on EyeSi is feasible during first-year residency

After the program, the residents were near the end of the learning curve

This would be of interest for faculty members who start a cataract training program



4K05 (1292)

Date of presentation: Monday 29th August

Time of session: 12:05 - 12:10

Location of presentation: Tete d'Or 2

Application of "AI news teaching system (AINT)" using Word2vec to education of medical sociology

Soichi Murakami¹, Shota Soejima², Hidehiko Hamabe², Koji Ishikawa³, Eizo Ohno⁴, Yo Kurashima¹, Toshiaki Shichinohe¹, Satoshi Hirano¹

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Background

Education in medical sociology is crucial for nurturing medical students. Due to the COVID-19 pandemic, it is difficult for students to stay in wards for long during bedside teaching, resulting in a decrease in learning opportunities for ethical problems. Additionally, surgeons are unable to take care of students as they are busy and shorthanded.

To solve these problems, we incorporated case-based discussion (CbD) on surgical ethics into bedside training and used Artificial Intelligence (AI) to support students and reduce teachers' efforts.

Summary Of Work

The text-based discussion system was established on Rocket.Chat (Rocket.Chat Technologies Corp., USA). We utilized the "AI News Teaching system" (AINT), developed with Word2Vec technology by the INES Research Institute Lab Center. The language model and database were constructed using articles from the Japan Medical Journal with permission.

From October 2020 to June 2021, 128 students from 28 groups of 4th and 5th grade participated in the CbD on surgical ethics. Questionnaires about educational efficacy, with questions on a Likert scale of 1 (strongly disagree) to 5 (strongly agree), were distributed. The responses of 97 students who permitted were analyzed.

Summary Of Results

The question "This text-based group discussion program is useful for surgical professionalism education" yielded the following results: strongly disagree - 3(3%), disagree - 6(6%), neutral -



13(14%), agree - 41(42%), and strongly agree - 34(35%). For the question "The materials recommended by AINT were useful for discussions", the results were: strongly disagree - 30(31%), disagree - 36(37%), neutral - 17(18%), agree - 11(11%), and strongly agree - 2(2%).

Discussion And Conclusion

The students perceived the CbD as useful for surgical ethics education. Conversely, AINT was not well received by them. However, we believe that it fulfills a facilitating role to some extent because the students were able to have sufficient discussions even in the absence of faculty members.

Take Home Messages

Text-based discussions on surgical ethics are useful in medical sociology education. We believe that if we improve the accuracy of AINT, we can provide students with effective education in medical sociology.



4K06 (4705)

Date of presentation: Monday 29th August

Time of session: 12:10 - 12:15

Location of presentation: Tete d'Or 2

Overlapping Worlds of Art and Plastic Surgery and the Implications for Surgical Training: Preliminary Results

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Background

Editorials speculate on the relationship between art and plastic surgery, and studies of limited art education in surgical training show intriguing benefits. Understanding the shared core concepts and skills in art and plastic surgery could advance incorporating artistic skills and concepts into plastic surgery training.

Summary Of Work

We performed a qualitative analysis of semi-structured interview transcripts of 15 plastic surgeons and 15 artists using a constructivist grounded theory approach. Plastic surgeons were board-certified or board-eligible, and artists self-identified art as their primary occupation or had formal training in art with a degree. During the interviews, we used a constant comparison approach. We reviewed the initial transcripts to create a codebook at the sentence and/or paragraph level. Two members of the research team coded each transcript, and the codes were summarized into themes based on discussion among the team members.

Summary Of Results

15 plastic surgeons aged 36-80 years and 15 artists aged 19-62 years with varying specialties and practices participated. We identified preliminary themes held in common.

Both groups recognize that creativity played a major role. Both also recognized that strong technical foundational skills are key to developing competency. They described how technical skills, manual dexterity, and three-dimensional thinking can be taught and nurtured. While creativity was seen as innate, practitioners must push the boundaries of creativity through innovation to the limits of the profession. Both groups spoke about the "Elements of Art" and "Principles of Design" when describing their work: the surgeons understand this informally. Finally, artists and surgeons share the belief that hypersensitivity to one's surroundings or to human features is important to identifying problems or ideas and that every action needs to have an intention and purpose.



Discussion And Conclusion

From this study, we are developing a framework describing core concepts and skills in plastic surgery training through an artistic lens. When establishing a curriculum, it is important to develop strong technical foundational skills while also encouraging fundamental knowledge that is used in art education. We believe plastic surgery training can be enhanced by centering education around creativity, hypersensitivity, and purposeful action.

Take Home Messages

To follow



4K07 (3529)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:20

Location of presentation: Tete d'Or 2

Better Surgical Ward Rounds Handbook : Translating knowledge to skills

Sheena Say Hoon Phua¹, Serene Si Ning Goh¹

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Background

Quality ward rounds are fundamental to patient care. Tan Tock Seng Hospital (TTSH) in Singapore has one of the busiest General Surgery (GS) department. The intensive workload meant that junior doctors will need to learn expediently on the go. For new junior doctors, the fast-paced rounds can be daunting resulting in inevitable stress and anxiety.

Summary Of Work

Junior doctors may have the knowledge, but the wisdom to apply it to real-life scenarios often can be enhanced with near peer teaching. Recognizing this, we created a handbook in aim to highlight key aspects of care to be addressed in a daily surgical ward round.

The handbook is shared with junior doctors rotating through the department. It includes expectations during rounds, a succinct checklist with explanation on management concepts, including drains and tube management. Pre- and post-intervention surveys were conducted to evaluate their perceived effectiveness of the handbook.

Summary Of Results

36 junior doctors participated in our survey. Pre-intervention survey showed that 88.8% felt having a handbook will help them during the surgical ward rounds. Our result showed that 50% found ward rounds to be more structured and 41.6% felt less stressed after having a handbook for reference. All of them felt the handbook helped them lead ward rounds better

Feedback from the post-intervention survey were all positive. Junior doctors appreciated that they were given an insight to surgical ward rounds, and practical tips on management.



Discussion And Conclusion

Near peer teaching is gaining popularity in medical education. The handbook is practical and educational as the authors are residents who are just few years ahead in seniority. They can relate to potential difficulties faced by juniors who are new to the department and impart pearls of wisdom through the handbook. By highlighting expectations of a quality ward round, uncertainties regarding jobscope and miscommunications can also be reduced. Ultimately, this may improve the ward round experience for all members of the surgical team and the patients

Take Home Messages

The introduction of the handbook helps to translate knowledge into skills. It is effective in guiding junior doctors to achieve greater competency and confidence during ward rounds, and ultimately improves patient care.



4K08 (2156)

Date of presentation: Monday 29th August

Time of session: 12:20 - 12:25

Location of presentation: Tete d'Or 2

Analysing Student Perceptions from a Virtual Case-based Learning Trauma Medicine and Surgery Conference with Recommendations for Future Application

Daniella Soussi¹, Fook Yi Fontaine Tse¹, Pragna Kasetti¹, Edagul Ulucay¹, Hector Sinzinkayo Iradukunda¹, Hariharan Subbiah Ponniah¹, Viraj Shah¹, Aleksander Dawidziuk¹

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Background

Junior doctors often provide initial care to polytrauma patients; however, literature has shown that undergraduate trauma education is lacking, calling for development of additional training opportunities to aid preparedness for practice. Case-based learning (CBL) improves clinical reasoning, engagement, and knowledge, though there is paucity of evidence regarding wide-scale implementation. Therefore, Imperial College London Surgical Society hosted a virtual CBL Trauma conference.

Summary Of Work

Pre- and post-conference anonymous questionnaires ascertained student demographics, knowledge, and perceptions. Qualitative approaches were adopted: item analysis (IA) by three reviewers deduced themes, and keyword analysis (KA) informed recommendations. Nulls, duplicates and 31 responses reporting 'enjoyed everything' / 'no improvements' were excluded.

Summary Of Results

164 pre-conference responses demonstrated that 72.1%±37.2% of conferences attended by delegates in past year were online; their effectiveness, versus in-person, scored a median of 3±1 on Likert (as effective). 87.2% of delegates experienced problem-based/CBL at university and rated it 4±1 (somewhat more effective) than traditional lectures. 134 post-conference responses were analysed.

IA revealed enjoyment themes to be: 'case-based', 'event structure', 'speakers', 'content', and 'interactivity'. The most frequent ideas were 'topic variety' (46), 'lectures' (43), 'workshops' (40), 'case-based' (23), and 'engaging speakers' (23). Within 'aspects enjoyed', KA identified the most frequent keywords as 'workshops' (23), 'speakers' (23), 'interesting' (21), 'variety' (17), and 'talks' (14).



Improvement themes included 'mode of delivery', 'organisation', 'technology issues', 'interactivity', and 'content'. The commonest ideas were in-person delivery (23), spreading the conference over two days (16) and relevance of content to practice (16).

Discussion And Conclusion

Delegates found CBL effective and enjoyable. Continuous supplementary quizzes and synchronous practical workshops, although virtual, were perceived to increase engagement and knowledge. Analysis, notably KA, was limited by reviewer numbers. We recommend that future undergraduate and extracurricular Trauma Medicine and Surgery teaching implements our findings, to feature high-quality diverse speakers presenting a variety of topics, across several meticulously timed session types. Engagement can be enhanced through simulations, interactions between delegates via peer-to-peer or team-based learning, and adequate breaks between sessions.

Take Home Messages

1. CBL is applicable to virtual conferences and is a valuable medium for trauma education.
 2. Interactivity and topic diversity are key in maintaining engagement, especially online.
 3. Practical workshops with accessible resources reinforce knowledge.
-



4K09 (2605)

Date of presentation: Monday 29th August

Time of session: 12:25 - 12:30

Location of presentation: Tete d'Or 2

The challenges of anatomical knowledge retention among clinical-year medical students

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Background

Anatomy is a cornerstone of both medical education and realistic clinical practice. Despite anatomical importance, most of previous studies over the last decade emphasized that undergraduate clinical students had insufficient knowledge, and consequently had been questionable whether to provide safe healthcare. Development of new teaching strategies should be applicable to enhance anatomical knowledge particularly when thorough understanding of the students' weaknesses. Thus, this study was to assess surgical anatomical knowledge retention in each individual clinical-year students on the first-day surgical rotation.

Summary Of Work

A cross-sectional quantitative study examined three illustrated written tests of the essential abdominal anatomy including abdominal wall, hepatobiliary system, and gastrointestinal tract among clinical students at Buddhachinaraj hospital, academic year 2020 on the first-day surgical rotation. Three senior staffs made a consensus on the score assessment with 21 points in total, and they also estimated minimum passing levels (MPLs) by Modified Angoff approach. The students whose scores exceeded all of three-part MPLs were determined as "passed" exam. Descriptive and inferential analyses were obtained eventually.

Summary Of Results

Enrollment of 148 medical students was divided into 3 groups according to the undergraduate clinical-year levels. Mean knowledge scores of the fourth, fifth and sixth-year groups were 18.27 ± 0.94 , 16.96 ± 1.29 and 16.20 ± 1.30 respectively with 21 of total scores. The fourth-year students had a relatively high average score; however, there was no significant difference between three groups. Meanwhile, the pass percentage in the fourth-year group (59.1%) was higher than that in the fifth-year (32.1%), and sixth-year (29.2%) groups with $P < 0.05$.



Discussion And Conclusion

Surprisingly, the worst-level anatomy competency was occurred in the final-year medical students, while the fourth-year students had maximum knowledge retention. Due to likelihood of knowledge reduction through medical curriculum, the instructors are crucial to encourage responsibilities and self-regulation in clinical students and to provide opportunity for them to maintain long-term memorization against the problematic knowledge decline.

Take Home Messages

Reinforcing students to become more effective lifelong learners should be beneficial for expanding preclinical anatomical knowledge.



4K10 (3692)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:35

Location of presentation: Tete d'Or 2

Near-peer surgical simulation & teaching day for new FY1 doctors

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Background

The aims of this study were to ascertain how prepared newly qualified Foundation Year 1 (FY1) doctors felt for their surgical rotation and to evaluate the effectiveness of a near-peer surgical-themed teaching day for new FY1 doctors.

Summary Of Work

A near-peer surgery-themed teaching day was delivered by Clinical Teaching Fellows (FY3 doctors) to 44 newly qualified FY1 doctors. The day involved the use of SimMan 3G to deliver the following clinical simulation scenarios: (i) haemodynamically unstable pancreatitis, (ii) anastomotic leak following ileocaecal resection, (iii) septic shower post-ureteric stent insertion and (iv) post-operative pulmonary embolism. The remaining half of the day contained interactive classroom-based teaching on: (i) microbiology and antibiotic prescribing (utilising the Trust online prescribing software, eMEDS) (ii) interpreting abdominal films and (iii) insulin prescribing (including for nil by mouth patients). FY1s were randomly allocated a participant number and completed pre- and post-session anonymised questionnaires.

Summary Of Results

Only 31.7% (13/41) agreed that Medical School had adequately prepared them for their surgical foundation job and 46.4% (19/41) felt less prepared for surgical rotations compared with medical rotations. When compared with the pre-session scores: 93% (58% pre-session) felt prepared to manage acutely unwell surgical patients and 84% (43.9% pre-session) were confident with escalating patients to level 2/3 care. Confidence improved across the board for all classroom-based sessions.

Discussion And Conclusion

This study has highlighted a need to ensure newly qualified FY1 doctors feel better prepared for their surgical rotations. The introduction of a mixed simulation and classroom teaching day has, in this instance, improved confidence across a number of important domains. Teaching delivered in the near-peer style may be the key to imparting relevant knowledge to new FY1s.



Take Home Messages

- Before the course, the majority of study participants (newly qualified FY1 doctors) felt unprepared for their surgical foundation jobs.
 - Near-peer teaching could be key to improving FY1 confidence in dealing with common ward-based surgical scenarios e.g. antibiotic prescribing and prescribing insulin for a peri-operative diabetic patient.
 - Confidence in dealing with acutely unwell surgical patients greatly improved following clinical simulation scenarios.
-



4K11 (3748)

Date of presentation: Monday 29th August

Time of session: 12:35 - 12:40

Location of presentation: Tete d'Or 2

Surgical Skills in times of war: How Medical Education can act as a key player?

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Background

According to the UN OCHA, The Israel-Palestine conflict has claimed 14,000 lives since 1987. Living in a war zone and basic medical services attributed to the socioeconomic situations in the occupied Palestinian territory, In such a health setting, morbidity and mortality from traumas exceeds other causes. This requires physicians who possess the competencies to meet the health needs in such situations. The Palestinian Medical Students' Association (PMSA-Palestine) which represents the Palestinian medical students in Palestine and envisions to prepare them with the competencies required to meet the needs of the Palestinian health system as a one functioning in war conditions.

Summary Of Work

In collaboration with Annajah National University (ANNU), PMSA-Palestine has coordinated a two-day training on Trauma Evaluation and Management (TEAM) and Basic Surgical Skills (BSS) courses for 194 Palestinian Medical Students who are in their fifth and sixth level delivered by three ATLS international instructor certified by the American College Of Surgeons. The following goals were set: orient the participants with the knowledge and skills required to professionally manage traumas and the basics of life support, and compensate the lack of such educational competencies in the Palestinian Medical Education system.

Summary Of Results

194 palestinian medical students have graduated as certified BSS and TEAM providers, the post-evaluation assessment was filled by 100% of the participants indicating their capability of applying such skills and knowledge to their careers with mean of 85% grades out of 100% of the total grades. As a follow-up on the impact of the project, a recommendation report has been sent to the curriculum development committee at ANNU to integrate those competencies in the medical education curricula as compulsory requirements.

Discussion And Conclusion

BSS and TEAM Competencies are essential needs for the Palestinian physicians to master in their service in the Palestinian Health System, indicating the importance of including such competencies in the Medical Education system to allign it with the social and health needs of the community.



Take Home Messages

Medical education stakeholders in Palestine should invest more resources and decisions to integrate the BSS and TEAM Competencies as compulsory requirements in the Palestinian medical education system.



4K12 (4625)

Date of presentation: Monday 29th August

Time of session: 12:40 - 12:45

Location of presentation: Tete d'Or 2

An Extra Suture: A Surgical Pilot Society To Empower Students Into Making Informed Career Choices

Tagwaa Elser Mohammed Ahmed Babiker^{1,2}, Arwa Babiker^{1,2}, Salma Alrawa^{1,2}, Israa Ahmed^{1,2}, Alaa Ahmed^{1,2}, Mai Deyaeldin Mohamed Mahmoud^{1,2}, Tibyan Noorallah Mohammed³

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Background

Specialty career choices affect physician workforce. Although many students express interest in surgery in their pre-clinical years, they lose this interest later, resulting in a decrease in students specialising in surgery with numbers expected to drop even further.

The aim of this study was to determine the effect of the Surgical Pilot Society in augmenting surgical interest.

Summary Of Work

In this four week quasi-experiment, we assessed the impact of the Surgical Pilot Society. The study took place in March and April 2021 at Khartoum University - Faculty of Medicine, its teaching hospital and research-centre. Activities included sessions, hands-on workshops, surgical shadowing and research-centre visits.

From 161 para-clinical students who filled an interest survey, we randomly chose 40 available. Data was collected using pre/post-intervention self-administered questionnaires, and was matched using codes assigned to each participant. Matched participants were included in the data analysis using SPSS-26.

Summary Of Results

Out of the 34 who filled both questionnaires the majority were female (94.1%). Most participants had no surgical experience (91.2%). In the pre-questionnaire 41.2% chose surgery as a career versus 55.9% in the post-questionnaire. Following the intervention, participants who perceived themselves fitting to be surgeons increased from 79.4% to 91.2%. There was significant improvement in students' familiarity with surgical research (p-value=0.009), as well as key surgical skills like: suturing, knotting, surgical instrument identification, surgical etiquette, history taking and examination (all having a p-value of < 0.001). Suturing session was voted most impactful followed by shadowing experience. The least impactful was the online robotic surgery session.



The overall satisfaction with the Surgical Society experience was 85.3%, with a 97.1% recommendation rate.

Discussion And Conclusion

Results show a significant increase in surgical research knowledge and skills. This impacted the students who are transitioning to the clinical learning environment and made them value the Surgical Society; especially the hands on experience.

Take Home Messages

1. Student interest groups are a feasible and acceptable tool to inform career choices.
 2. Hands-on activities are more impactful than theoretical sessions in augmenting surgical interest.
 3. Universities should support student-led educational initiatives.
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ePosters - Simulation

4L01 (3205)

Date of presentation: Monday 29th August

Time of session: 11:45 - 11:50

Location of presentation: Salon Tete d'Or

Simulation-based training within a primary care context: a systematic review

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Background

Given the growing focus on community-based care, and thereby, the increasing complexity of tasks transferred to primary care teams, discipline-specific educational opportunities are required for those working within this context. Simulation-based training is one approach widely applied within a hospital environment, underpinned by an extensive literature base. However, little is known about the transfer of simulations' utility to a primary care setting. Thus, this systematic review sought to determine which simulation-based training approaches are adopted within a primary care setting and the evidence-base supporting their implementation.

Summary Of Work

Medline, Embase, CINAHL and Web of Science databases were searched, with additional articles obtained through secondary searching. Eligible studies employed and evaluated a simulation-based educational intervention for fully qualified healthcare professionals, working within a primary care context. Non-English language studies and those published prior to 2010 were excluded. Included studies were quality assessed using the Mixed Methods Appraisal Tool (v18) and their findings narratively synthesised.

Summary Of Results

Forty-nine eligible studies were identified, sampling 4.601 primary care health professionals. These included physicians, nurses, healthcare assistants, allied health professionals and administrative staff. Studies demonstrated variable quality and primarily adopted a quantitative design (n=28), with remaining studies adopting a mixed-method (n=11) or qualitative (n=10) design. Simulation approaches comprised standardised patients (n=21), roleplay (n=14), virtual (n=6), mannikin (n=5) and mixed mannikin/standardised patients (n=3), though 67% of studies implemented simulation in combination with additional teaching modalities. Efficacy of simulation-based training was evaluated



across all four Kirkpatrick levels and demonstrated a positive impact for knowledge-, skills- and attitudes-based learning objectives, though this was limited in select studies.

Discussion And Conclusion

Simulation-based training has been adopted in the education of the breadth of health professionals working within primary care, with the most common approach being standardised patients. Overall, simulation-based training delivers an acceptable and effective educational method for this group, demonstrating a positive impact across a variety of learning objectives. However, further research assessing impact at an organizational- and patient-level is required.

Take Home Messages

Simulation-based training offers an acceptable and effective method for preparing primary care health professionals for the increasingly complex responsibilities afforded to them.



4L02 (1007)

Date of presentation: Monday 29th August

Time of session: 11:50 - 11:55

Location of presentation: Salon Tete d'Or

Colonoscopy simulation model on re-perfused human cadaver: a validation study

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Background

Colonoscopy is the mainstay in the gastroenterologist's set of skills. Simulation-based training (SBT) helps trainees to fulfil their curriculum. Existing simulation models' realism is imperfect. Re-perfused cadavers are the historical simulation model in surgical training. Data about human-cadaveric model in gastro-intestinal endoscopy (GIE) training is inexistant.

Summary Of Work

We conducted a monocentric feasibility and validity study using fresh or defrosted re-perfused corpses with implanted Pulse for Practice® devices. After a trans-anal bowel cleansing, three groups of participants (novices, intermediary and skilled) performed a colonoscopy on a cadaver. Objective performance parameters (time and length to reach anatomic landmarks) and subjective impressions (simulation realism survey (SRS), task-load survey (NASA-TLX); Content Validity Survey (CVS); all on a Likert scale from 1 to 7) were collected. Criteria were defined as very favourable when rated ≥ 5 with an inter-quartile range (IQR) excluding 4 (neutral). The main objective was to validate a re-perfused human cadaveric colonoscopy simulation model. Primary endpoints were reaching rate and time for RSJ and descending colon.

Summary Of Results

A total of 11, 5 and 8 participants were included in skilled, intermediary and novice group, respectively. All skilled participants reached RSJ whereas 80% of the intermediary and 75% of the novices ($p = 0.226$). Descending colon was reached for 100%, 80% and 50% of the skilled, intermediary and novice group respectively ($p = 0.03$). The more experienced the participant, shorter the time to RSJ and descending colon was ($p = 0.009$ and 0.043 respectively) with comparable inserted scope length. SRS items were very favourable for 11 items and favourable for 6 over 22. Educational content was very favourable for all 7 items. Task load and experience were significantly inversely proportional for mental aspects and technicality.



Discussion And Conclusion

Prepared re-perfused cadavers are a realistic, usable and reproducible simulation model for colonoscopy with an easy up-stream preparation. More data are needed to compare existing models.

Take Home Messages

- Reperfused human cadaveric model has never been used as a simulation tool for colonoscopy
 - Prepared re-perfused cadavers are a realistic, usable and reproducible simulation model for colonoscopy
 - Their educational value is still to be determined in a larger scale study
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4L03 (2751)

Date of presentation: Monday 29th August

Time of session: 11:55 - 12:00

Location of presentation: Salon Tete d'Or

The effectiveness of Simulation-based Training Using Rubber Eye Model in Practicing Incision and Curettage for Hordeolum in Medical Students: A Randomized Controlled Trial

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Background

In Thailand, general practitioners are required to perform the incision and curettage (I&C) for hordeolum treatment. However, medical students often lack the opportunity to practice the procedure because of an insufficient number of patients. Therefore, the authors have invented a rubber manikin eye model to facilitate practicing the procedure. This study aimed to quantitatively examine the effectiveness of simulation-based training using the rubber eye model in practicing I&C compared to instruction video.

Summary Of Work

A prospective randomized controlled trial study was conducted in the 5th year medical students who attended in Department of Ophthalmology. All participants were given a lecture then were randomized into two training groups; instruction video and simulation-based groups. The instruction video consisted of the procedure practiced in real patients. The simulation-based group practiced the procedure on the rubber manikin eye model with artificial abscess using real instruments. Both groups were supervised by experienced ophthalmologists. Self-efficacy and a satisfaction survey were evaluated using questionnaires. After training, participants were evaluated on their skills by the blinded examiner using Objective Structured Clinical Examination (OSCE) which included the global rating scale.

Summary Of Results

Eighty-six medical students were enrolled. There was no difference in baseline participants' characteristics between groups. The mean of total OSCE scores in the simulation-based group were 47.67 ± 5.19 compared to 44.56 ± 6.08 in the video group, $p < 0.05$. The global rating scale was significantly higher in the simulation-based group (13.7 ± 1.39 and 11.84 ± 2.36 , $p < 0.01$). Participants in the simulation-based group reported higher scores in the knowledge part of the self-efficacy questionnaire after OSCE (5.53 ± 0.56 and 5.14 ± 0.67 , $P < 0.05$).



Discussion And Conclusion

A variety of learning methods have been introduced to help medical students learn essential clinical skills. Practice is an essential step in procedural instruction. This study proved that, with simulation-based training, medical students can safely learn, practice, and repeat until they gain proficiency and confidence without compromising patient safety.

Simulation-based training in practicing I&C for hordeolum has higher total OSCE scores and global rating scale compared to instruction video.

Take Home Messages

Simulation-based training enhances I&C skills in medical students. Learning with an instruction video followed by simulation-based training is recommended.



4L04 (3514)

Date of presentation: Monday 29th August

Time of session: 12:00 - 12:05

Location of presentation: Salon Tete d'Or

Developing face-to-face interviews and informed consent process skills to enhance research competency for medical students using simulation-based education

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Background

In Phramongkutklao College of Medicine, Community Medicine courses have been designed aiming to expose medical students to primary and secondary healthcare settings which would help them to understand and serve the people in the community. Moreover, these courses make them obtain many skills particularly, research and communication skills. The 3rd year medical students have to perform a community health survey in a remote rural area. In their 4th year, the community-based research projects are conducted in the same place. We explored a simulation-based learning approach using a face-to-face interview and informed consent process in enhancing the communication skill prior to the real field experience.

Summary Of Work

Lectures about doctor-patient relationship and communication with patients, together with health-survey questionnaires for face-to-face interviews, were provided for the 3rd year medical students for practicing. Each student then performed a face-to-face interview with a standardized patient and was assessed by the well-trained instructors. When they were in 4th year, topics of informed consent process and ethics for research were provided. They were assigned to give the information of the research project and ask a standardized patient for the informed consent. In this session, the students were also assessed individually by the instructors using standard evaluation forms.

Summary Of Results

A total of 98 students between 2019 and 2020 were included. 60% of students were males. The average score of face-to-face interview and informed consent process assessment was 87.2±11.7 and 97.4±3.8 respectively. There was no correlation between both assessments ($p=0.891$). Besides, 25% of 3rd year students who scored less than 70% for face-to-face interview could improve to over 90% for informed consent process during their 4th year. We found feedback that simulation-based learning enhances their confidence prior to realistic situations for both skills.



Discussion And Conclusion

Communication is one of crucial skills for working in the community. Here we used simulation-based learning to achieve complicated tasks including the face-to-face interview using a standardized questionnaire and a consent process. Simulation-based learning can improve their confidence before performing in real-life situations.

Take Home Messages

Face-to-face interviews and informed consent skills are essential. Simulation based training can improve the performance and obtain their confidence prior to real field-based practice.



4L05 (4231)

Date of presentation: Monday 29th August

Time of session: 12:05 - 12:10

Location of presentation: Salon Tete d'Or

Use of Virtual Patients for Training/Assessment in the Health Professions

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Background

In the health professions, developing critical skills such as history-taking and communication requires regular opportunities to practice desired behaviors. Unfortunately, the real and standardized-patient-case interactions necessary for effective practice and refinement of these skills tend to be limited in number and breadth. One option for addressing these limitations is the use of virtual patients (VPs): computer-based interactive patient simulations.

Summary Of Work

This research explored the benefits of practicing patient-centered skills using VPs. 100 US medical students completed 6 VP cases and completed pre- and post-session surveys about their experience.

Summary Of Results

81% of participants indicated that practicing with VP scenarios would benefit their training: benefits in learning to take a history, synthesizing data, communicating with patients, and documenting findings were indicated by 99%, 93%, 85%, and 83% of this group, respectively. Another noted benefit was the ability to include scenarios that typically are unavailable during training (e.g., practice with high-risk, pediatric, or rare patient types).

Higher post-session agreement with positive statements about VPs indicates that pre-conceived notions about the format are positively influenced by first-hand experience; agreement with *Encounters with virtual patients can allow me to reflect on my performance, skills, and assumptions in a meaningful way* increased from 63% to 84%; agreement with *Encounters with virtual patients can help me to practice obtaining a history* increased from 81% to 93%; and agreement with *Encounters with virtual patients can allow me to effectively practice synthesizing data and developing differential diagnoses* increased from 80% to 91%. Differences were statistically significant for all statements ($p < .05$).



Discussion And Conclusion

Overall feedback was largely positive; identified limitations of the format mainly related to the inability to perform a physical exam. Finally, though this research focused on training, investigating the feasibility of using VPs for assessment purposes is a logical next step in the research process.

Take Home Messages

The practical limitations of live patient encounters—whether real or standardized—make it more important than ever to identify feasible methods for practicing and assessing clinical skills that do not require in-person interactions. The present research suggests that VP interactions are a viable methodology that allows trainees to practice—and potentially to be assessed on—critical patient-centered skills.



4L06 (2593)

Date of presentation: Monday 29th August

Time of session: 12:10 - 12:15

Location of presentation: Salon Tete d'Or

Can you hear and see me now? A telemedicine quality improvement project in a large, urban safety net health system

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Background

Since the onset of the COVID-19 pandemic, healthcare systems have faced significant barriers to providing quality primary care, particularly as practices shifted to telemedicine modalities without established technical and educational frameworks for patients, teams, and clinicians. We created an iterative quality improvement project with Unannounced Standardized Patients (USPs) to explore variation in telehealth practices across three public ambulatory care clinics.

Summary Of Work

Clinical leadership designed two USP cases reflective of local patient populations and their common clinical needs. USPs portrayed either; (1) a 40–45-year-old Black male with hypertension, or (2) a 40–45-year-old Latina with an asthma exacerbation and hypertension. Both were vaccine hesitant.

USPs evaluated visit workflow and clinician's communication skills across core domains (Table 1). After each visit, the USPs completed a behaviorally anchored checklist. Domain summary scores were calculated as mean percent marked "well done." A t-test was used to compare scores across phases and cases.

Summary Of Results

Tele-visits (72 total; 54 video, 18 audio-only) were sent to 61 clinicians (37 faculty, 24 residents) from May 2021 to January 2022. Of the 24 USPs (18 calls, 9 texts) contacted prior to their visit, only 4 spoke directly to a care team member. 74% of USPs recommended the clinic.

There were no significant differences in domain scores by case or clinician type except in the telemedicine skills domain (faculty: 47% "well done," residents: 29%). Most clinicians performed well in the information gathering (72% mean well done), relationship development (73%), and patient



satisfaction (73%) domains, but less well in education and counseling (59%), patient activation (32%), and telemedicine skills (40%). 82% clinicians introduced the topic of the COVID-19 vaccine appropriately. Clinicians screened for smoking (79%) and alcohol use (72%), but few asked about vaping (22%) or depression (4%).

Discussion And Conclusion

Findings highlight opportunities for system-based change to optimize telehealth care (particularly the integration of team members in pre-visit planning, standardized screenings, and patient follow-up). Data indicate sustained need for quality improvement efforts; reviewing comparative data with clinic leadership will inform further evaluation of health systems and educational methods.

Take Home Messages

The USP methodology can be used to optimize evolving technologies and workflows across the health system continuum.



4L07 (3907)

Date of presentation: Monday 29th August

Time of session: 12:15 - 12:20

Location of presentation: Salon Tete d'Or

Flipped Classroom and Simulation Based Learning in Tactical Combat Casualty Care for Armed Forces Health Care Students

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Background

Tactical combat casualty care (TCCC) is set of evidence-based medicine, best-practice guidelines for prehospital trauma life support in battlefield. The goal of TCCC are to save preventable deaths, prevent additional casualties, complete the mission. The origin of TCCC began by US Navy that spread this doctrine to worldwide in military medicine with excellent outcome by reduction of the case fatality rate. This is mandatory subject for all medical armed force personnel for readiness in military operations.

Summary Of Work

The annual combined military exercise, medical training is one part of exercise routinely and TCCC had been arranged for cross training. In year 2019, there were 274 healthcare students of 4th year Army/Navy/Air force Medical and Nursing Colleges attending TCCC training. The authors had set the learning experience by flipped classroom and simulation based learning. The training was divided into 3 sequential phases; self-study by e-learning platform, individual skill training by 6 rotational stations, simulated field training with practical assessment. The individual assessment had been performed by pre/post-tests by 30 multiple choice questions. The statistical analysis was performed by paired student t-test and one-way ANOVA.

Summary Of Results

The mean score of pre-test/post-test were 16.98 ± 4.00 and 23.15 ± 3.22 respectively with statistical significance ($p < 0.05$). The mean score of practical skill assessment in field training was 92.8 ± 6.81 . There were no statistically significant among the student groups. The feedback of students mostly was excellent and good satisfied overall.



Discussion And Conclusion

Military medical training is one of medical education discipline. Traditional teaching method is not active and student-center learning. Teaching and learning by flipped classroom and simulation are effective method in TCCC course in our study.

Take Home Messages

“Learning is an experience. Everything else is just information”



4L08 (2795)

Date of presentation: Monday 29th August

Time of session: 12:20 - 12:25

Location of presentation: Salon Tete d'Or

Final Year Medical Student to Foundation Doctor - Easing the Transition with a Fully Simulated Ward

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Background

As final year students transition from undergraduate medical training to joining the NHS workforce as a Foundation Doctor, a vital component of their daily job is the recognition and prioritisation of tasks. Our fully simulated ward aimed to emulate a realistic and safe, ward-based environment for students to practise clinical and non-technical skills, such as team-working, communication and prioritisation of tasks.

Summary Of Work

A simulated ward of 22 patients under Medicine, Surgery or Orthopaedics was created using a combination of training manikins and simulated patients. Over 5 days, 214 students were divided into groups and randomly assigned to one of the specialities, where jobs need to be prioritised and completed, mimicking those seen by Foundation Doctors. Clinicians observed their performance and introduced additional tasks to reproduce a dynamic high-fidelity working environment, where students were expected to re-prioritise tasks accordingly. The simulation was concluded with a debriefing session with discussions and reflections on the tasks and simulation itself.

Summary Of Results

188 pre- and 190 post-session responses were received, with student confidence levels self-reported using a 5 point Likert Scale (5 being high confidence). The largest increase is seen in effective communication with over 50% increase in students reporting 4 - 5 in their confidence values (12.8% to 64.2%) ($p < 0.01$). Similar trends were seen in other areas such as job prioritisation (20.7% to 70.0%) ($p < 0.01$) and overall preparedness for Foundation Training (13.3% to 48.4%) ($p < 0.01$).

Discussion And Conclusion

Whilst the delivery of ward based simulation to a large cohort of students is resource intensive, our preliminary results indicate that it is beneficial to the perceived confidence of students entering Foundation Training. Further work is required to quantify the benefit of ward simulation on



Foundation Year Doctors, with a focus on investigating whether confidence translates to competence in these trainees.

Take Home Messages

Ward simulation is an effective educational tool that nurtures medical student confidence and develops interpersonal skills. Our model can be replicated at other sites to ease the transition of more medical students into Foundation Training.



4L09 (4451)

Date of presentation: Monday 29th August

Time of session: 12:25 - 12:30

Location of presentation: Tete d'Or 1

Insertion of mixed simulation in health management in Brazilian medical graduation

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Background

Simulation training has been shown to improve students' competence and confidence for practice. In addition, simulation has been used to train students' in activities that they have little opportunity for practice. In Brazil, training students for health management in primary care is full of challenges, since this training happens in primary care. We created several scenarios with the goal of training health management in primary care. Those scenarios were related to child abuse, communication of syphilis to pregnant women, and death certificates. In this work, we investigated students' perceptions of the importance of the training health management skills and their satisfaction with the training.

Summary Of Work

Fifty-seven medical students answered a questionnaire on their satisfaction with the activity, priority of learning goals, and feelings aroused during the simulation training. All the scenarios followed the same structure, with the debriefing technique being plus delta, conducted by 2 expert teachers.

Summary Of Results

All students considered the activity essential and suggested it as a mandatory theme in the course. The perception about the focus of the activity had great variability. Technical assistance was overvalued, even in this scenario where administrative guidance was essential. The greatest consensus was that physical examination of the patient was the focus of the activity (44%), health management was the last perception (4%). Sadness was present in almost half of the reported feelings (47%).

Discussion And Conclusion

Brazilian medical training in health management is an essential aspect of training. It is necessary to create educational strategies that actually lead to an increase in knowledge and competency. Since the students had a good perception, this activity will continue. However, adjustments are necessary especially aligning the goal of the activity to students' perspective.



Take Home Messages

This study demonstrated the feasibility of including simulation training in health management with a positive response of students.



4L10 (3413)

Date of presentation: Monday 29th August

Time of session: 12:30 - 12:35

Location of presentation: Salon Tete d'Or

Improving team performance in pediatric emergencies using virtual reality

Jesper Kjærgaard¹, Amalie Middelboe Andersen¹, Line Klingen Gjørde², Stine Lund³, Lone Paulsen⁴, Dennis Risborg⁵, Mads Nathaniel Lopes⁵, Jette Led Sørensen⁶, Anja Poulsen²

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Background

Fortunately, children are rarely critically ill. The downside of this is that medical practitioners rarely encounter situations where their actions are time-critical. In recognition of this, pediatric emergency medicine has used simulation team training. The team typically consist of pediatric doctors and nurses and is organized with a team leader that coordinates the assessment and decides which interventions are needed based on the assessment and on input from the team members. Pediatric doctors training with high-fidelity simulation training with auditory and visual feedback from advanced mannequins showed better cognitive performance compared to those just using a regular mannequin.

Leading an emergency care team is a stressful task and most junior doctors do not feel prepared and comfortable performing the task as team leader. Under stressful conditions, personal regulatory mechanisms are under pressure. Clear team leadership and trusting atmosphere has been shown to improve the team effort and contribute better clinical outcomes.

Virtual reality (VR) is an emerging technology that already has proven itself as a promising new educational tool for defined learning objectives. For example, VR is effective in cardiopulmonary resuscitation training, can improve communication skills, and improve clinical decision making. Using VR in medical training enables the user to be exposed to a highly realistic learning experience, which is supportive of complex and basic medical learning.



Summary Of Work

We will randomize pediatric doctors to go through VR training or standard classroom on the European Pediatric Advanced Life Support ABCDE algorithm. Then, the two groups will go on to do four standard simulations.

Summary Of Results

Data will be collected on the team leaders' learning style using Kolb's learning style inventory and on the team psychological safety from the team members after each simulation using Edmondson's survey scale as well as team members' satisfaction with the VR simulation and their confidence in managing a pediatric emergency assessment and intervention team on a five point Likert scale. The primary outcome is effect of VR training on team psychological safety.

Discussion And Conclusion

We are developing 5 VR scenarios in collaboration with khora.com and will test these scenarios using the methodology described above.

Take Home Messages

Can VR training improve team psychological safety?



Workshop 4M (0483)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Rhone 3A

A Paradigm Shift in Medical Education: Internet-based Platforms at the Core of the Educational Process

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Background

While technology has transformed many industries, its potential to augment pedagogy has yet to be fully realized. Technology has also created an explosion of information which medical students are expected to learn yet learning methodologies have changed little. This workshop offers an opportunity to explore the potential uses of Web-based medical education platforms, the challenges in implementing their usage, and how the use of such platforms could create a paradigm shift in medical education by facilitating a true evidence-based approach to teaching and learning.

An explosion in the amount of medical content and resources available to medical students has diverted their attention away from carefully curated resources provided by their faculty and caused them to focus on unvetted sources instead. Class attendance is at all-time lows which begs the question as to who or what is guiding the students in their efforts to learn increasingly large and complex amounts of information. While validated evidence-based strategies for learning are known, few are applied or evaluated in a manner akin to the clinical investigation process so fundamental to the practice of medicine. Internet-based platforms can help facilitate the delivery and tracking of evidence-based learning strategies. Placing these learning and teaching platforms at the core of the educational process could be the key to returning control of the pedagogical process to the medical school faculty where it can best be administered.

Who Should Participate

Faculty interested in leveraging technology to augment pedagogy

Structure Of Workshop

Led by a Medical School Dean and a Professor of Instructional Design:



Short briefing on the unique advantages of platform-based delivery of content as well as opportunities for oversight and research. Potential obstacles to adoption of this technology will also be described.

Small groups will be formed and tasked with identifying perceived advantages and obstacles to incorporating software platforms into standard educational processes. They will share their experiences and return to the main group to present findings.

Synthesis of findings by panelists.

Follow-up:

Compilation of small group session reports synthesized and distributed to all participants after the conference.

Intended Outcomes

To generate a broad understanding of how best to use modern Internet-based platforms to augment pedagogy.



Workshop 4N (4821)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Rhone 3B

Evolutionary Breakthroughs Are Challenging the ‘Standard Model’ of Human Well-Being and Education: Here Are Key Examples Relevant to Medical Education

Bill Spady¹

¹ *International Network for Outcome Based Education (IN4OBE), Florida, USA*

Background

Cutting-edge, new-paradigm thinking and discoveries that challenge the ‘Standard Model’ of what’s ‘true’, how we think, what we believe, and how things work are gaining traction in science, education, medicine, and popular culture. Dr. Spady’s presentation highlights key breakthroughs in several major aspects of modern living that have enormous implications for our institutions, social fabric, and well-being, including medical education’s future. These breakthrough areas of discovery include the nature of our universe and existence; the essence and potentials of humans; the many benefits accrued from their development; and how education can facilitate, assess, and sustain inner growth and well-being.



Workshop 40 (3151)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Rhone 4

Reading and evaluating Artificial Intelligence Technology Enhanced Learning (AITEL) Research in medical education

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Background

Medical teachers read Technology Enhanced Learning (TEL) research articles, and evaluate these TEL initiatives and software. For example, many approaches look at software useability (e.g. MARS), or variations of Kirkpatrick's model to understand the educational impact.

Artificial Intelligence (AI) has changed computer systems, and introduced far more complex and enhanced capabilities, including into TEL. The problem is that Medical Education TEL systems now use (or claim to use) AI, and medical teachers are confronted with jargon and claims that they are ill-equipped to understand or evaluate. Most medical teachers do not realise that there are AI variations, approaches, strengths and weaknesses, and frequently do not even know the questions to ask in order to properly evaluate AITEL systems. Because of this, their ability to read and properly evaluate AITEL systems, and make decisions about whether to use them, is compromised.

The evaluation of AITEL research in medical education requires using a model that builds upon current models, but takes into account the specifics of AI.

Who Should Participate

Medical teachers who wish to AITEL systems in their teaching, or who wish to read and evaluate medical education research articles that use AI systems.

Structure Of Workshop

4. Introduction to some concepts of AI.
5. Introduction to a model for AITEL evaluation.
6. Participants will break into groups, and apply the model to research papers.
7. Participants will then report back to the whole group.



Intended Outcomes

At the end of the workshop, the attendees will:

- Have some insight into the uses of Artificial Intelligence in Technology-Enhanced Learning (AITELE).
 - Be able to read, interrogate and evaluate an article that uses AITELE, so that they can make informed decisions about that AITELE system.
 - Be able to more robustly evaluate AITELE articles for review purposes.
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Workshop 4S (4836)

Date of presentation: Monday 29th August

Time of session: 11:45 - 13:15

Location of presentation: Roseraie 2

Reviewing a review – scholarly approaches to considering reviews within medical education: A BEME workshop

Morris Gordon¹, Madalena Patricio²

¹ *University of Central Lancashire, Preston, UK* ² *University of Lisbon, Lisbon, Portugal*

Background

In this workshop for beginners and intermediates, we will offer practical tips and approaches to support the reading of all forms of reviews in medical education. We will present an approach for rapid or more thorough appraisal to allow the validity and subsequent utility of findings to be judged and to support clinical teaching and scholarly endeavours.

Who Should Participate

All with an interest in evaluating the evidence in published reviews, in order to inform their own teaching practice and other scholarly endeavours.

Structure Of Workshop

After a brief introduction to the topic, facilitators will present the context and some tools for supporting appraisal of medical education reviews, highlighting key elements, strengths and weaknesses. Then, participants will work in small groups to discuss the reviews they utilise already, how they differ in their approaches and the impact this has on their use of these reviews. Facilitators will then present a short checklist based approach to the appraisal of such reviews. Participants will work in larger groups to use and feedback on the above tool to appraise several recent reviews from different traditions and approaches and ascertain their questions, the match of their methods and subsequent conclusions. This task forms a core part of review appraisal in the field. A final synthesis will close the workshop





Plenary 5A (4832)

Date of presentation: Monday 29th August

Time of session: 14:45 - 15:30

Location of presentation: Amphitheatre

Surgical Sabermetrics: The future of intelligent safety

Speaker: Steven Yule¹

Moderators: James Garden¹, Sarah Aitken²

¹ University of Edinburgh, Edinburgh, UK; ² University of Sydney, Australia

Surgical sabermetrics are advanced analytics from digitally recorded surgical training and operative procedures to enhance insight, support professional development, and optimize clinical and safety outcomes. Sabermetric approaches were initially developed to quantify the performance of baseball players, combining artificial intelligence-enabled video with physiological sensors and human assessments. This session will illustrate how health professions educators could leverage advances in data science and sabermetrics from athletics, space exploration and surgery to transform individual and team performance in healthcare.

Bio

Professor Steven Yule is Chair of Behavioural Sciences at the University of Edinburgh, Director of Non-Technical Skills at the Royal College of Surgeons of Edinburgh, and leads the Edinburgh Surgical Sabermetrics Research Group. He is an academic psychologist and human factors scientist with 20 years' experience studying team performance and non-technical skills in high risk/ high reliability industries (surgery, healthcare, energy, transportation, space exploration). Prof Yule is internationally recognized for his work in non-technical skills, patient safety, and surgical team simulation. His interests are in developing automated assessments of technical and non-technical skills in surgery, video for performance enhancement, coaching, global surgery, and medical care in long duration spaceflight.



Symposium 6A (1075)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Amphitheatre

Developing Master Adaptive Learners: the role of CBME, coaching and the learning environment

Maya Hammoud¹, Kimberly Lomis¹, Bill Cutrer², Nicole Deiorio³

¹ American Medical Association, Chicago, USA ² Vanderbilt University School of Medicine, Nashville, USA ³ Virginia Commonwealth University Health, Richmond, USA

Background

Supporting master adaptive learning principles is a prime objective of the American Medical Association's Accelerating Change in Medical Education (ACE) initiative which was launched to prepare new physicians to practice effectively in modern health systems and communities. Members of the ACE consortium have worked together to develop practical tools for advancing the implementation of the master adaptive learner model. There are essential connections between competency-based medical education (CBME), coaching, and the learning environment which must be in place to support the development of the Master Adaptive Learner (MAL); we present an integrated model of these constructs.

Topic Importance

To prepare today's learners for practice in a rapidly changing health care system requires more than clinical skills. Educators must shift focus from delivery of content to promoting skills in adaptive learning that position trainees for success in an ever-evolving workplace by becoming self-directed, self-regulated, and

Format and Plans

10 minutes: Introductions and Ice Breaker

Audience members are asked to generate their ideas for the characteristics of the ideal learner.

20 minutes: Background information

MAL Model (Cutrer)

CBME (Lomis)

Coaching (Wolff)

Learning Environment (Cutrer)



30 minutes: Breakout Discussions

Participants select and move to themed breakouts in CBME, coaching, or the learning environment. Using trigger questions below, participants will discuss their topic area and what is needed to support the development of the master adaptive learner. The presenters will circulate to provide expertise and stimulate discussion.

CBME: How does CBME facilitate adaptive learning?

Coaching: How can coaches support learners throughout the MAL cycle?

Learning Environment: What are critical elements of the learning environment to make MAL feasible?

20 minutes: Report outs of the discussions from each group

10 minutes: Wrap up

The moderator will close the session by reviewing the integrated MAL/CBME/Coaching/Learning Environment model and strategies that institutions and individuals can use to implement MAL.

Take Home Messages

Centered on the learner, MAL is a cyclical, structured process of identifying and pursuing one's learning needs. This process is necessary to support individualized learning pathways in pursuit of adaptive expertise. Identifying one's path is bolstered by competency-based approaches, coaching, and a supportive learning environment.



Symposium 6B (4831)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Auditorium Lumiere

Education aimed at transitions during the late careers of surgeons

Julian Smith¹, Susan Moffatt-Bruce², Fiona Myint³, James Garden⁴, Ajit Sachdeva⁵, Marisa Louridas⁶

¹ Monash University, Clayton, Australia ² Royal College of Physicians & Surgeons of Canada, Ottawa, Canada ³ Royal College of Surgeons of England, London, UK ⁴ University of Edinburgh, Edinburgh, UK ⁵ American College of Surgeons, Chicago, USA ⁶ Unity Health Toronto, Toronto, Canada

Background

The educational needs of surgeons vary greatly based on the stage of their professional careers and their specific professional activities. These needs continue to evolve throughout the careers of surgeons and are impacted by the monumental changes in health care, changes in the science and practice of surgery, and advances in surgical education. Considerable effort has been directed at the early stages of surgeons' careers and the core period of surgical practice; however, limited attention has been devoted to the later years in the careers of surgeons. During this latter period, surgeons begin to wind down their clinical practices and often assume new responsibilities in the domains of education, administration, mentoring, coaching, and consulting. The lack of readily available opportunities for continuing professional work in these domains or insufficient education and experience in the domains present challenges to senior surgeons. Senior surgeons frequently inquire about opportunities and additional training that may be available keep them gainfully engaged in professional work and permit them to continue making meaningful contributions. Retooling these senior surgeons through education and training programs and providing them requisite support can help to recruit them to contribute to educational programs, which will be of immense benefit to them and help the profession as well. It can also help to address unmet workforce needs. The vast experience these senior surgeons bring to the educational environment can be very beneficial.

The Panelists will describe the educational needs during this phase of surgeons' careers, share recommendations about how to tap this valuable resource of senior surgeons, and share experiences from different countries in addressing the needs of senior surgeons. The attendees will leave with knowledge of the unique educational needs during this phase in surgeons' careers and of solutions to meaningfully engage these senior surgeons in a variety of different professional activities in surgery.



Symposium 6C (1123)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Bellecour 1

Beyond Diagnosis: Perspectives on Management Reasoning to Guide Educational and Research Efforts

Emily Abdoler¹, Michelle Daniel², David Cook³, Joseph Rencic⁴, Andrew Parsons⁵

¹ *University of Michigan Medical School, Ann Arbor, MI, USA* ² *University of California, San Diego School of Medicine, La Jolla, CA, USA* ³ *Mayo Clinic, Rochester, MN, USA* ⁴ *Boston University School of Medicine, Boston, MA, USA* ⁵ *University of Virginia School of Medicine, Charlottesville, VA, USA*

Background

While the discourse around clinical reasoning has been dominated by diagnostic reasoning, recognition of the importance of management reasoning - defined by Cook and colleagues as “the process of making decisions about patient management, including choices about treatment, follow-up visits, further testing, and allocation of limited resources” - is growing. Efforts to explore management reasoning have raised important questions about the theories that inform our understanding of management reasoning, as well as the educational and research methodologies best suited to it. Answering these questions requires identifying the processes and core concepts of management reasoning. During this interactive session, expert panelists will share their conceptions of management reasoning, debate key queries driving the field with respect to education and research, and engage participants in a conversation about the cognitive models and skills inherent in management reasoning.

Topic Importance

Much of the clinician role is subsumed by management reasoning, including application of clinical reasoning within the complex social milieu that defines medicine, partnering with patients in shared decision-making, and working to counteract inequities that pervade healthcare systems. Management reasoning plays a crucial role in patient outcomes and likely factors heavily in medical errors and low-value healthcare practices. To optimally teach and assess management reasoning, clear delineation of its core processes and skills must be achieved, but the nascent status of the field means key questions remain.

Format and Plans

-Overview (10 minutes): Focused overview of management reasoning, including the current research landscape and comparison to diagnostic reasoning

-Panel Presentations (30 minutes): Each panelist will concisely present the cognitive models of management reasoning they find most compelling



-Interactive Debate (50 minutes): The facilitator will guide participants in actively reflecting on the cognitive models presented, posing key management reasoning questions to stimulate debate amongst the panelists and inviting participants to similarly engage. The facilitator will summarize this discussion into a list of key research and educational priorities for management reasoning.

Take Home Messages

- Various cognitive models of management reasoning have been proposed, but consensus is lacking
- Management reasoning entails distinct skills, although not all have been clearly delineated
- A research and educational agenda for management reasoning should be developed



Research Papers - Wellbeing

6D1 (0340)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:50

Location of presentation: Bellecour 2

Interchangeability in Military Interprofessional Healthcare Teams: Lessons into collective self-healing and the benefits thereof

Sayra Cristancho¹, Emily Field¹, Karlen Bader-Larsen², Lara Varpio²

¹ *Schulich School of Medicine and Dentistry, Western University, London, Canada* ² *The Uniformed Services University, Bethesda, USA*

Introduction

Interchangeability – the capacity to change places with another – is essential for military interprofessional healthcare teams (MIHT) to provide around-the-clock patient care in all contexts where they deploy (e.g., disaster relief humanitarian missions or critical care for wounded soldiers in combat missions). However, while interchangeability is clearly necessary and advantageous for modern healthcare delivery, it raises uncomfortable questions for civilian healthcare teams where it is usually labeled as unsafe. This perception surfaces because interchangeability runs counter to some of healthcare’s cultural beliefs including those around patient ownership and professional scopes of practice. It is, therefore, not surprising that little is known about whether and how training for interchangeability can be harnessed to improve the productivity of civilian healthcare teams. In this paper, we explored the notion of interchangeability in the context of MIHTs because these healthcare teams harness it daily. This exploration will offer insights into how training for interchangeability could maximize civilian health care teams’ capacity to adapt.

Methods

We conducted a secondary analysis of 30 interviews with members of MIHT teams collected by two of the co-authors (LV, KBL) that aimed to understand the characteristics of successful MIHT teams. In conversations with the first author (SC), who was not part of the original study, it became clear that the original dataset contained insights related to the notion of interchangeability – which is one of SC’s current research foci. A research collaboration was therefore established and ‘analytic expansion’ – as per Thorne’s typology of secondary analysis – was chosen as the data analysis approach. Analytic expansion refers to “*the kind of study in which the researcher makes further use of a primary data set in order to ask new o emerging questions that derive from having conducted the original analysis but were not envisioned within the original scope of the primary study*”[1]. Within this analytic expansion approach, we used thematic analysis as our analytical tool to describe: (1)



what interchangeability looks like in MIHT teams, (2) how it is fostered in MIHTs, and (3) how it is enacted in MIHTs.

Results

Interchangeability was realized in MIHTs when individual team members adapted to take on roles and/or tasks that were not clearly niched in their specific areas of expertise but instead drew on the broad foundation of their clinical skill set. Cross-training and distributed leadership were ways in which MIHT members described how interchangeability was fostered. Furthermore, five features of working within MIHT teams were identified as key conditions to enact interchangeability: (1) knowing your team members; (2) being able to work with what/who you have; (3) actively seeking others' expertise; (4) situating your role within the broader picture of the mission; and (5) maintaining a learning/teaching mindset. Overall, successful enactments of interchangeability hinged on the ability of the team to strategically make use (or not) of these five features. Additionally, if the use of these features was backed up by leaders, then the team gained a stronger sense of confidence in enacting interchangeability.

Discussion And Conclusion

Interchangeability can be understood through the theoretical lens of sociobiology (i.e., the study of the collective behaviour of social insects) and more specifically, the principle of *collective self-healing*. Collective self-healing is the ability of collectives to continue to successfully perform despite disruption, challenges, or the loss of a team member. Our findings highlight how MIHTs have adopted interchangeability in a wide array of contexts to realize collective self-healing. Despite the discomfort it provokes, we suggest that interchangeability could be a powerful asset to civilian healthcare teams. If we are to prepare team members for the expectation that *breadth of skills* is more important in some situations than *specialization*, then we must expand the conversation on team training. As this study illustrated, cross-training – i.e., the mental, technical, physical, and emotional preparation to perform beyond one's scope of practice – must become an urgent educational priority.

References

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6D2 (0715)

Date of presentation: Monday 29th August

Time of session: 16:50 - 17:10

Location of presentation: Bellecour 2

Need supportive supervision facilitates junior doctors' work enjoyment and psychological need satisfaction – an experimental scenario study

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Introduction

Junior doctors work and learn at clinical workplaces. They are dependent on consultants' supervision to develop skills and learn to deal with tasks of increasing clinical complexity. It is important that supervision is aligned with junior doctors' learning needs to support work enjoyment. We know that supervision style of coaches and teachers (1,2) may affect work enjoyment through psychological need satisfaction and psychological need frustration (3). Hence, more insight in the effects of different supervision styles may help to support junior doctors in their learning and consultants in their teaching. Drawing on Self-Determination Theory (SDT), we examined four supervision styles that differed in need support and directiveness. We assessed effects of these supervision styles on psychological need satisfaction, psychological need frustration, and work enjoyment. We expected a positive effect of need supportive supervision on work enjoyment (*Hypothesis 1*) and a negative effect of low need supportive supervision on work enjoyment, especially when directiveness was high (*Hypothesis 2*).

Methods

We conducted a survey-based experimental study with scenarios among junior doctors (in training or not-yet-in-training). In each scenario, we presented a patient case at an emergency room department. We manipulated the supervision styles of the consultant that was called for help in the scenario. Based on previous research (1,2), these supervision styles differed in need support and directiveness. This resulted in a 2 (need support: high versus low) x 2 (directiveness: high versus low) between-subjects design. Participants (N = 150, 73.3% females) were randomly assigned to one of the experimental conditions. We measured perceived need support and directiveness (manipulation checks), psychological need satisfaction and psychological need frustration (mediators), and work enjoyment (dependent variable).



Results

A 2 x 2 MANOVA with all dependent variables revealed a strong multivariate main effect for need support, $F(7, 140) = 36.39, p < .001, \eta^2_p = .65$, and significant univariate effects for all dependent variables ($p < .001$) which supported *Hypothesis 1*. That is, in the high need support conditions, junior doctors reported higher levels of psychological need satisfaction, lower levels of psychological need frustration, and more work enjoyment. A subsequent mediation analysis revealed that only autonomy satisfaction ($p = .02$) and competence satisfaction ($p = .001$) mediated the effect of need support on work enjoyment. In addition, the 2 x 2 MANOVA revealed a multivariate main effect of directiveness, $F(7, 140) = 2.71, p = .01, \eta^2_p = .12$. Univariate results showed that in the low directiveness conditions, junior doctors reported more autonomy satisfaction ($p = .02$) and competence satisfaction ($p = .05$). Finally, we found a significant interaction effect between need support and directiveness, $F(7, 140) = 2.39, p = .02, \eta^2_p = .11$. Univariate analyses showed that junior doctors reported more competence frustration in the low need support conditions, especially when directiveness was high ($p = .003$). These findings partially supported *Hypothesis 2*.

Discussion And Conclusion

Our main finding is that need supportive supervision has a positive impact on work enjoyment through satisfaction of junior doctors' psychological needs for autonomy and competence. Although we found only weak evidence for the effects of directive supervision, future studies may focus on specific characteristics of junior doctors (e.g. different in work experience), or specific situations (e.g. high or low complex) to test whether directiveness plays a role under these specific conditions. These insights in the effects of different supervision styles may contribute to faculty development training for consultants and help to support junior doctors' work enjoyment in their development as professionals.

References

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6D3 (0847)

Date of presentation: Monday 29th August

Time of session: 17:10 - 17:30

Location of presentation: Bellecour 2

Research Methodologies in Health Professions Education Publications: Breadth and Rigor

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Introduction

Diverse epistemological approaches and methodological standards for rigor are essential in shaping the collective set of knowledge in health professions education (HPE).¹ Given this, it is important to understand the breadth of research methodologies and their rigor in HPE research publications. However, there are limited studies examining these questions. We conduct a review of HPE papers, synthesizing current trends in research methodologies and rigor, informing how we gather evidence and collectively shape knowledge in HPE.

Methods

We conducted a descriptive quantitative study. Using stepwise stratified cluster random sampling, we selected, coded, and analyzed 90 papers from 15 HPE journals (general medical education journals, discipline-specific medical education journals, and other HPE journals) published in 2018 and 2019. We developed a coding structure based on a comprehensive literature review on research design and rigor,² followed by multiple group coding processes for fidelity, response process validity, and rater agreement (>80%). There were 44 questions to measure the breadth and/or rigor for mixed method papers, 22 questions for qualitative, and 28 questions for quantitative papers. Authors developed an index to quantify methodological rigor.

Results

Most research methodologies reported in the papers were quantitative (n=46, 51%), followed by qualitative (n=25, 28%), and mixed methods (n=18, 20%). None of the quantitative and mixed methods studies reported an epistemological approach. Qualitative papers that reported one utilized social constructivism (n=12, 48%). Most papers included study participants from North America (n=44, 49%) and Europe (n=18, 20%). More than half of the papers did not specify their participant



sampling strategies (n=50, 56%) or a rationale for the sample size (n=72, 80%). Most studies (n=58, 64%) were single institution or site, while 23 papers (26%) recruited participants from multiple sites. Fifty-four (60%) studies collected data within one year, while seven (8%) studies collected data within 1-3 years, and six (7%) for more than three years.

The average rigor score of the papers was 56.18%, CI [52.63, 59.74]. Rigor scores varied by journal categories and research methodologies, with statistically significant differences by journal categories [F (2, 87) = 5.82, $P = .004$, $\eta^2 = .12$] and research methodologies [F (2, 86) = 32.68, $P = .000$, $\eta^2 = .43$]. Tukey HSD revealed group differences between general medical education journals (M = 62.92, SD = 18.94) and discipline-specific medical education journals (M = 48.78, SD = 14.04). Qualitative papers had significantly higher rigor scores (M = 73.37, SD = 12.58) than quantitative (M = 50.71, SD = 12.96) and mixed methods papers (M = 45.27, SD = 13.26).

Discussion And Conclusion

Research methodologies in published HPE papers demonstrated limited variation in research approaches and limited rigor reported, especially in quantitative and mixed methods papers. Study findings shed light on gaps and absences in addressing certain epistemologies, participant characteristics, data sources, or temporal elements in research inquiry. These findings call for our community to explore such absences in light of our goal to produce meaningful research. Additionally, there are very few studies that establish specific guidelines for the rigor of mixed methods studies in HPE. Additional considerations should be articulated in which mixed methods methodological rigor can be determined beyond looking at the qualitative and quantitative components as simply additive.

The current study has a limitation that we focused on methodological rigor explicitly stated in the papers, not the rigor of the studies overall as implemented holistically. A future study should investigate research rigor in a more holistic way, especially by adopting a qualitative or mixed methods research approach.

Research methodology has symbolic power as it decides the legitimacy of who, where, when, and how in research. This review of methodological breadth and rigor in HPE papers raises awareness in addressing methodological gaps and calls for future research on how we shape the nature of knowledge in HPE.

References

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Short Communications - Selection for Admission 1: Widening access

6E1 (3313)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:45

Location of presentation: Bellecour 3

Characterizing the applicant pool and their experiences with the application process to the University of Toronto Temerty Faculty of Medicine

Shakiba Ardestani¹, Benjamin Baker¹, Mariela Ruetalo¹, David Rojas¹

¹ *University of Toronto, Toronto, Canada*

Background

The medical school admissions process carries great responsibility in selecting students representative of the broader population, yet is also becoming increasingly challenging given the large volume of applicants for a limited number of spots. The characteristics of those applying to medical school in Canada are poorly understood and understudied, making it challenging to explore possible correlations between applicant characteristics and successful matriculation.

Summary Of Work

We conducted a prospective survey of all applicants to the MD program at the University of Toronto for the 2021-22 cycle. The survey included questions regarding demographics, socioeconomic status, prior experiences and their personal process of applying to medical school. We received a 46% response rate (n=1960). To reduce potential response bias and improve findings accuracy, the sample survey data were weighted to match known applicant population data.

Summary Of Results

One-third (37%) of applicants to U of T reported being from upper to upper-middle socio-economic backgrounds. 83% of applicants agree strongly or moderately that they expect to feel included among their peers in the MD Program and only 28% that they had access to the right network that could help them on their path to medical school. 46% of applicants used a medical student mentor to prepare their applications and 22% used a physician mentor. Qualitative data analysis showed barriers with the application process related to social and financial capital, lack of transparency in the admissions process, and concerns related to historical matriculated GPA (3.96 on 4.0 scale).

Discussion And Conclusion

In selecting physicians that are representative of the diverse Canadian population, more work could be done to address the financial, social, and academic barriers associated with the medical school application process. There is a clear need to study who is applying and matriculating to medical school to identify groups disadvantaged by the medical school application process.



Take Home Messages

The inaccessibility to medical school in Canada is compounded by increasing inequity of access to information, resources, income, and networks. It is the obligation of Canadian medical schools to ensure that graduating physicians represent the populations they serve.



6E2 (1342)

Date of presentation: Monday 29th August

Time of session: 16:45 - 17:00

Location of presentation: Bellecour 3

Experience of Transition in the Pre-Clinical Years of Medical Education: What the Findings Tell Us

Kenneth Hargreaves¹

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Background

The work focuses on the recent increases in admission of medical students from ‘widening participation’ backgrounds and their experience during the pre-clinical years of medical education at a research-intensive university. Additionally, the study aims to contribute to the theorisation of ‘transition’ and consideration for future student learning and support.

Summary Of Work

There have been continuous increases in the percentage of widening participation students in the school of medicine. Assumptions from pre-admission research (Reay et al, 2009 and Briggs et al, 2012) suggest that students lack both ‘social’ and ‘cultural capital’ (Bourdieu, 1973) impacting on their preparedness for higher education. This inspired an exploration of undergraduate medical education to illuminate personal transitional experiences on course, possibly contesting previously applied deficit models. The case study captures the personal lived experiences of ‘first in family’ students to access higher education, over the initial two years from admission onwards. The existential methodology recognises transition as a phenomenon with semi-structured interviews used to explore ongoing changes in learning and identity through the use of Jarvis’ (2006) model of the transforming person.

Summary Of Results

Findings of the longitudinal study over 2 years reveal unique stories of transition in ‘widening participation’ students, demonstrating a higher level of academic preparedness for H.E. than pre-access studies have suggested.

Discussion And Conclusion

Discussion: Increasing agency in students through reflection and narration of their own story of early transitions, has the potential to create a sense of the transformative self. Recognising students’ individual subjectivities, as a means of them owning the contextual situations in which they learn and ‘become’, could be a step towards increasing wellbeing in the context of the current pandemic and beyond.



Conclusion: A more nuanced conception of transition as a plural construct, which contests previous structural models, might invoke new practices for the benefit of increasingly socially diverse students.

Take Home Messages

Transition is more usefully envisaged as a personal, life defining concept rather than structural definitions between levels of education. Support for students could be provision of opportunities to reflect, increase agency, and internalise personal adaptations to learning and the transitional process itself.



6E3 (3649)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:15

Location of presentation: Bellecour 3

Evaluation of the impact of the Medical Schools Council Summer Schools 2020-21 on the students who attended

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Background

The Medical Schools Council (MSC) developed a summer school programme with universities across England, targeting young people from underrepresented backgrounds. The summer schools were designed to increase participants' understanding of medicine, knowledge of the application process and self-confidence moving towards Higher Education. This study explores the impact and experiences of the 2021 summer schools and compares the findings with the 2020 evaluation using Bandura's four principles of developing one's self-efficacy: mastery experience, vicarious experience, verbal and social persuasion and positive physical and emotional states.

Summary Of Work

This interpretivist study employed one-to-one, semi-structured, online interviews with summer school participants. Interviews were transcribed and iterative, inductive thematic analysis was undertaken to develop a coding framework to identify key themes. Secondary deductive analysis, using the theoretical framework of Bandura's self-efficacy, was applied to transcripts to compare the impact of the summer schools in 2020 and in 2021.

Summary Of Results

19 participants were interviewed. The inductive analysis yielded six main themes, which were Skill Development, Understanding of the application process, Impact on self and Interaction with others, Organisation of the summer school and Atmosphere of the summer school. The latter two themes facilitated the positive impact on participants seen in the first four themes. In accordance with last year's findings, feedback was largely positive and the findings from the secondary analysis revealed participants' experiences aligned closely with Bandura's four principles, with positive physical and emotional states being the least reported by participants.

Discussion And Conclusion

Overall, participants had positive experiences at the summer schools clearly facilitated by the friendly environment in which they were delivered. Speaking to mentors, having a safe space to explore new



skills, and building self-confidence were aspects particularly valued by participants. The close alignment of participants' experiences with Bandura's principles of self-efficacy suggest that behaviour change may have occurred.

Take Home Messages

MSC summer schools support students from underrepresented background to develop self-efficacy through an increase in understanding of medicine, knowledge of the application process and self-confidence.

The findings suggest the MSC summer school programme is a powerful tool in raising participants self-efficacy regarding their ability to study medicine.



6E4 (2006)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:30

Location of presentation: Bellecour 3

Key Factors in How to Successfully Widen Access in Medical School Admissions.

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¹ *Work Psychology Group, Derby, UK* ² *Health Education England, London, UK* ³ *Nanyang Technological University Singapore, Singapore, Singapore*

Background

In 2016, five new Medical Schools were opened across England, as part of the government's plan to increase the number of medical students by 25% and increase the number of UK trained doctors. These new Schools were asked to address objectives regarding widening access and workforce shortages through using more innovative approaches to selection and seeking to attract and recruit a greater diversity of students.

Summary Of Work

A mixed methods methodology focused upon (1) stakeholder interviews across all five schools (N=6 Deans/senior leaders, N=6 admissions leads, N=4 tutors), (2) interviews and focus groups with students (N=60), (3) quantitative analysis of selection outcomes for applicants from more disadvantaged backgrounds. Interview/focus group data was analysed using template analysis (King, 1998).

Summary Of Results

All five schools demonstrated evidence of recruiting significantly more students from lower socio-economic backgrounds compared to the national average. We identified seven factors important to ensure the success of widening access aims, including; (1) Approaches to outreach and attraction (including formal/informal activities), (2) New selection methods (e.g. specifically designed MMIs), (3) New approaches to contextualised offers, (4) Institutional culture, (5) Leadership, (6) Educational initiatives for staff and applicants, (7) Institutional support for non-traditional applicants.

Discussion And Conclusion

As newly established medical schools with the specific aim of widening access in selection, the initial evidence demonstrates this to have been successful. New insights are identified in how to design selection to address widening access in recruitment, acknowledging there is no one 'best' solution. It is clear than many factors intersect at different levels (selection method [micro], recruitment system



[meso] and institution/context [macro]) to enable widening access to medicine. Researchers must consider this complexity in study design. Practical implications and recommendations for innovations in admissions processes to enhance widening access will be discussed.

Take Home Messages

Our results suggest that significant innovations have taken place at the new Medical Schools in relation to the selection and recruitment. Our findings offer important new learnings for all Medical Schools (both in the UK and internationally) to continue to progress this important agenda.



6E5 (3964)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:45

Location of presentation: Bellecour 3

The barriers to access and success of widening participation students: Do the perceptions of university staff match those of the students?

Nana Sartania¹, Louise Alldridge², Clare Ray³

¹ *Wolfson Medical School, University of Glasgow, Glasgow, UK* ² *Peninsula Schools of Medicine and Dentistry, Plymouth University, Plymouth, UK* ³ *Institute of Clinical Sciences, University of Birmingham, Birmingham, UK*

Background

The drive to widen access to the medical education system for students from under-privileged backgrounds implicitly recognises that such students face barriers that applicants from more affluent backgrounds do not. Less attention is given to the challenges such students face after admission, which impact their progression and careers.

A recent study of widening participation students' perception of barriers to success and progression (<https://mededpublish.org/articles/10-132>) indicated that these students' lower social, economic and cultural capital impact on their chances of admission to medicine and progression thereafter. Highlighted themes were: a) access to finance and privileged knowledge; b) support in secondary schools; c) work experience opportunities; d) early support and encouragement once on the course; e) peer support networks.

Here, we report a follow-up study addressing how well academic and administrative staff understand the barriers the students face regarding admission, transition and success in the medical school, as well as in the subsequent workplace.

Summary Of Work

Online questionnaires were distributed among the members of the National Medical Schools Widening Participation Forum and their colleagues that work in outreach departments, or work with medical students, inviting free text responses to four focussed questions. 51 staff members from 30 participating medical schools (85%) filled out the questionnaire; average completion time was 28 min.

Summary Of Results

Initial thematic analysis revealed an overlap in staff and student opinion on financial (money worries; having to work for extra income), academic (deficient knowledge and lack of skills/experience of



independent learning) and cultural issues (lack of network, feeling different) that contribute to a feeling of not fitting in (imposter syndrome).

Discussion And Conclusion

The concepts of confidence, belonging, lack of positive parental influence and inequality have featured more prominently in staff returns. The study highlights the importance of understanding the nature of the barriers for designing effective support structures.

Take Home Messages

We will present an in-depth analysis and propose an intervention designed to help medical schools' staff understand the experiences and needs of underrepresented students. This should facilitate the introduction of positive ways to help WP students integrate and succeed better.



6E6 (4823)

Date of presentation: Monday 29th August

Time of session: 17:45 - 18:00

Location of presentation: Bellecour 3

Indigenous medical graduates of the future

Shaun Ewen¹, Papaarangi Reid²

¹ Griffith University, Queensland, Australia ² Tumukaki, Deputy Dean Māori, Faculty Medicine, Dentistry and Health Science, The University of Auckland, Auckland, New Zealand

Background

The past 2-decades have seen significant successes in Aotearoa New Zealand and Australia with respect to Māori, Aboriginal and Torres Strait Islander (Indigenous) participation in medical schools. This has been seen through Indigenous student participation (admissions and graduations), Indigenous curriculum development, development of a bi-national community of practice called the Leaders in Indigenous Medical Education project, embedding of Indigenous health and medical education related standards through the accreditation of medical schools process with the Australian Medical Council, and the leadership of the Australian Indigenous Doctors Association (AIDA), and Te Ohu Rata O Aotearoa (Māori Medical Practitioners Association).

Summary Of Work

The successes of the past 2-decades provide an internationally unprecedented foundation for setting the aspiration of what the curriculum which supports the development of Indigenous medical graduates of the future might look like.

Summary Of Results

This short communication is grounded in the experiences, participation and in some cases, leadership of the above mentioned initiatives. It takes a purposefully provocative glimpse into the future of a re-imagined medical education ecosystem.



Short Communications - Student Engagement with the Curriculum

6F1 (3360)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 1

Innovative approach to mobilize medical students in medical education

Malaz Abusufian¹, Fatima Elbasri Mohammed¹ Mădălina Elena Mandache¹

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

IFMSA is the leading students' organization representing more than 1.3 million medical students. IFMSA believes that student involvement in medical education ensures proper representation of students' needs and perspectives in the medical curriculum, fairness, equity and preparedness of the medical students to lead the process as future academics. A survey was shared among IFMSA National Members Organizations (NMOs) to assess their perspectives about medical education priorities. We received a total of 106 responses (one response per NMO) 84 (79%) stated that student involvement is an important focus area that they wish to work on during their term. These results support that medical students are motivated to participate actively in medical education.

Summary Of Work

The data was obtained from the IFMSA Program Annual Impact report, which discusses the activities enrolled from 5 different regions to the IFMSA. The activities focused on capacity building and campaigns which targeted the medical students.

Summary Of Results

The data regarding student involvement extracted from the annual impact report, out of 115 enrolled activities to the IFMSA, 50 (43%) were related to student involvement and educated over 4324. On closely analysing this data, only one activity was a faculty-wide campaign, and about 4 were using innovative approaches such as social media and other methods to reach their target audience.

Discussion And Conclusion

There are challenges faced with students in creating innovative methods of educating other students since such will need significant assistance from various stakeholders. As such students organized activities that would be easier to manage despite the impact being smaller than that of a campaign.



We believe innovative methods that reach a larger percentage of the target group and are engaging will be the way to create a voice that will move to a change in student involvement.

Take Home Messages

To shed light on the importance of student involvement, we must continuously shape our message so that our audience will be captured to attend and an advocate for student involvement.



6F2 (3468)

Date of presentation: Monday 29th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 1

Against the bureaucracy barrier: An attempt to reform the way medical student organization work

Sarute Chawvavanich¹, Kiratikon Chalermkiartsakul¹, Manisara Jirapornsuwan¹, Phanuwich Kaewkamjonchai²

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Background

Student organization plays an important role in medical school by representing students' voice and facilitating student-led activities. However, in Thai context, working in one has been associated with working with bureaucracy. This leads to low retention rate and high burnouts for participating students. Thus, we aim to explore and implement the Evolutionary Organization concept as suggested by a management scholar to reform the organization.

Summary Of Work

Two-day Operating System Workshop, based on the Evolutionary Organization concept by Aaron Dignan, was conducted online. It was aimed to build capacity and motivate the members to create continuous participatory change. Quantitative and qualitative evaluation forms were distributed after each session and at one month post-workshop.

Summary Of Results

Twenty-three and thirty-six responses were recorded for each session. The participants found they have learned the current problems and approaches to successful organization, complexity of a problem and the purpose of creating a purpose. They also found creating OKRs and aligning team's purpose to be applicable for the future. However, some participants found the workshop impractical and hoped for more concrete examples. Quantitatively, the participants found the session to be useful, interesting, and were generally satisfied. Majority of the participants wanted to continue with the next sessions and would recommend the workshop to their colleagues.

Thirty-one responses were recorded for the follow-up evaluation. They found 'alignment of vision', 'united purpose', and 'people positivity and complexity consciousness' to be beneficial. Quantitatively, they found the workshop to be somewhat useful and potentially more useful in the future. They also



felt the organization has been made more evolutionary. Looking back, majority of participants would attend the workshop.

Discussion And Conclusion

The workshop organizers concluded the lesson learned as followed; 1) It was a mistake to make the session mandatory without regard to personal experience 2) It could be more elegantly designed (i.e., more pre-workshop material) 3) Projecting evolutionary organization as the only way to work was an oversight 4) More tailored workshop. However, long-term effects from organization reform should be measured such as burn-out rate of students.

Take Home Messages

Revisiting and changing the way medical student organization work is a cornerstone for creating a change agent.



6F3 (3615)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 1

The Global Operation Theatre: How Students are suturing the gaps in medical education.

Kosha Gala¹, Rannia Shehrish¹, Mădălina Mandache¹

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

The International Federation of Medical Students Associations (IFMSA), established in 1951, is one of the world's largest student-run organisations, representing approximately **1.3 million** medical students. One of the organization's primary goals is to empower medical students to contribute to advancing their own medical education systems. As a result, IFMSA offers two programs: **Teaching Medical Skills (TMS)** and **Medical Education Systems (MES)**, through which students can participate in local, national, or global activities that come inside the organization's scope. Since the previous year, IFMSA has been working to integrate all of its activities with the **Sustainable Development Goals (SDGs)** in order to assess the impact of our actions on the United Nations' Agenda 2030.

Summary Of Work

All submitted activities from the program database were subjected to **quantitative analysis**. An evaluation of **IFMSA Annual Impact Reports** was also conducted. A **Small Working Group** is presently tracking the linkages between each program and SDGs and developing a **toolkit** for alignment of the future projects.

Summary Of Results

Over **380 activities** have taken place in the previous **7 years**, benefiting approximately **9,00,000 people**, including medical students, doctors, and the community. The majority of these activities have primarily contributed to **SDG 4 i.e. Quality education**. Workshops, advocacy campaigns, conferences, and capacity building in areas such as social accountability, accreditation, basic life support, surgical skills, and so on are all examples of activities.

Discussion And Conclusion

Medical students benefit from the educational system, providing them with a unique perspective that empowers them to be **changemakers**. This abstract reflects both the **diversity** and the **impact of student activities on medical education innovation**. We also want to educate medical students about the 2030 UN Agenda and highlight the global impact of their local/national initiatives on the SDGs.



Take Home Messages

Our experience demonstrates the sustainable influence medical students have on developing medical education in their communities through their activities. We want to showcase how medical students can "**think global and act local**" through these projects.



6F4 (4495)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 1

A scoping review of the student engagement in medical education: what can we do for the future?

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Background

"Student engagement"(SE) is gaining momentum as an approach to improve performance through the continuum of health professions education. Yet, despite the broad studies and discussions about this category, little is known about strategies, methods, and outcomes to engage medical students more actively and sufficiently as co-creators of effective education. This scoping review aims to summarise key concepts, recent developments, and research gaps in student engagement in health professions education.

Summary Of Work

A scoping review was conducted to depict a broad picture of the literature on SE in medical education. Four databases were systematically searched from 1st January 1990 to 30th October 2021. The review was followed according to the Joanna Briggs Institute methodology for scoping reviews and reported according to the PRISMA-ScR guidelines. Two authors independently summarized and synthesized the findings into tables, maps, and charts according to ASPIRE to excellence in student engagement criteria.

Summary Of Results

From 4650 article search results, 28 articles met the inclusion criteria. Extracted data were categorized into definitions, scopes, necessity, pros & cons, and practical points and models. A growing body of evidence suggests SE models in medical schools (i.e., governance, curriculum revision, research). A great deal of previous research into SE has focused on participation in teaching and learning-related activities, while just a few investigate the role of students in decision-making and planning.

Discussion And Conclusion

This review mapped the available evidence and recent developments on student engagement in medical education. Reaching excellence in SE and improving the quality of the academic environment



needs an institutional culture that empowers the students' voice and contributes to moving student-driven initiatives from informal frameworks toward formal structures. Moreover, for creating a sufficient infrastructure for student engagement, it is necessary to consider current socio-cultural aspects.

Take Home Messages

In addition to the educational partnership, students should also be considered agents in educational governance where they can participate in any critical educational decisions related to their future careers. In order to implement comprehensive SE in all aspects mentioned above, it is required to empower and orient students to participate in structured engagement models.



6F5 (4110)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 1

How do postgraduate distance learners perceive belongingness; A case study from four universities in Pakistan

Brekhna Jamil¹, Susie Schofield², Mandy Moffat²

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Background

Although established in face-to-face programs and known to help in retention, progression, and engagement, sense of belongingness is a relatively new concept in distance learning. There is limited research on belongingness in distance learning, its role and importance. Many believe that sense of belonging is also applicable to online learners. Therefore, this study aims to explore the experience of belongingness by postgraduate distance learners.

Summary Of Work

A qualitative study was conducted at four medical universities in Pakistan, using maximum variation purposive sampling approach. The students from various postgraduate health professions education disciplines were recruited in this study. The programs were offering in the form of distance learning including both synchronous and asynchronous modes. Ethical permission was granted. A total of 60 postgraduate students (32 females and 28 males) were interviewed in this study. An interview guide was developed and validated by experts. An informed consent was taken from each participant and confidentiality of their participation in the study was ensured. The in-depth interviews were recorded online through zoom software. All the interviews were transcribed verbatim. The data were imported into qualitative data management software ATLAS.ti. A six step thematic analysis framework was used to analyze the data.

Summary Of Results

Five themes were identified; defining belongingness and lack of belongingness, teacher presence/immediacy, participation and collaboration, interaction, and support. So far as belongingness, almost all the students defined as an attachment, bonding, engagement while lack of belongingness as having no attachment to the program including peers, facilitators, and institution. Students also believe that the teacher immediacy behaviors help them feel to belong to the program. They also want to have more group work and collaborative activities where they can interact more with their group participants to help them building their belongingness. The student believes that peer and faculty support is always required for their attachment to the program.



Discussion And Conclusion

Belongingness can and does exist in online programs and many factors like group work activities, support, presence of teacher helps in belongingness. The faculty while designing the e-modules should include more engaging and collaborative activities that support belongingness.

Take Home Messages

Connection and communication is a key, give birth to belongingness.



6F6 (3563)

Date of presentation: Monday 29th August

Time of session: 17:45 - 18:00

Location of presentation: Gratte Ciel 1

Co-creation of education with international learners and teachers: the impact of culture

Jill Whittingham¹, Muhammad Zafar Iqbal², Subha Ramani³, Karen Könings¹

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Background

Co-creating teaching and learning contributes to improvement in the quality of education, by addressing perspectives of different stakeholders and stimulating teachers' growth (Könings, Mordang, Smeenk, Stassen & Ramani, 2021). Both teachers and students need to challenge their assumptions of their respective roles. As hierarchical issues, power differences and freedom to speak up are impacted by culture. The present study focuses on how co-creation is experienced and influenced by this cultural aspect. As (social) background could influence assumptions on student-staff power dynamics, and possible challenges for co-creation have not yet been addressed.

Summary Of Work

This study focuses on how participating teachers and students perceived an international co-creation project; how this would be impacted by local context and culture. The co-creation project was conducted in the context of the renewal of the curriculum of the Master of Health Professions Education. 10 Semi-structured interviews were conducted with participants from North-South America, Asia, and Europe.

Summary Of Results

Preliminary results show participants perceived balanced dynamics. Factors that contributed to this were the moderator creates open discussion, invites individuals' input explicitly and repeatedly prompting for input. When discussing topics, or alternatively, contributing in written online tools.

When asked to reflect on co-creation in other contexts participants imbalanced power dynamics were seen as a main barrier. For example, this would be the case outside medical education context, and even stronger in hierarchical society cultures. Students' opportunities to speak up and the assumption of students are there to learn are considered strong barriers.



Discussion And Conclusion

Even in an international setting, co-creation can be experienced as productive, supportive, pleasant. Translating open collaboration in both used language and inviting (written and spoken) input from different stakeholders is key.

Unraveling dynamics to overcome where possible, this will require teachers wholeheartedly show to be open and interested in input from students, and students' confidence to speak up and take part in the discussion. A barrier that is considered even more strong in Eastern/Asian culture.

Take Home Messages

Co-creation requires open collaboration. Owning and facilitating that open collaboration is key. Strong imbalanced assumptions of students and teachers roles are considered a threat for effective co-creation, for example in strong hierarchical societal cultures.



Short Communications - Patient Safety & Medical Education

6G1 (1029)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 2

Interprofessional training in non-technical skills to improve patient safety: A focused systematic review in medical education

Joseph Newton¹, Helen Hooper¹

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Background

Medical error and threats to patient safety remain prevalent within healthcare, and improvements amongst healthcare professionals in non-technical skills such as situational awareness, team working and communication skills have a role in addressing this (World Health Organization, 2009). Previous systematic reviews have demonstrated a paucity of evidence surrounding how non-technical skills should be taught (Gordon et al., 2012).

Summary Of Work

This up-to-date focused systematic review explores features contributing to effective interprofessional education. Original research studies that discuss educational interventions focused on non-technical skills are included. Studies involved at least two distinct groups of healthcare professionals or students, with at least one being either medical students or doctors. Synthesis involved both descriptive synthesis and thematic analysis to best manage methodological heterogeneity within included studies.

Summary Of Results

Forty-six studies met inclusion criteria. Sixteen themes were mapped to the Presage, Process, Product model (Biggs, 1993) that educators can apply to developing interventions for interprofessional non-technical skills education. There was thematic consistency with related published reviews, however results of this review highlighted contextual factors, interprofessional faculty representation, deliberate practice and the establishment of a safe learning environment as major considerations.



Discussion And Conclusion

This review showed that educators should ensure their interventions are thoroughly planned and resourced, with focus on interprofessional equity, psychological fidelity and safety of learning environment. Feedback within debrief was identified as the core learning mechanism, and that learners should have opportunities for repeated practice within professionally relevant roles that involve active participation. The focus of learning should be supporting transfer of skills into practice to enable optimum team functioning with a shared mental model, and integration within quality improvement initiatives may support this.

There was limited experimental evidence to suggest the superiority of any specific teaching method for non-technical skills, although it seemed likely that utilising a variety of methods is beneficial.

Take Home Messages

This review provides value by outlining a thematic structure applicable to the design of relevant teaching interventions. Simulation was the most prevalent learning method identified, and although expenditure on high-fidelity equipment is not essential, emphasis on feedback and reflective discussion enable the development of relevant skills and attitudes.



6G2 (1766)

Date of presentation: Monday 29th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 2

Establishing patient safety by assessing preoperative anxiety in the Lebanese population

Maria Al Rachid¹, Davina Malek¹, Eliane Nasser Ayoub¹, Hicham Jabbour¹, Khalil Jabbour¹, Nicole Naccache¹

¹ *Université Saint Joseph de Beyrouth, Beirut, Lebanon*

Background

Preoperative anxiety seems to be pronounced in any patient facing surgery. There is an unbreakable link between preoperative anxiety and postoperative morbidity and mortality, both somatic and psychological. The need for an evaluation of this preoperative state is therefore essential, in order to actively secure patients, integrate a multidisciplinary approach in management and in residents' education. The Hotel Dieu de France (HDF) a university hospital affiliated to the Saint Joseph University (USJ) in Beirut considers it a responsibility to assess the prevalence and evolution of anxiety in the adult Lebanese population preoperatively, comparing it later to postoperative anxiety while attempting to identify predictors of this anxiety. The results will help shape the pre and postoperative management including patient education and residents formation.

Summary Of Work

HDF led a monocentric prospective demographic study, between July and December 2020. The first part took place preoperatively in anesthesia consultation, based on a survey including demographic data as well as the HADS (Hospital Anxiety and Depression Score"). The second part assessed postoperative anxiety via telephone call 10 days post-operative.

Summary Of Results

A final number of 338 patients was included. The results retain 24.8% anxiety preoperative, including 12.4% for a mild level of anxiety (HADS 8-10), and 12.4% for moderate to severe anxiety (HADS 11-21). Results showed that women are significantly more anxious than men. Postoperatively, only 4.7% retained a level of increased anxiety. The level of anxiety, whatever its preoperative base level, decreases postoperatively, going from 28.4% to 12.4%

Discussion And Conclusion

The Lebanese population presents a high level of preoperative anxiety, especially in women, regardless of the type of anesthesia and the surgical risk. A 50% decrease in the level of preoperative



anxiety is observed postoperatively. The results suggest a huge role for patient education preoperatively. HADS could be a screening tool of the level of preoperative anxiety, rationalizing the possibility of premedication. In addition, HADS could be the start of a multifactorial approach in patient safety via collaborative efforts within healthcare professionals.

Take Home Messages

Patient safety can not be established without tackling every factor contributing to their pain. Education and mental health have a crucial role in the foundation of patient management.



6G3 (2895)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 2

Self-efficacy of medical trainees to deprescribe potentially inappropriate medications

Chris Gillette¹, Caitlin Jones¹, Jessica Valente¹, Stefanie Ferreri², Samantha Rogers¹, Nicole Rockich-Winston³, Sonia Crandall¹

¹ Wake Forest School of Medicine, Winston-Salem, USA ² University of North Carolina Eshelman School of Pharmacy, Chapel Hill, USA ³ Medical College of Georgia at Augusta University, Augusta, USA

Background

Although deprescribing is a critical component of medication safety, there is minimal guidance on how and when to de-escalate medication regimens. Social Cognitive Theory (SCT) holds promise as a theoretical model for deprescribing educational interventions.² To our knowledge, there have been no studies to psychometrically evaluate an instrument to measure self-efficacy of deprescribing. Having valid and reliable instruments are key toward implementing evidence-based interventions to encourage appropriate deprescribing.

Summary Of Work

Physician assistant students and clinicians, internal medicine residents, and 3rd and 4th year medical students at two institutions in the United States have or will complete a survey containing adapted items from previous research investigating self-efficacy in deprescribing in older adults as well as a *de novo* deprescribing outcome expectations instrument. The data will be analyzed using principal components analysis, Cronbach's α , Pearson correlation (test-retest reliability), and appropriate bivariate statistical analyses (construct validity).

Summary Of Results

To date, one cohort of PA students have completed the survey (n=41, Response Rate: 46.07%). Nine (n=9) students completed the test-retest reliability survey. The majority of respondents identified as female (87.80%, n=36), White racial identity (73.17%, n=30), with an average age of 27.95 years (SD=4.83). On a scale of 1-10, students reported an average score of 5.88 (SD=1.53) for self-efficacy to deprescribe a potentially inappropriate medication in an older adult. Self-efficacy to deprescribe in older adults was significantly associated with self-efficacy of prescribing medications for an older adult ($r=0.75$, $p<0.0001$). Preliminary results suggest the deprescribing self-efficacy instrument may be reliable ($\alpha=0.93$) and shows test-retest reliability ($r=0.79$, $p=0.01$, n=9). Preliminary analyses



suggest the outcomes expectations of deprescribing instrument shows acceptable reliability ($\alpha=0.90$).

Discussion And Conclusion

Preliminary analyses suggest that the self-efficacy instrument is internally consistent, stable over time, and may possess construct validity. Increasing the sample size is needed to accurately interpret the instruments. We will complete medical student and resident recruitment and data analyses prior to the conference presentation.

Take Home Messages

Developing psychometrically reliable and valid instruments is the first step to measuring effectiveness of educational interventions aimed to increase deprescribing and improve medication safety, especially for older adults.



6G4 (3016)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 2

Disclosure as a tool for Quality Management and Patient Safety: a Systematic Review

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Background

Disclosure is a structured process of communication with the patient and their families when there is serious or potentially serious unintentional harm during the health care process. When implementing a disclosure policy, it must be understood that each patient and each patient safety incident is unique. The disclosure process requires flexibility to ensure that it is affective and meets the information needs of each individual patient.

Summary Of Work

Has disclosure been used by health professionals as a quality management and patient safety tool? The objective of this study was determined to analyze the use of disclosure, as a quality and safety management tool, carried out between health professionals and patients/family members. This systematic review was submitted and published in PROSPERO. PubMed, Scielo, Lilacs and BVS databases were used, with the keywords “Disclosure”, “Medical errors” and “Patient safety”, subsidized by PRISMA .

Summary Of Results

732 articles were found and 13 of them were eligible for the final sample. Of these, six were produced in the American continent, four in Europe and three in Asia. Disclosure, Apology and Offer, is the practice that focuses on communication based on principles such as proactively identifying adverse events, disseminate and explain to patients; encourage patients and families; and apologize.

Discussion And Conclusion

It can be pointed out as evidence that the disclosure process does not receive enough attention in the scientific community or in health institutions around the world, considering that few countries have formalized and institutionalized practices through protocols or guidelines on this technique of effective primarily human communication. Mistakes do happen and will continue to happen globally. It is worth mentioning the importance of education as a way to promote learning opportunities



through mistakes, with improvements in doctor-patient communication since graduation, promoting effective communication with patients and their families, improvement in interdisciplinary work and the use of practices based on in evidence.

Take Home Messages

- 1- Lack of communication after an error motivates patients to file lawsuits, something that could significantly decrease if patients received satisfactory and adequate disclosures.
 - 2- Think about whether your school is including the topic in the curricula of courses in the health area
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6G5 (3888)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 2

Designing needs-based patient safety education in a European border region.

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Background

Many efforts to improve patient safety focus on healthcare practice (e.g. standardized procedures, analyzing complications, etc.), but there is also a need to attend to patient safety in health professions education. The 2011 WHO Patient Safety Curriculum Guide offers directions for the content of education, but provides little guidance to adapt to local needs. For example, in European border regions, healthcare professionals deal with specific patient safety challenges (Beuken et al. 2020). The aim of our study was to explore patient safety education needs in a European border region.

Summary Of Work

A design-based research approach (McKenney and Reeves, 2019) starts with an extensive needs analysis. We explored local needs for patient safety education by interviewing 11 experts and stakeholders in patient safety (education) with backgrounds in, amongst others medicine, nursing, professional development and quality assurance. The study took place in an academic hospital in the Meuse-Rhine Euroregion. In semi-structured interviews, we focused on existing patient safety education, needs for patient safety education, and (regional) opportunities to develop patient safety education.

Summary Of Results

According to interviewees, most of the existing patient safety education is (and should be) integrated in education about other topics. Additionally, they expressed a need to highlight the role of human factors (rather than procedures), focus on dealing with small risks (rather than disasters), and emphasize the impact of interaction (rather than individual tasks). In some situations, a regional approach to patient safety education could offer interesting insights. In other situations, however, the differences in the region (e.g. language) could unnecessarily challenge learning, and hamper authenticity of education.



Discussion And Conclusion

There are local needs for patient safety education that exceed existing guidelines. To attend to such needs, we should adapt both the educational content and design to context. For example, emphasis on interaction between professionals calls for collaborative learning, amongst others in interprofessional and/or interdisciplinary discussions. We can conclude that early involvement of 'local experts' supports meaningful educational design.

Take Home Messages

Patient safety education can be informed by general guidelines, but should also be adapted to the local needs.

Early involvement of 'local experts' supports the design of meaningful patient safety education.



Short Communications - Subjects in the Curriculum 2

6H1 (3189)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 3

Features of scholarly practice in healthcare professionals: a scoping review

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Background

Scholarly practitioners are broadly defined as healthcare professionals who can address critical practice problems using theory, scientific evidence, and practice-based knowledge. Though scholarly practice is a core competency in most competency frameworks, it is unclear what it actually *is*, how it *develops* or how it manifests in practice. Such lack of clarity can have implications for the teaching and assessment of scholarly practice and for research aimed at better understanding how to support this role through continuing professional development.

Summary Of Work

We conducted a scoping review to map the literature on what is known about scholarly practice in healthcare professionals, specifically, how it is defined and conceptualized, the component parts and how its operationalized in clinical care. We searched MEDLINE, EMBASE, CINAHL from inception until May 2020 for papers that explored, described, or defined scholarly practice, scholar or scholarly practitioner, and/or related concepts in healthcare professionals (physicians, nurses, pharmacists, dietitians, social workers, health psychologists and rehabilitation professionals).

Summary Of Results

Of 12,238 papers, 90 papers were included in the review. Thirty percent (n=30) included an explicit definition of scholarly practice. We identified three themes regarding the conceptualization of



scholarly practice: 1) The interdependent relationship between scholarship and practice; 2) advancing the profession's field; and 3) scholarly practice is part of what it means to be a practitioner. Attributes of scholarly practitioners were grouped into five themes: 1) unwavering commitment to excellence in practice; 2) collaborative nature; 3) presence of virtuous characteristics; 4) use of sophisticated communication skills; and 5) embraces an adaptive change ethos. Finally, scholarly practice is mostly operationalized via dissemination activities.

Discussion And Conclusion

No single unified definition of scholarly practice exists within the literature. The various terms used to describe scholarly practice suggests that it's an overarching concept rather than a discrete definable entity. There are strong parallels between scholarly practitioners and knowledge brokers regarding their attributes and how they operationalize scholarly practice, differentiating them from other clinicians.

Take Home Messages

Individuals engaged in the teaching, research and/or assessment of scholarly practice should be deliberate in their definitions and expectations regarding scholarly practice for learners and clinicians.



6H2 (1495)

Date of presentation: Monday 29th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 3

Procedural skills competencies and maintenance of competency in medical students

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¹ *The University of Queensland, Brisbane, Australia* ² *Bond University, Gold Coast, Australia* ³ *University of New England, Armidale, Australia*

Background

It is recognised that medical students need to acquire procedural skills during their medical training, however, agreement on the level and acquisition of competency to be achieved is under debate. Further, the maintenance of competency of procedural skills across medical school curricula is often not considered. The purpose of this study was to identify core procedural skills competencies for Australian medical students and to establish the importance of the maintenance of such skills.

Summary Of Work

A three-round, online Delphi method was held with thirty-six multidisciplinary experts involved with medical students undertaking procedural skills. It was used to identify consensus on competencies of procedural skills for graduating medical students in Australia. In Round 2, experts re-appraised the importance of 85 skills and rated the importance of maintenance of competency (i.e., Not at all important to Extremely important). In Round 3, experts rated the level of maintenance of competence (i.e., Observer, Novice, Competent, Proficient) in 46 procedures achieving consensus.

Summary Of Results

Consensus, defined as >80% agreement, was established with 46 procedural skills across ten categories. The procedural skills that established consensus with the highest level of agreement included cardiopulmonary resuscitation, airway management, asepsis and surgical scrub, gown and gloving. The importance for medical students to demonstrate maintenance of competency in procedural skills was assessed on the 6-point Likert scale with a mean of 5.03.

Discussion And Conclusion

The findings from the Delphi study provided critical information about procedural skills for the Clinical Practice domain of Australian medical school curricula. The inclusion of experts from medical faculty plus clinicians provided opportunities to capture a range of experience independent of



medical speciality. These findings demonstrate the importance of instilling maintenance of competency of procedural skills with medical students during their training.

Take Home Messages

Medical training paradigm has shifted from the apprentice-type practice model with patients in primary care to become relevant and student focused with an emphasis on active learning and assessment of competence. As medical education evolves, this evidence-based study of maintenance of skills will help to ensure that graduates are working as safe, functional practitioners at the start of their careers.



6H3 (3512)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 3

International Training on Disaster Medicine - A peer education approach to disaster medicine

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¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

There's an increasing global recognition that medical education systems worldwide have a major gap in educating and preparing students on medical management and response to disasters. The IFMSA developed the International Training on Disaster Medicine - ITDM project to address this gap to equip future health professionals with essential knowledge and skills in disaster medicine that may not be readily accessible through academic or governmental resources.

Summary Of Work

A selected number of students go through a Training of Trainers (ToT) course. The ToT is organised annually over 4 months, jointly between IFMSA and the Center for Research and Training in Disaster Medicine, Humanitarian Aid, and Global Health in Novara, Italy. Graduates then lead the organisation of ITDM workshops worldwide. The workshop is based on peer-to-peer education and incorporates interactive exercises, simulating real-life scenarios students might encounter. In the ITDM workshop, medical students are introduced to core concepts and skills in disaster medicine and disaster management, public health in disaster settings, discussing disaster risk management frameworks and policies, and getting involved in disaster medicine.

Summary Of Results

The ToT course was organised first in the summer of 2015 in Italy. It has since been held 6 times, graduating 99 trainers from 55 countries. On the other hand, the ITDM workshop was first organised in Malta in 2016. It has since been conducted a total of 22 times in 19 different countries, building the capacity of more than 250 medical students brought together from diverse backgrounds. Furthermore, more than 500 medical students have been influenced by sporadic training and educational activities organised by ToT graduates.

Discussion And Conclusion

The ITDM project aims to fill the gap in disaster medicine and management education in the medical curricula. It has offered a much-needed space for the education and training of medical students, equipping them with basic competencies in managing and medically responding to disaster medicine to prepare them to act when needed.



Take Home Messages

Disasters are prevalent and unpredictable. As such, health professionals must be empowered and ready to engage in prevention and response to disasters. However, in the absence of formal education on disaster medicine, informal education is crucial.



6H4 (3194)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 3

The worst form of violence: evaluating the inclusion of poverty related health inequalities in undergraduate medical education.

Amy Haeffner¹

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Background

The UK-based 2010 Marmot Review highlighted individuals from the most deprived socioeconomic backgrounds are missing 2.5 million extra years of life. Socioeconomic health inequalities (SHI) caused these premature deaths. Evidence suggests healthcare professionals have capability to form part of the solution and the General Medical Council's "Outcomes for Graduates" outlines that newly qualified clinicians must be ready to tackle this. However, little attention has been paid to how SHI have been taught to medical students. This systematised review aims to answer how SHI themes are being included in UK-based undergraduate medical education.

Summary Of Work

A search of five databases was completed, using keywords/phrases including "socioeconomic health inequalities", "medical education" and "undergraduate". NICE geographic search filters were used to identify UK-based literature. Data extraction was executed in tabulated form, and quality assessment was undertaken using MERSQI/MMAT tools. Narrative synthesis was performed.

Summary Of Results

Eight papers released after publication of the Marmot Review were found. Five focused on educational interventions in SHI and three were grounding theory studies forming teaching recommendations. Most (n=4) of the interventions used experience-based learning; all were non-compulsory. Grounding theory studies recommended consistent, experience-based SHI learning.

There was a lack of documentation surrounding regular, compulsory teaching of any form. Of the education methods recorded, experience-based teaching was deemed to be the most well-received. Assessment of SHI themes was minimally recorded in literature.



Discussion And Conclusion

Paucity of literature suggests there is a significant gap in understanding and report of effective methods to teach SHI. However, this report documents the availability of literature on teaching SHI rather than the frequency of SHI teaching itself. Inclusion of SHI as a recurrently taught, compulsory, experience-based theme with clinical, competency-based assessment would allow for GMC graduate outcomes to be thoroughly achieved. More research into the effect of systematic SHI teaching for students will aid formulation of socially sensitive curricula.

Take Home Messages

Whilst global health inequality continues to increase, there is little representation in current literature on how curricula have developed to adjust to this growing need. Medical education must adapt to ensure future clinicians can provide the best care to the most vulnerable patients.



6H5 (4108)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 3

Can clinical associates be utilised to deliver mental health services in South Africa based on their existing training?

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¹ *School of Health Systems and Public Health, University of Pretoria, Pretoria, South Africa*

Background

Mental illness is a significant public health concern globally and in South Africa (SA). There is a shortage of the human resources needed to deliver mental health services in SA and this is likely to be exacerbated by COVID-19. Clinical associates, a mid-level cadre working under the supervision of medical practitioners, could play a role in delivering mental health services but it is not clear the extent to which they have been trained in the area of mental health. The aim of the study was to explore the mental health content of the three clinical associate training programmes in SA.

Summary Of Work

This was a qualitative study using a collective case study approach involving the three universities offering clinical associate (BCMP/BMCP) degrees. In-depth interviews of individuals involved in each programme and a review of documents such as study guides and timetables were undertaken. Thematic analysis was conducted with ATLAS.ti software being used to aid the data analysis process.

Summary Of Results

A total of 19 interviews were conducted across the three universities. Mental health formed part of the curriculum in all three training programmes. Formal lectures in mental health at all three universities occurred in the final year of the three-year degree and ranged from a single lecture to a week of lectures. The three programmes each included a mental health attachment at a hospital in the final year which was two weeks long in one of the programmes and four weeks long in the other two. The level of exposure to mental health patients and quality of training and supervision appeared to depend on which hospital the student was allocated to. Most participants felt that clinical associates would be able to manage some mental health presentations.



Discussion And Conclusion

The mental health training received by clinical associate students in SA varied between the three programmes as well as within programmes. Nevertheless, clinical associates should be able to perform at least some mental health tasks based on current undergraduate training.

Take Home Messages

Undergraduate clinical associate training in mental health does provide the potential for task sharing approaches in mental health services in SA involving this cadre.



6H6 (4224)

Date of presentation: Monday 29th August

Time of session: 17:45 - 18:00

Location of presentation: Gratte Ciel 3

Exploring pain perception and biases around pain treatment during a novel active learning session for medical students

Laurie Wellman¹, Uzoma Ikonne¹, Kwasi Ampomah¹, Carrie Elzie¹

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Background

Disparities in pain treatment pose a significant public health concern. Contributing to this inequality is the fact that physicians' pain perceptions often differ from patients' pain ratings. Physicians' biases can significantly influence their medical judgment for diagnosis and management plans. To help medical students explore their own biases around pain perception and management, we created a novel learning activity.

Summary Of Work

Second-year medical students (n=150) participated in pre-/post-session reflections and a 2-hour active learning session. Pre-/post-reflections investigated students' personal experience with pain, factors affecting pain perception, management of pain and key take-aways. To explore biases, students matched diverse patients to various diagnoses and then discussed their reasoning in groups. Then, a brief lecture was given. After providing more information about the patients, students devised treatment plans. A debrief emphasized the need to individualize treatment plans. A survey was provided to evaluate the learning activity.

Summary Of Results

After the session, student reflection responses highlighted patient's prior experience with pain, cultural/societal factors and support systems. While students consistently ranked medications, PT/OT and psychological counseling as primary treatment options, there was an increased post-session awareness around lifestyle modifications and social support. The top take-aways cited were 1) pain is personal/subjective, 2) pain is multi-factorial and 3) the impact of physician biases on patients. Most students felt the reflections were valuable (70%) and brought awareness to their own biases (74%). Further, they gained a better understanding of pain perception (74%), treatment options (73%), and the importance of social-determinants of health on treatment plans (74%). Overall, 65% of students said the session was valuable and 61% wanted more sessions on pain management.



Discussion And Conclusion

Treatment of pain is a critical physician task influenced by misinformation, bias and personal experiences. This session brought awareness to these factors in a valuable way for our students and was beneficial in highlighting individualized pain treatment. It can be adapted to include interprofessional training opportunities as well as for use across other cohorts within undergraduate medical education.

Take Home Messages

A short, pointed active learning session on pain perception and management, in conjunction with pre-/post-reflections, was successful in increasing awareness as well as self-reflection in M2 students.



Workshop 6I (2150)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Tete d'Or 1

Promoting wellbeing through using humanities in medical education

Jane Hislop¹, Martina Balaam¹

¹ *The University of Edinburgh, Edinburgh, UK*

Background

Prior to COVID 19, UK Universities reported high levels of distress, anxiety, depression, loneliness and reduced sense of belonging amongst students (Perks 2018; You Gov, 2018; BBC 2019; NSS 2018; UOE 2018). Medical students face additional pressures as a result of rising patient demand, understaffing, lack of supportive and flexible working arrangements, bullying, and stigma (BMA 2018). These findings highlight the need to address the wellbeing of students within medical curricula. As educators we need to consider how we equip students with the knowledge and skills to help one another to become well and stay well, and to protect themselves from stress and burnout.

The challenge with integrating wellbeing into the curricula is that classroom teaching often lacks authenticity and it can be difficult to engage students in a meaningful and emotive way with relation to their own wellbeing. Furthermore there is a need to challenge pre-conceptions of what is seen to be 'softer skills' within the medical curricula as evidence indicates teaching of this type has a profound effect on medical student wellbeing (Balaam and Harris, 2021). One way to engage students is through medical humanities.

Medical humanities engages students with wellbeing allowing them to explore the reality of professional practice in an emotionally safe environment. There is growing evidence that the use of medical humanities can help students develop their own wellbeing through engagement with art, literature, film and music to encourage creative thinking and promoting discussion, empathy and reflection. Using humanities makes learning fun, encourages creative thinking, and promotes empathy, discussion and reflection (Balaam and Harris, 2021).

Who Should Participate

Medical educators and students

Structure Of Workshop

- An introduction to medical humanities
- Application of medical humanities to promote wellbeing



- A review the evidence of the impact of medical humanities in promoting wellbeing with medical curricula
- A group discussion on ways of incorporating medical humanities within medical education

Intended Outcomes

Participants will leave with:

1. An enhanced understanding of medical humanities
2. A working understanding of the impact of medical humanities in relation to wellbeing
3. An awareness of innovative methods of implementing medical humanities into medical curricula
4. Examples of medical humanities practices



Short Communications - Assessment 3: Self-assessment

6J1 (1243)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:45

Location of presentation: Rhone 2

Evaluation of Self-Reported Confidence and Competence Among Final-Year Medical Students for Prescribing Antiplatelets and Fibrinolytic Agents in Patient with ST-segment Elevation Myocardial Infarction: mixed methods

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Background

ST-segment elevation myocardial infarction (STEMI) is a time-sensitive condition. We aimed to explore factors associated with prescribing confidence and competency of final-year medical students, particularly for antiplatelets and fibrinolytic agents in patients with STEMI.

Summary Of Work

The study was conducted in final-year medical students of Srinakharinwirot University, between November 2020 and April 2021. A triangular convergent mixed methods design was applied, in which an on-line survey and in-depth interview were performed simultaneously, analysed separately and then integrated data in the final analyses. The survey focused on the detail of accuracy and attitude for diagnosis and prescribing antiplatelets and fibrinolytic agents in one scenario of STEMI. The qualitative interviews concentrated on their experience, confidence and attitude of prescribing both medications. Data were then coded, analyzed thematically, and interpreted with survey data.

Summary Of Results

Totally 92 and 20 final-year medical students responded to the questionnaires and in-depth interviews, respectively. Most could correctly diagnose STEMI (92.4%), prescribe type of antiplatelets (91.3%), and fibrinolytic agents (80.4%). However, their self-reported confidence to prescribe those agents are not high (median scores =3). Moreover, they could less answer the accurate dosages and administration routes of antiplatelets and fibrinolytic agents (60.9% vs. 27.2%, $P < 0.05$). The questionnaires data revealed that factors influencing their confidence in prescribing were knowledge and experience, confidence in diagnosis STEMI correctly and supervision during prescription.



Similarly, we explored five themes from interviewing data: experience, knowledge, mentoring and coaching, self-learning, and direction which may affect their confidence and competence in prescribing both medications.

Discussion And Conclusion

Our study demonstrated that final-year medical students have a high competence in diagnosis and prescribing antiplatelets and fibrinolytic agents for patients with STEMI. We also found the Dunning–Kruger effect in their self-reported confidence of prescribing those medications. The experience and knowledge are the important factors for their self-reported confidence, while mentoring, coaching, and self-learning are considered to support them in prescribing confidently.

Take Home Messages

- The Dunning–Kruger effect may be overlooked in self-reported confidence of medical students' prescription.
 - The role of an experience-based learning with supervision for promoting confidence and competence in prescription for undergraduate medical students, especially in emergency situations.
-



6J2 (1877)

Date of presentation: Monday 29th August

Time of session: 16:45 - 17:00

Location of presentation: Rhone 2

How do medical students self-direct their learning when using an online learning platform for test-enhanced learning?

Julius Josef Kaminski¹, Ylva Holzhausen¹, Anne Franz¹, Hans Hellfried Wedenig¹, Harm Peters¹

¹ *Charité - Universitätsmedizin Berlin | Dieter Scheffner Center for Medical Education and Educational Research, Berlin, Germany*

Background

We recently introduced an online platform for test-enhanced learning (TELLme) at the Charité Berlin. TELLme consists of more than 8000 curriculum-aligned multiple-choice questions from previous summative assessments with automated formative feedback, including annotations on the correct or incorrect answers. TELLme is freely accessible 24/7 for all medical students at our school to allow self-testing whenever wanted. This study aims to analyse how the students use the TELLme platform and how this integrates with other resources for self-directed learning.

Summary Of Work

In winter 2021/22, we online surveyed voluntarily and anonymously the medical students at Charité using multiple-answer questions and Likert ratings on given statements and analysed responses using descriptive statistics.

Summary Of Results

A total of 462 students responded. TELLme represents the third most widely used learning resource (78%) out of 13 given resources (86% use written class summaries of peer-students, 83% copies of previous exams, and 44%, for instance, digital flashcards). In the Likert ratings, 73% agree or strongly agree that TELLme offers good study support. Furthermore, 75% of the students agree or strongly agree that they use TELLme to identify gaps in their acquired knowledge and address them. In comparison, about 50% agree or strongly agree to use TELLme to memorise and train exam questions.

Discussion And Conclusion

Most of the students use the TELLme platform for their self-directed learning in a flexible combination with other learning resources. TELLme is commonly used to identify gaps in acquired knowledge at an individual level along the regular course of studies and to address these gaps specifically by self-directed studying.



Take Home Messages

A curriculum-aligned test enhanced learning platform is highly used and valued by medical students for self-directing their learning.



6J3 (3923)**Date of presentation:** Monday 29th August**Time of session:** 17:00 - 17:15**Location of presentation:** Rhone 2

Impact of Retrieval-based Strategies on Academic Performance of Medical Students in an Integrated Module

Abida Shaheen¹, Fahad Azam¹

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Background

Retrieval is an important instructional strategy that can assess learning gaps in a learner's memory and makes learning durable by repetitive learning exercises. The effectiveness of retrieval practices has been convincingly demonstrated in several cognitive psychology studies. The present study aimed to compare the performance of Year III medical students in summative assessments of an integrated module in which retrieval-based teaching sessions were conducted in some themes of the module.

Summary Of Work

In some themes of the integrated module, teaching sessions were conducted using retrieval-based tools such as spaced retrieval, quizzes, think-pair share, active recall, exposure to the material before class, multiple formative assessments before, during and after the teaching sessions. For retrieval-based learning, each large group was followed by a small group discussion and small assignments were assigned at the end of the small group discussion sessions. Regular formative assessments were conducted and feedback was provided. At the end of the module, summative assessments were conducted which had a total of seventy multiple-choice questions.

Summary Of Results

Out of seventy questions, sixty-three were evaluated for final interpretation of the results after post-hoc analysis. Out of sixty-three, thirty-seven questions were part of the themes that were delivered using retrieval-based tools and twenty-six questions were from the themes that were delivered using conventional methods. The mean score of the class in summative assessments was 71.54 ± 20.70 . The mean percentage score of the thirty-seven questions from themes with retrieval practices was 76 ± 13.23 and the mean percentage score of twenty-six items without retrieval was 64 ± 26.66 . ($p=0.030$).



Discussion And Conclusion

Students performed significantly better in the summative assessments in themes in which retrieval-based learning was practised. A positive immediate effect of retrieval-based learning is quite obvious but long-term effects should be explored. Curriculum delivery using retrieval practices is time-consuming but is an effective and cost-effective method to improve learning and metacognition.

Take Home Messages

Retrieval requires regular reinforcement of skills and knowledge by different strategies. The spaced-apart repeated learning activities, active recall and assessments could result in long-term retention and enhance learning.



6J4 (2579)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:30

Location of presentation: Rhone 2

Students' self-assessment and goal-setting for interprofessional feedback literacy in health professions education

Claudia Tielemans¹, Emy van der Valk Bouman¹, Renske de Kleijn¹, Sjoukje van den Broek¹, Marieke van der Schaaf²

¹ *University Medical Centre, Utrecht University, Utrecht, The Netherlands* ² *University Medical Centre Utrecht, Utrecht, The Netherlands*

Background

Students in health professions education need to be prepared for an active role in interprofessional feedback practices. Key to this role are students' feedback literacy skills. We aimed to study goal-setting and self-assessment, as key mechanisms to improve self-regulated learning, *regarding feedback literacy* in interprofessional HPE with the research question: *How do healthcare students self-assess and set goals for their interprofessional feedback literacy?*

Summary Of Work

4th-year nursing students (n = 182) and 5th-year medical students (n = 106) related to a Dutch medical center, took part in a two-day interprofessional feedback literacy intervention. The validated Westerveld framework with 7 criteria for interprofessional feedback (Tielemans et.al., 2021), was used as an instructional tool. Afterwards, students voluntarily selected one criterion to work on: *Open & Respectful, Timely, Relevant, Dialogical, Responsive, Sense making, or Actionable*. Next, they self-assessed on this criterion, and set a goal for their following workplace-based rotation. Thematic analysis was used to code students' goals on criterion addressed. Additionally, to investigate students' goal-setting processes, three interprofessional focus groups (n=11) were held and analyzed with deductive network analysis, using the inner feedback model by Nicol (2020).

Summary Of Results

63% of the students set goals and 51% conducted self-assessments. Criteria students chose to work on themselves did not match those coded by the research team to the goals they ultimately set. Students made comparisons during their goal-setting processes, using five main groups of information sources for these comparisons: *Feedback literacy; Personal characteristics; Outcome expectations; Educational intervention; Clinical experiences*. Students had high motivations for their goals.

Discussion And Conclusion



The substantial missing data and the differing interpretations of criteria by research team and participants may suggest that our students found these tasks difficult and need additional instructional tools/guidance. The focus group results provide insight in what sources can inform comparisons in students' goal-setting processes. As Nicol (2020) recommends, making these explicit may help design more concrete instructional tools.

Take Home Messages

Healthcare students need additional instructional tools and guidance to the Westerveld framework in order to self-regulate their learning of feedback literacy skills needed for interprofessional feedback practices.



6J5 (1827)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:45

Location of presentation: Rhone 2

Self-Assessment: with all its limitations why are we still measuring and teaching it?

Natasha Yates¹, Suzanne Gough¹, Victoria Brazil¹

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Background

Self-Assessment (SA) is often assumed to be essential for learning, however this has been called into question for years. Research shows SA has significant limitations, including its lack of correlation with competence.

Summary Of Work

We undertook a scoping review of SA in medical education (2011-2021) and surprisingly discovered substantial research where SA was assumed to be a valid measure of successful learning, and/or a skill to be taught. Although the initial intent of our scoping review was to explore where SA is being effectively used to advance lifelong learning, we paused to explore the extent of the problem of its misuse, by examining excluded studies.

Summary Of Results

From 1151 articles, we identified 208 which ignored the documented limitations of SA. This was more than double the number of articles where SA was used appropriately. 40 studies explored SA of learning. This research is of limited utility as increasing the accuracy of SA does not improve performance or lifelong learning. 168 used SA as an outcome measure to assess a program or intervention, including 63 where self-assessed improvement in knowledge/skills was the sole measure. SA of self-confidence was measured in 62 studies. When confidence was compared with an objective measure of performance, both invariably increased, but confidence did not always align with competence when measured.

Discussion And Conclusion

Many researchers erroneously assume the ability to accurately self-assess is essential for learning, and focus on teaching self-calibration rather than evidence-based methods of advancing learning. Others incorrectly suppose self-reported improvements in knowledge/skills is evidence of efficacy of a program/intervention. This is particularly troubling with novices, who may believe that because they have improved/gained confidence, they are now competent.



We highlight the significant volume of research being done where SA is misunderstood and/or misused as a measurement, posit reasons that such research continues, and suggest solutions moving forward.

Take Home Messages

SA of learning is extensively used inappropriately in medical education teaching and research, which is a significant waste of effort and resources.

Agreement is needed from the medical education community on where SA can and should be used and where it should be avoided, and dissemination of this consensus is vital.



ePosters - Professionalism & Professional Identity Formation

6K01 (2167)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:35

Location of presentation: Tete d'Or 2

A call for change: the health humanities charter in medical education, an international experience

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Background

Health humanities are an interdisciplinary field that include the humanities, social sciences and arts, as well as the multiple ways they engage with health experiences, public health and health care practices. We believe that the principles of health humanities should be better incorporated in the medical student's curricula to achieve a more relevant and contemporary medical education, which is an education that prepares for tomorrow's ethical, ecological, and social accountability challenges.

Summary Of Work

In this optic, the Faculties of Medicine of Lyon-Est (France) and Ottawa (Canada) aligned their vision of this emerging area to create a unique charter, co-written with the help of patients, students, medical educators and philosophers, and adopted formally by each institution in 2021.

Summary Of Results

According to the charter, each Faculty should commit to not only promoting the teaching of health humanities throughout the curriculum but, in addition, to foster teaching initiatives and students' artistic activities. The Faculties also commits to promote a democratic and accountable approach, involving students and free of all discrimination.

Aligned with their physician's oath, the health humanities charter further empowers students by requesting to abide to certain principles. They commit to respect the dignity of the human being, and to be available to and at the service of patients. The charter encourages students to maintain their independence and free will, while getting more involved in social responsibility.



Discussion And Conclusion

The challenge will be to ensure that the students, medical educators and staff of the Faculties incorporate the charter within existing programs. We hope this integration will help other institutions to follow this path and foster new initiatives.

Take Home Messages

- Humanities charter in medical education
 - International experience, french and canadian
 - Infusing humanities principles in the curriculum
-



6K02 (0393)

Date of presentation: Monday 29th August

Time of session: 16:35 - 16:40

Location of presentation: Tete d'Or 2

Transition into online-only teaching threatens undergraduates' professional identity formation

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Background

There is a current trend to acknowledge early professional identity formation (PIF) in undergraduate education. Collaboration, collegiality and team-work in small-group environments, such as the dissection course, have been suggested to promote this integrative process. As a response to the physical distancing policies during the Covid-19 pandemic, many faculties switched their small-group, on-site courses into online-only equivalents. However, the consequences of these transitions on undergraduates' PIF remain to be elucidated.

Summary Of Work

Quantitative and qualitative evaluation data of a sonoanatomy course from 2016 until now have been collected, and analyzed using grounded theory methodology, and variance analyses. Several on-site semester cohorts ($n = 1096$; 22.4 years \pm 0.37, 743 females) were compared to two online-only semester cohorts with a synchronous course format ($n = 230$; 22.6 years \pm 0.86, 133 females).

Summary Of Results

The online-only transition led to a reduction of all the variables measured, losing identity-related dimensions and the attraction of the profession, as well as increasing students' stress levels. Quantitative analyses further show a significant decline of students' interest in medicine (*mean difference* = -8.6%; 95% *CI* = -5.2% to -11.8%; $p = 0.046$), and a decline in their perceived learning success (*MD* = -11.2%; 95% *CI* = -8.2% to -14.2%; $p < 0.001$) in online-only environments.

Discussion And Conclusion

The PIF-enabling "socially networked learning environments" struggle to translate into online-only equivalents. There is a tendency of students to convert into passive observers rather than active participants, losing identity-related discourses. If the academic community fails to support students' PIF early on, unprofessional behavior, and detachment from the profession might be the long-term consequences.



Take Home Messages

Psychological dimensions related to professional identity should be critically considered when transitioning into an online-only course format.



6K03 (1944)

Date of presentation: Monday 29th August

Time of session: 16:40 - 16:45

Location of presentation: Tete d'Or 2

A survey study of patient centeredness of Norwegian undergraduate medical students

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Background

The doctor-patient relationship is multifaceted, with patient centeredness being an important contributing factor. Patient centeredness is defined as the providers ability to consider the patients' comprehensive experience of the illness, as opposed to a limited biomedical matter. Greater levels of this attribute are associated with higher patient satisfaction, compliance and, to some extent, health outcomes. PPOS (Patient-Practitioner Orientation Scale) is a tool widely used to measure medical students' level of patient centeredness. Respondents rate its 18 items from 1 to 6. The items are allocated to the two subscales "sharing" and "caring". The aim of this study was to explore Norwegian undergraduate medical students' level of patient centeredness, and to relate the findings to international comparable data.

Summary Of Work

We translated the original English PPOS to Norwegian utilizing an acknowledged translation process. The Norwegian inventory was distributed to third- and fourth-year medical students at NTNU (Norwegian University of Technology and Science) in 2020 and 2021. Participants were invited by email, and data collection occurred online.

Summary Of Results

The mean total PPOS score was 4,3 (72 % of max). The mean subscale score for "sharing" was 4,1 (68% of max), and the mean subscale score for "caring" was 4,5 (75% of max).

Discussion And Conclusion

The findings reveal a more patient-centered than doctor-centered attitude among Norwegian medical students. Subscale scores indicate a slightly greater belief in a caring approach towards patients, than willingness to sharing of power and control between practitioners and patients. This coincides with existing literature. Comparison with other countries shows higher levels of patient centeredness than for Greek, Saudi-Arabian and South-African medical students, while data from the US, Sweden, Australia, Brazil, and Sri Lanka demonstrate equal or higher scores. The differences



between countries could be due to dissimilarities in curricular focus, or to cultural variances in views on hierarchy in the healthcare system.

Take Home Messages

Norwegian medical students have a more patient- than doctor-centered approach to patients. Their belief that caring is a key component in patient meetings are more prominent than their belief in sharing of power and control.



6K04 (3604)

Date of presentation: Monday 29th August

Time of session: 16:45 - 16:50

Location of presentation: Tete d'Or 2

The “P Word” is No Longer a Thing: Medical Students’ Viewpoints of Professionalism in Their Clinical Education

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Background

Professionalism has been an essential topic in undergraduate and graduate medical education for decades. The Accreditation Council for Graduate Medical Education (ACGME) requires all graduate medical education programs to ensure their residents/fellows demonstrate competency in professionalism. Although professionalism is difficult to assess, patient health care is at risk when lapses in professionalism occur. This study sought to learn more about medical students’ views on professionalism, including where professionalism ranks relative to Clinical Skills and their exam scores. Furthermore, the study sought to compare pre-clerkship and clerkship medical students’ viewpoints on professionalism related to orthopaedic residency and ways in which program directors (PD) may interact with residents regarding professionalism.

Summary Of Work

A REDCap data capture tool survey was developed and sent by email to two independent orthopaedic listservs (n = 69). Descriptive statistics using two-sample T-tests were performed, and cross-analysis was utilized to compare the results between pre-clerkship (MS1-2) and clerkship (MS3-4) students.

Summary Of Results

The results of the survey indicated that medical students held ethical and moral standards above altruism and duty. Compared to pre-clerkship students, clerkship students believe professionalism is more important than Clinical Skills and medical knowledge to the longevity of an orthopaedic resident (P = 0.005). Clerkship students, involved in direct patient contact, indicated a different point of view than the pre-clinical students on how PDs should address residents passing medical licensing board questions onto other residents. All levels of medical students preferred counseling over dismissal from the program by the PD for lapses in professionalism during residency.



Discussion And Conclusion

In the year 2004, Papadakis et al. introduced the link between the lexical phrase “professionalism lapse” (Ginsburg) in medical school and unethical behavior in medical practice. Our data indicated that current medical students develop professionalism at an early stage in their education, which is shaped by clinical exposure and the hidden curriculum.

Take Home Messages

Professionalism is no longer a “P word” as medical students understand its importance early on. Moreover, the results inform residency PDs that incoming trainees learn professionalism via unintentional role modeling. More research is needed to determine if this early adoption affects future patient care.



6K05 (3105)

Date of presentation: Monday 29th August

Time of session: 16:50 - 16:55

Location of presentation: Tete d'Or 2

Shared decision-making: learning from role models in clinical practice

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Background

In an earlier study on learning shared decision-making (SDM) in clinical practice we found that interns and residents describe building their personal “repertoire” of SDM skills, knowledge, and attitude through observing and copying from other professionals who are considered role models. The current study reports on a secondary analysis of the data of this former study. Here, we aim to identify which capacities healthcare professionals and patients attribute to role models concerning SDM in clinical practice.

Summary Of Work

To explore the learning and teaching of SDM in two medical domains (fertility medicine, intensive care medicine), we planned focus group interviews in the following four categories of participants: interns (medical students), residents, senior physicians, and (former) patients and their relatives. Our analysis comprised four steps: 1) Identification of text fragment containing description of positive attribute making a physician a role model for SDM; 2) Labelling positive attribute; 3) Clustering attributes into coherent themes; 4) Labelling themes.

Summary Of Results

We have identified four clusters of positive attributes of role models with regard to SDM. A first cluster concerns attributes of attentiveness, appraisal and person-centeredness. A second cluster is characterized by frankness, openness and honesty. Central in the third cluster are commitment, empathy and dedication. A final cluster concerns responsiveness, approachability, and being sensitive.

Discussion And Conclusion

Even though the positive attributes of role models who provide exemplary SDM appear to be individual personal qualities, our results show that these qualities manifest themselves in relation with others, i.e. patients and their relatives. Relevant ethical perspectives to take into account here are virtue ethics and care ethics.



Take Home Messages

The relational context of SDM emphasises that learning and teaching it in clinical practice – through role models – is learning a particular form of care, in which decision-making is understood as interaction instead of transaction.



6K06 (2974)

Date of presentation: Monday 29th August

Time of session: 16:55 - 17:00

Location of presentation: Tete d'Or 2

Investigating the neuroscientist identity development: interviews with alumni and academics

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Background

Neuroscience is one of the most exciting frontiers in scientific research. However, given the recency of neuroscience as a discipline, its inter- and multi-disciplinary nature, the lack of educational research on neuroscience training, the absence of a national or international benchmark and the presence of several subfields, the development of the academic neuroscientist identity across career stages remains elusive.

Summary Of Work

This work represents the first mixed-method study exploring the development of the neuroscientist identity at the postgraduate level. It combines quantitative responses from standardised self-efficacy and professional identity questionnaires with qualitative data from nineteen semi-structured interviews with alumni and academics.

Summary Of Results

Alumni are slightly more confident than academics in accomplishing difficult tasks. Junior academics display a weaker sense of belonging than senior academics, whereas alumni's ties with members of the profession are perceived as existing, but not that strongly. While the alumni tend to link their developing identity to a series of pragmatic skills that are part of the neuroscientist's routine, junior academics mention networking as an aspect of critical importance for their professional identity. Instead, senior academics emphasise the grand-angle view and the meta-skills as central aspects of what being a neuroscientist means.

Discussion And Conclusion

These results can be mapped against the theoretical framework proposed by Laudel and Gläser in 2008, although some minor changes can be suggested. Key findings on influences, identity transitions, curricular skills and sense of belonging have been discussed. Implementing active learning strategies, increasing the number of experiential assessments, designing mentoring opportunities, creating spaces for online and in-person interaction and recruiting alumni as



'ambassadors' can favour the transition from being a student to being a neuroscientist and contribute to a neuroscientific community that is inclusive and diverse. Future studies could interview women scientists at different career levels, quantify the impact of the COVID-19 pandemic on career choices, and explore potential differences between research-intense and teaching-intense institutions in relation to identity development.

Take Home Messages

Supporting and promoting the identity development of the next generations of neuroscientists is essential to offer an experiential learning journey and create an inclusive and diverse (neuro)scientific community.



6K07 (3455)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:05

Location of presentation: Tete d'Or 2

The emerging professional identity of first year medical students related to their understanding of healthcare values.

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Background

Recently, there has been a drive within medical education to support professional identity development and promote associated professional values and behaviours. However, we considered whether students at entry to medical school recognised the values of medical professionals and aligned their own values to a specific professional identity.

Summary Of Work

Two cohorts of first year medical students at induction (n=299) worked in groups to create pictures to depict the values of medical professionals. These students then completed a validated questionnaire on their perception of the attributes associated with students and doctors and how strongly they identify with those characteristics. The pictures were later evaluated using NVivo content analysis to assess how closely they matched the responses to the questionnaire.

Summary Of Results

The analysis of the pictures created suggests the majority of new medical students recognise the importance of values such as communication, professionalism and teamwork in doctors. Whilst all of the values in the GMC's *Good medical practice* framework can be identified in the pictures, some values, such as safety and quality, are not as highly represented. The questionnaire responses indicate that new students do not self-identify as either medical students or doctors.

Discussion And Conclusion

First year medical students are able to identify appropriate values of medical professionals which align to a regulatory framework, although they may lack full understanding of more complex values. However, these same students do not self-identify with the accepted attributes of medical student or doctor, suggesting that they have not yet transitioned into a professional mind-set at entry to medical school. This suggests that medical school induction activities should include a more explicit approach to the breadth of values in the GMC's *Good medical practice* framework. Further



evaluation of the timing at which professional identity evolves and which stimuli promote that transition should also be evaluated.

Take Home Messages

First year medical students do not perceive themselves as students or medical professionals but understand the values of the profession they are entering.



6K08 (3849)

Date of presentation: Monday 29th August

Time of session: 17:05 - 17:10

Location of presentation: Tete d'Or 2

Using Observational Attendance to Build Students' Empathy in Pediatric HIV Clinic

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Background

Children born with HIV often face psychosocial and mental problems due to their health conditions. They do not only require medical treatment but also a great understanding. Thus, for effective treatment results, medical staff should provide mental support to help HIV patients and staff feel less intimidating towards each other. Because of this reason, a course of holistic care should be incorporated to build staff's empathy towards patients.

Summary Of Work

The 30 6th-year medical students working in the Pediatric Department were targeted. Data were obtained through an interview and reflective writing. Before attending a pediatric HIV clinic, the instructor asked the students about their knowledge and experience of holistic care. Then, they were asked to study patient files and observe patients aged up to 12, who were aware of their infectious status. The students were also required to have a structured interview with the patients for 1 hour. After finishing, they had to submit a reflective note describing feelings towards the patients.

Summary Of Results

From the pre-interview, interestingly, despite the knowledge of holistic care, 90% of the students did not know how to put it into practice. Moreover, all agreed that HIV treatment needed only antiviral drug prescription, while 60% thought physical examination should be performed. However, none of them saw the importance of mental support. Over 50% had no confidence when encountering the patients. After the observation, the reflective writing showed that all students enjoyed this observational attendance. Their empathy for HIV patients has increased. Their views on medication have changed from merely prescription to holistic treatment, both physically and mentally. Furthermore, they felt more confident talking to the patients. Most importantly, they wished this observational attendance would be continued as the current curriculum seems to focus more on knowledge than life skills which are important for human beings.



Discussion And Conclusion

The implementation of holistic care in the pediatric and adolescent HIV clinic has improved students' empathy towards HIV patients and this has played a vital role in improving treatment outcomes as it helps ease the patients' psychosocial and mental problems.

Take Home Messages

Teaching to have empathy and then others must do.



6K09 (2882)

Date of presentation: Monday 29th August

Time of session: 17:10 - 17:15

Location of presentation: Tete d'Or 2

Exploring the pervasion of systemic racism in medical education: Experiences of Physician Assistants from the USA

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Background

According to the United Nations, systemic racism is prevalent and growing throughout the world. Systemic racism affects access to and the quality of education, particularly medical education. Professional identity formation (PIF) is a key component in medical education, yet, the unique experiences of racial/ethnic minorities have been largely excluded from this research.

Summary Of Work

This qualitative study explored the influence of race and ethnicity on the PIF of those considered to be under-represented in medicine (UiM) physician assistants (PA) in the United States (US). First- and second-year PA students and actively practicing PAs were interviewed. Trainees were located in the southeast region while clinicians were practicing throughout the country. Data were analyzed using constructivist grounded theory to better understand how social-, historical-, and cultural systemic racism continues to impact UiM PA students and clinicians.

Summary Of Results

We recruited 45 students and clinicians. The majority of the sample identified as Black/African American (51%, n=23) and as a trainee (62% n=28). The results indicate that students' and clinicians' racial/ethnic identity is highly salient and guides how they practice medicine. Results also indicate that students and clinicians experience micro-aggressions from fellow students, faculty, and clerkship preceptors. Respondents also described methods to improve support from the profession and educational institutions.



Discussion And Conclusion

Students and clinicians are acutely aware that they are frequently the only UiM PA trainee or clinician in clinical settings. Being intentional in recruitment efforts to ensure that more UiM students enter the PA profession is imperative to resist institutional racism in healthcare.

Take Home Messages

Educational institutions who wish to enroll more UiM students into health professions should understand how historical and present-day socio-cultural systemic racism impacts the professional development of students and clinicians. Ensuring that students, faculty, administrators, and clinical preceptors are aware of their own micro-aggressions, and actively recruiting UiM students may positively influence clinical environments.



6K10 (1910)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:20

Location of presentation: Tete d'Or 2

Creation of a hybrid online and small group curriculum to address educational gaps in ethics, policy, and professionalism

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Background

Faculty in the Baylor College of Medicine (BCM) Center for Ethics and Health Policy identified that BCM residency programs were teaching ethics, health policy, and professionalism topics with differing methods and varying success. These topics are internationally critical in medical education as ACGME requirements in the US, essential CanMEDS components in Canada, and core principles in Europe. A standardized curriculum was created and implemented across residency programs - the Ethics, Policy, and Professionalism Program (EP3) – to improve completeness, consistency, and quality of education in these areas.

Summary Of Work

Qualitative analysis of ACGME milestones led to the development of a curriculum consisting of 5-6 core topics per academic year (AY) distributed over 3 years (2019-2022). EP3 leadership, along with content experts, developed 1) scripts for video modules (VM) and 2) facilitator guides for in-person engagement sessions (ES). VM's were available via an online learning system and approximately 15 minutes. ES were designed to be discussion-based, last <1 hour, and expand on VM material. Programs could choose which ES to offer and identified their own faculty to facilitate the session.

Summary Of Results

In the first 2 AY's all 21 BCM residency programs utilized the VM curriculum and 17 programs completed ≥ 1 ES. The most used ES utilized were "Medical Decision Making" (12), "Healthcare Economics" (11), Effective Communication (9) and Professionalism in Practice (9). The least used were "Pediatrics" (1) and "Impaired and Disruptive physicians" (4). Data collection for the current AY is ongoing.

Discussion And Conclusion

The liberal utilization of both VM and ES demonstrated a need in this area which likely exists in other programs. Additional patterns in uptake of VM and ES by the residency programs and evaluation



data will be described. Our hybrid approach allowed programs flexibility in administering this education and the ability to build on introduced concepts through specialty-specific discussion.

Take Home Messages

Ethics, health policy, and professionalism are essential components of current medical education and yet there is great variability in what topics in these areas are taught and how. This program provided standardization in education in these areas and analysis of uptake identified gaps in curricula to guide additional curricular development.



6K11 (2679)

Date of presentation: Monday 29th August

Time of session: 17:20 - 17:25

Location of presentation: Tete d'Or 2

Simulation based medical student training in medical ethics: A scoping review

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Background

Case-based discussions are frequently used to teach medical ethics in medical school, but long-term effectiveness is debated. Medical ethics teaching has focused on application of ethical principles to theoretical cases. Didactic lectures and seminars with idealized ethics problems have been used. However, unmet needs of medical students are apparent based on data that junior doctors suffer from moral distress and moral injury related to ethical issues after medical school graduation. Another approach to medical ethics training is necessary. The aim of this study is to identify recent trends in simulation-based teaching of medical ethics for medical students, and to provide a basis for developing effective medical ethics education methods.

Summary Of Work

A scoping review was conducted using the PCC (Population, Concept, and Context) framework. PubMed, Cochrane, PsycINFO, Web of Science, CINAHL, Embase, and ERIC were searched for English-language publications between 2010 and 2021. The PRISMA-ScR was used.

Summary Of Results

Fifty-two papers met inclusion criteria for this review. The most common objectives and topics of medical ethics education using simulation was care at the end of life. Others included professionalism, disclosure of information to patients, shared-decision making, and interprofessional interactions. Simulation modalities used in teaching medical ethics were predominantly high-fidelity simulation, standardized patients, and virtual reality combined with interactive online e-learning. Standardized patients were used frequently in early studies and hybrid virtual reality with interactive online e-learning has been widely reported more recently. Educational outcomes were measured with diverse methods including objective evaluation by observed standardized clinical examination and self-developed assessment instruments with validated psychometric properties.



Discussion And Conclusion

Theoretically, simulation-based learning can be used effectively for medical ethics education and several recent reports have explored this approach. However, there remains a need for systematic research on methods to induce effective clinical ethical reasoning for a variety of ethical topics.

Take Home Messages

Realistic simulation-based learning methods can provide a safe environment for medical students to develop moral imagination and address ethical dilemmas.



ePosters - Covid: Educational Impact

6L01 (2078)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:35

Location of presentation: Salon Tete d'Or

Worries among medical students facing the Covid-19 pandemic – a questionnaire study at Aalborg University in Denmark

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Background

When the Covid-19 pandemic hit healthcare systems globally, there was a steep rise in the need for hospital staff. In Aalborg, Denmark, the majority of medical students reported a willingness to support the healthcare system, but reservations, uncertainties and fears may deflect participation. Aalborg University is a PBL-university with a focus on case-based and clinical learning.

Summary Of Work

We conducted a questionnaire survey among all medical students at Aalborg University one year into the pandemic to unravel students perspectives on uncertainties and fears. The questionnaire was constructed by an expert panel and a review- and feedback board. We included key motivational and de-motivational statements.

Summary Of Results

The response rate was 69% (557 of 806). Eighty percent (448 of 557) of the respondents had performed paid work as healthcare workers during the pandemic, and 42% (235 of 557) held more than one position. Frequent demotivational statements among students not working included "I lose time to study" (score among working/non-working: 75 (62;88) / 84 (66;100), P=0.002) and "I risk getting infected with Covid-19" (29 (11;50) / 34 (17;60), P= 0.025). Risks concerning exams and fears of infecting family were of minor importance among the medical students. Additionally, we found students reported socialising as an important reason to work (4%).



Discussion And Conclusion

The role of medical students during the covid-19 pandemic has been discussed throughout the world, and approaches range from suspending educational programs to recruiting students as frontline personnel. We found that though all working and non-working students expressed fears and uncertainties, still eighty percent chose to participate in the healthcare workforce during the first year of the Covid-19 pandemic. Differences within domains for deterrence were identified. Our results may inform a debate on improving medical students' contribution to healthcare staff during the current and future pandemics.

Take Home Messages

Eighty percent (448) students chose to participate as healthcare workers during the first year of the covid-19 pandemic.

Non-working students significantly saw "lack of study time" and "risk of getting infected" as a deterrence as opposed to working students.

Medical students concerns should be addressed if they are to chose to enter the trenches of the covid-19 pandemic.



6L02 (2265)

Date of presentation: Monday 29th August

Time of session: 16:35 - 16:40

Location of presentation: Salon Tete d'Or

Difficult patient encounters during medical school – too hot to handle?

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Background

Throughout medical education, patient contacts tend to be of low clinical acuity, predictable and subsequently reported back to a supervising clinician. This might be supplemented by simulated patient encounters, in which more complex scenarios are presented by actors. During the COVID-19 pandemic, medical students were drawn into the workforce as vaccinators. Working with greater autonomy and more distant supervision, students would often find themselves facing real-world challenging scenarios, including vaccine-hesitant or hostile patients, complex issues of capacity and consent and communication barriers.

Summary Of Work

Eight medical students were interviewed about their experiences of working as vaccinators at a North London vaccination centre. Deductive thematic analysis of transcripts highlighted the development of myriad communication skills during their work, with sub-themes around difficult and complex encounters clearly emerging through further content analysis.

Summary Of Results

Exposure to difficult and complex situations was near-ubiquitous in this sample. These included negative experiences, such as discriminatory and intimidating behaviour from patients, but also a broad range of educational and satisfying challenges, allowing students to develop confidence in their clinical knowledge and skills, but also their clinical identity, risk assessment, negotiation, and de-escalation skills. Overall, student vaccinators appreciated the authenticity of these experiences as valuable and relevant to their learning and future practice. Compassionate leadership was cited as important, and students requested more access to debrief following difficult encounters.

Discussion And Conclusion

Medical student vaccinators are routinely exposed to difficult and complex patient encounters. Whilst some can be unpleasant and require proactive mitigation and subsequent debrief, these encounters were largely viewed as beneficial and relevant by the students experiencing them. Consideration should also be given to prior age and experience of students in these roles. As mass



vaccination efforts subside, alternative clinical responsibilities could be investigated to facilitate similar experiences, either within or without the medical school curriculum.

Take Home Messages

1. Students broadly appreciate the value of managing difficult patient encounters
 2. Students report increased confidence in empathy, negotiation, and risk management
 3. Risks should be proactively identified and mitigated to reduce adverse experiences
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6L03 (4197)

Date of presentation: Monday 29th August

Time of session: 16:40 - 16:45

Location of presentation: Salon Tete d'Or

Medical students' learning environments in New Zealand during the COVID-19 pandemic and their effects on learning

Linda Gulliver¹, Steve Gallagher¹, Jasbir Singh¹, Ben Daniel Motidyang¹, Jim Ross¹

¹ *University of Otago, Dunedin, New Zealand*

Background

New Zealand's "Go early and go hard" approach to limiting the spread of Coronavirus has seen Otago medical students oscillating between locked down and otherwise restricted learning environments and periods of comparative normality in the university environs. Anecdotally, medical students have reported difficulty retaining information during lockdown, feeling less motivated to engage and being anxious about their education. We hypothesised that lockdown learning environments could impact learning through effects on motivation, engagement and memory, and that these effects may be disproportionately experienced by students in environments where socio-economic, cultural or other influences potentially placed the student at a disadvantage. We considered the 'lockdown/restricted' learning environment to not only include physical environments, but also the social, emotional, psychological and cultural environs students found themselves in.

Summary Of Work

In February 2021 we conducted an online Qualtrics™ survey of all medical students across Otago Medical School's three campuses, asking them to reflect on their experiences of their learning and learning environments during the 2020 COVID-19 lockdown. Students' responses [n=861] appeared to support our hypothesis, so in February 2022 we administered a second survey capturing students' 2021 learning environments, to assess for the effects of repeated and alternative lockdown/restricted environments. Findings from the surveys are being used to inform recruitment of participants into focus groups to gain in-depth information about their learning experience.

Summary Of Results

Results thus far indicate that in 2020 during lockdown, difficulties were experienced by students that included the ability to retain new information, engage in learning and remain motivated to learn. This appeared reflective of individual learning environments that produced difficulties of a physical, social, emotional, cultural or psychological nature; alongside an online learning experience that was perceived as restricted and socially unsatisfactory. A comparative analysis of the 2020 and 2021 data is immediately pending and will be incorporated into our presentation.



Discussion And Conclusion

Preliminary findings suggest that both the learning environment and the way learning is received have tangible effects on medical student learning during pandemics.

Take Home Messages

Social and experiential learning environments offered by medical schools are important for medical students' learning.



6L04 (2049)

Date of presentation: Monday 29th August

Time of session: 16:45 - 16:50

Location of presentation: Salon Tete d'Or

A SWOT analysis of medical school adaptations to COVID-19: Cross-national surveys of deans in Italy and Taiwan

Ming-Jung Ho¹, Fabrizio Consorti²

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Background

The COVID-19 pandemic forced medical schools worldwide to transition online. There are limited studies evaluating the facilitators and barriers of these adaptations from the perspectives of medical education leaders in non-English-speaking countries. This study addresses the gaps in literature by surveying Italian and Taiwanese medical school deans on how they adapted their curricula to COVID-19.

Summary Of Work

The author conducted an online survey of directors of medical curricula in Italy and deans or associate deans of all medical schools in Taiwan. Free-text responses to open-ended questions about curricular adaptations and reflections on these adaptations were analyzed using qualitative thematic analysis. After the themes emerged, a SWOT analysis framework was used to group themes into four categories: strengths internal to the institution, weaknesses internal to the institution, opportunities external to the institution, and threats external to the institution.

Summary Of Results

Twenty out of 60 Italian medical school directors and all thirteen medical school deans or associate deans in Taiwan completed the surveys. This study identified strong leadership and ability to rapidly adapt the curriculum as common strengths; lack of faculty confidence and skills in online education and limited numbers of administrative staff as common weaknesses; centralized anti-epidemic policies, inter-institutional collaborations, and educational innovations as common opportunities; and threats from teaching hospitals. Differences identified across countries are lack of mental health and IT support as weakness and threats in Italy; prior experience with SARS as strength and threats from parents in Taiwan.

Discussion And Conclusion

This study offers a conceptual advance by demonstrating how SWOT analysis can help us reflect on medical education adaptations to COVID-19. SWOT analysis highlights certain strategies to leverage



strengths and opportunities to overcome weaknesses and threats. Some differences in SWOT analysis between Italian and Taiwanese medical school adaptations such as parental pressure to remove students from clinical settings in Taiwan could be interpreted through Hofstede's cultural dimensions theory.

Take Home Messages

The findings recommends that medical school leaders conduct SWOT analyses to identify key cultural and logistic issues, and to plan strategies to continue safe and quality medical education during COVID-19 and future crises.



6L05 (4186)

Date of presentation: Monday 29th August

Time of session: 16:50 - 16:55

Location of presentation: Salon Tete d'Or

A switch from campus-based examination to take-home examination with an oral follow up in a microbiology course

Catharina Hultgren¹, Annica Lindkvist², Anna Pasetto¹, Jonas Söderholm¹, Sophie Curbo¹

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Background

Due to the SARS-Co2 pandemic many courses during 2020/2021 changed into distance-based learning. One challenge with the changes was the examination. The exams were done digitally on distance, to ensure that students were not cheating, the examination time was shorter and the possibility to go back and review the answers was removed. Both of these changes make it more difficult to cheat, but it may also cause more stress. Since the ability to endure stress is not an intended learning outcomes in most courses, instead a different approach was decided on. This approach was based on recorded lectures, detailed intended learning outcomes, quizzes and workshops and finally examined by a written take-home examination with an oral follow-up based on the take-home examination.

Summary Of Work

The study compared the grades on the major course assessment for the students who performed the course in 2020/2021 (n=85) with the distance-based format with previous year 2019 (n=43) with the campus-based format. In addition, an extended course evaluation form was used to study the students' satisfaction with the course format.

Summary Of Results

The pass rate in year 2019 was 28% and the pass rate in 2020 and 2021 were significantly higher 56% and 60%. The questionnaire showed the majority of the participating students appreciated the digital recordings and the web-based material and found this learning-model beneficial. Although some students found the take-home examination heavy and an oral examination stressful, others found instead the take-home examination very beneficial for their learning and the oral follow up as a learning opportunity.



Discussion And Conclusion

Combining digital lectures and quizzes enables the students to learn when and where it is most suitable for them. This may lead to more engaged students and a higher pass rate. A take-home examination achieves a deeper learning since the students themselves are forced to find the answers to the questions. To combine with an oral examination based on the take-home examination not only enables the students to further elucidate on their given answers but also provides a learning opportunity during the exam.

Take Home Messages

Combining take-home examination with oral follow up is a promising approach to achieve a more student-centered learning.



6L06 (2940)

Date of presentation: Monday 29th August

Time of session: 16:55 - 17:00

Location of presentation: Salon Tete d'Or

Development and evaluation of the CO-PILOT X-ray program in COVID-19 situation.

Jira Sroysuwan¹, Suparat Kanjanavanit¹, Pornsuda Krittigamas¹, Worachet Teacharak¹, Phongpat Sattayopas¹

¹ *Nakornping Medical education center, Chiang Mai, Thailand*

Background

COVID-19 cases rose sharply in the 3rd wave of pandemic in Chiang Mai, Thailand. Chest X-ray is an initial investigation to categorize severity of COVID-19 cases demanding for radiologists. The CO-PILOT X-ray program was developed to train early medical non-clinical experience students to be able to screen pneumonia cases from chest x-ray.

Summary Of Work

The CO-PILOT X-ray program was 2 hours of lecture on how to interpret chest x-ray finding in COVID-19 patients follow by half day practicum during 24-30 May 2021. The program was developed by a group of experienced radiologists. Thirty chest x-ray images were selected with various of radiologic findings in COVID-19 cases and data collection via iSpring Quizmaker application. The trainee were 4th year medical students who were recruited by their interest. Passing criteria included 90% correct answer and time did not exceed 5 minutes for each image. Intra and inter- rater correlation between students and a radiologist were evaluated using Kappa statistics.

Summary Of Results

Five students attended the CO-PILOT X-ray program. Average time spent on image reading by students was 1 hour and 4 minutes while radiologist was 25 minutes. Agreement between trainees and radiologist is presented in the table1 and correct answers of finding in the table 2.



Table 1. Agreement between trainees and radiologist.

Radiologist					
0.93 (excellence)	Student #1				
0.80 (good)	0.87 (excellence)	Student #2			
0.93 (excellence)	0.87 (excellence)	0.73 (good)	Student #3		
0.80 (good)	0.87 (excellence)	1.00 (excellence)	0.73 (good)	Student #4	
0.93 (excellence)	0.87 (excellence)	0.73 (good)	1.00 (excellence)	0.73 (good)	Student #5

Table 2. Percent correct of answers of chest x-ray finding.

Finding	Percent correct					
	Student #1	Student #2	Student #3	Student #4	Student #5	Average
Pneumonia diagnosis	96.67	90.00	96.67	90.00	96.67	94.00
Abnormal characteristics	60.00	60.00	36.67	50.00	40.00	49.33
Interstitial infiltration	70.00	60.00	40.00	46.67	50.00	53.33
Alveolar infiltration						
Average	75.56	70.00	57.78	62.22	62.22	65.56

Discussion And Conclusion

Intra and inter-reliability test revealed good to excellence correlation between trainees and radiologist with very high correct percentage of pneumonia diagnosis. However, complicated characteristics such as interstitial infiltration or alveolar infiltration need improvement.



Take Home Messages

The CO-PILOT program is effective and feasible for COVID-19 pneumonia screening in early non-clinical experience 4th year medical students. More and in-depth training are required for specific radiologic findings.



6L07 (4000)

Date of presentation: Monday 29th August

Time of session: 17:05 - 17:10

Location of presentation: Salon Tete d'Or

Gender differences in medical student wellbeing during the COVID-19 pandemic: The experience of one international medical school

Kimberly Kirkland¹, Meagan Josephs¹, Dipali Rinker¹

¹ *American University of the Caribbean School of Medicine, Cupecoy, Sint Maarten (Dutch part)*

Background

Decreased wellbeing in medical students is well documented. To gauge our students' wellbeing and level of burnout, the American University of the Caribbean School of Medicine (AUC) circulates an annual Wellbeing Survey which includes the Oldenburg Burnout Inventory (OLBI). Students across the four-year medical school curriculum anonymously complete this survey, which is used to guide student wellbeing programming. This study compared students' pre-pandemic responses on the OLBI from the 2019 Wellness Survey to mid-pandemic responses from the 2021 Wellness Survey.

Summary Of Work

In June 2019, 198 AUC students responded out of 1290 survey invitations (15% response rate). In July 2021, coincidentally the same number of students (198) responded to 1562 invitations (13%). A two-samples t-test was used to determine differences between OLBI overall scores as well as the disengagement and exhaustion subscale scores between the pre- and mid-pandemic surveys. We also examined two-way interactions of year of survey and gender on overall scores on the OLBI and its two subscales.

Summary Of Results

While no significant differences were found for the overall burnout scores or for the disengagement subscales, there were main effects for gender, with women having higher exhaustion scores than men ($p = .0133$). There was a statistically significant interaction between year and gender ($F(1,1)=7.33, p=.0071$) with women's mid-pandemic exhaustion ratings being significantly greater than the exhaustion ratings reported by women completing the pre-pandemic survey.

Discussion And Conclusion

Medical school deans need objective guidance to improve medical student wellbeing and decrease burnout. At AUC, we found no significant increase in overall level of student burnout during the COVID-19 pandemic compared to the pre-pandemic burnout level. However, female students demonstrated a significantly higher level of exhaustion when compared to their male colleagues for



both survey time periods, and their exhaustion increased significantly between the two surveys. These findings were consistent with other studies indicating female students experienced greater medical school related impact to their wellbeing and studies indicating that within the general population women experienced greater pandemic related exhaustion than men.

Take Home Messages

Although data-driven wellbeing initiatives help mitigate pandemic-related increases in medical student burnout, continued work is needed to address challenges to wellbeing experienced by female medical students.



6L08 (3588)

Date of presentation: Monday 29th August

Time of session: 17:10 - 17:15

Location of presentation: Salon Tete d'Or

Hybrid teaching as an alternative to overcome challenges with transition from online teaching to campus based teaching post-COVID-19 restrictions

Annica Lindkvist¹, Catharina Hultgren², Sophie Curbo²

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Background

During the covid-19 pandemic we had to quickly change campus based courses to fully online courses. Now we are facing new challenges with students stressed about coming back to campus after two years of online teaching only. Therefore we set out to use synchronous hybrid teaching to increase class attendance. In order to overcome issues with managing two audiences simultaneously, and to facilitate more active student participation in learning activities, student moderators were appointed.

We evaluated student's preferences for hybrid teaching, online teaching only or campus-based teaching only.

Summary Of Work

The study included anonymous course evaluation forms and separate questionnaires distributed to 97 students enrolled in the biomedical laboratory science program (n=61), and the nursing program (n=36). We also conducted semi-structured interviews. Results were collected between October 2021 and February 2022.

Summary Of Results

The response rate from the evaluation forms and questionnaire was 77%. In total, 82 % preferred the concept of hybrid teaching, 12% preferred campus-based teaching only, and 6% online-teaching only. From the semi-structured interviews, 94% of the students reported that the possibility to choose between participating online or on campus significantly decreased their feelings of stress.

Discussion And Conclusion

A majority of the students preferred the flexibility with hybrid teaching and also reported decreased feelings of stress. Even though they were overall positive to this flexibility, it still posed challenges with student activity when participating online. We overcame this problem to some extent by



engaging student moderators on campus. However, to improve this further we should design hybrid teaching activities with primary focus on the online part, not the other way around.

Take Home Messages

Plan hybrid synchronous teaching with the outset of online teaching and involve peers to moderate classroom discussions.



6L09 (4103)

Date of presentation: Monday 29th August

Time of session: 17:15 - 17:20

Location of presentation: Salon Tete d'Or

Medical School Collaboration to Improve Health Knowledge and Beliefs in Elementary and Secondary Schools during the COVID-19 Pandemic

Nancy Moreno¹, Alana Newell¹

¹ *Baylor College of Medicine, Houston, Texas, USA*

Background

Misinformation about disease prevention and vaccines hindered containment of the COVID-19 pandemic in the United States (US). Schools are important conduits of information into communities, but public health topics rarely are taught in US science classes. Thus, students and teachers have had few sources of reliable health information. In response, an interdisciplinary team led by Baylor College of Medicine (BCM) developed and piloted a set of classroom lessons related to infectious disease and SARS-CoV2.

Summary Of Work

In 2020, a team of more than 20 educators, scientists and clinicians from BCM and the community developed 25 science inquiry lessons on SARS-CoV2 and the COVID-19 pandemic. The lessons met state and national education standards and were published on a large education website (BioEd Online), where they are downloadable free-of-charge. In 2021, a subset of the lessons was field tested in 24 elementary and 26 high school classrooms (N = 1,715 students) in Texas (US) to gauge impacts on teacher and student learning and their efficacy for explaining the science behind COVID-19 and reducing their own risks of infection.

Summary Of Results

90% of teachers agreed/strongly agreed that students demonstrated increased knowledge about: COVID-19 spread, vaccines, safe behaviors and infection. Students (all levels) reported strongly higher levels of agreement about how to prevent coronavirus infection and explain disease principles. Knowledge increased on items related to prevention and viral biology, but varied by classroom. The lessons and resources were viewed more than 50,000 times and downloaded by more than 7,900 users from locations around the world.



Discussion And Conclusion

The outcomes highlight the complexity of teaching public health concepts. Efficacy beliefs of teachers and students increased more broadly than did students' explicit content knowledge gains, which were impacted by classroom-level variables.

Take Home Messages

1) It is feasible to deploy science and health subject matter experts to provide information to schools. 2) School groups will use accurate science and health teaching resources that come from known health institutions in their own communities. 3) Efficacy beliefs about COVID-19 held by school children are not totally explained by knowledge about related health topics, signifying the need for continued partnership efforts.



6L10 (4277)

Date of presentation: Monday 29th August

Time of session: 17:20 - 17:25

Location of presentation: Salon Tete d'Or

Connecting Practice Programme: Supporting the Wellbeing of Medical Students

Siobhan Cooke¹, Lucy Marks¹

¹ *Barts and The London, Queen Mary, University of London, London, UK*

Background

Covid-19 pandemic resulted in clinical placements being suspended and students volunteered to support the NHS. Concern from the medical school about the emotional impact of volunteering on students resulted in a student-led and multidisciplinary faculty collaboration, Connecting Practice. This aimed to support students emotionally and minimise the experience of trauma.

Online facilitated workshops and support groups called 'e-huddles' were developed.

Workshops provided students with an understanding of normal responses to aversive experience and so prevent trauma.

Theme- based facilitated e-huddles provided an ongoing space where students could talk and reflect about the emotional impact of the work and so support each other.

Summary Of Work

This work was evaluated to inform how to support students' experiences during clinical placements beyond the COVID-19 pandemic. 13 students participated with consent in semi-structured interviews. 12 students had been NHS volunteers and 7 students had taken part in at least one Connecting Practice session. Individual interviews were conducted online by a faculty member. They were recorded and transcribed verbatim and thematically analysed.

Summary Of Results

The evaluation showed several key benefits to students from the programme.

Connecting Practice provided a valued opportunity for students to talk and share their experiences through reflection and filled a gap in students' existing support systems.

Barriers to engaging in the programme included accessibility, other priorities and students feeling that the programme did not apply to them.



Discussion And Conclusion

Supporting the wellbeing of medical students is important during and beyond Covid-19 due to the demanding competitive academic programme and in managing the anxieties, losses and multiple changes as a result of Covid-19.

Engaging with the emotional state of medical students is crucial not only for their wellbeing, but for their learning. Students who can manage and make sense of their feelings will be better able to communicate with their patients and so improve patient care.

Take Home Messages

We recommend this strategy to address the mental health and wellbeing for medical students to continue as part of the curriculum going forward, to prevent burnout and to develop a culture that promotes good student mental health.



6L11 (3528)

Date of presentation: Monday 29th August

Time of session: 16:30 - 16:35

Location of presentation: Salon Tete d'Or

Impact of COVID-19 on Medical Education: When Medical Students Are Hacked With a Bad Virus.

Panomkorn Lhakum¹

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Background

The coronavirus disease-2019 (COVID-19) pandemic has impacted all aspects of the lives of the global population and among healthcare professionals, including medical students. With the return to onsite learning for medical education in Thailand, clinical-year medical students may contribute to increased risk to contract COVID-19.

Summary Of Work

The study is a cross-sectional study to determine the incidence of COVID-19 in clinical year medical students in Chiangrai Prachanukroh Hospital, Thailand. Data were collected between the 26th April 2021 till the 6th February 2022 through a structured online questionnaire.

Summary Of Results

A total of 130 clinical-year medical students, 39(30%) were clinical clerkship medical students (6th-year) and 91(70%) were 4th- and 5th-year medical students. Overall, 9(5.6%) of students reported for COVID-19 infection, of which 6(8.7%) were clinical clerkships and 3(3.3%) were 4th- and 5th-year medical students, representing a relative risk of 4.0 of COVID-19 infection among clinical clerkships compared to the 4th- and the 5th-year medical students. The difference is statistically significant ($P = 0.040$). All of them had fully vaccinated at least 2 doses of COVID-19 vaccines. Most of the COVID-19 cases (66.7%) reported testing positive by RT-PCR. Of the 9 individuals with COVID-19, 6(66.7%) had mild symptoms and 3(33.3%) were asymptomatic. Medical students who were infected with COVID-19 reported having rotated onsite in the emergency department, surgery department, internal medicine department, pediatrics department, and ophthalmology department in 33%, 33%, 11%, 11%, and 11%, respectively. Most of the students (89%) spend at least 10 to 14 days in self-isolation, resulting in not enough study time. Eight (89%) of the students feel self-impact about this contracting with COVID-19.



Discussion And Conclusion

The incidence of COVID-19 infection in the clinical medical students was found to be higher among clinical clerkships compared to 4th- and 5th- year medical students. However, increasing the risk to contract COVID-19 in medical students, the onsite practice should be allowed to proceed with clinical rotations. Medical schools should support students' safety through prioritizing their vaccination and providing proper protective personal equipment during the COVID-19 pandemic.

Take Home Messages

Onsite learning should be prepared to cope with COVID-19 in medical education to maintain student's safety and well-being.



6L12 (2659)

Date of presentation: Monday 29th August

Time of session: 17:30 - 17:35

Location of presentation: Salon Tete d'Or

Managing COVID-19 Challenges, Experience of Akaki Tsereteli State University (ATSU)

Irine Pkhakadze¹, Revaz Gvenetadze¹, Mariam Sturua¹

¹ *Akaki Tsereteli State University, Kutaisi, Georgia*

Background

From the onset of the COVID-19 pandemic the Georgian medical education was forced to adapt to a distance learning process. By March 2020, ATSU fully converted its learning process into online one, by using TEAMS platform.

Summary Of Work

To manage better e-learning process, the administration of the faculty provided following technical supports:

- equitable access to the Microsoft teams
- online staff training
- filling the spreadsheets
- select responsible persons to monitor e-learning process

Summary Of Results

During the semester the teaching/learning process was conducted with fewer technical deficiencies. Students actively participated in practical activities, provided feedback, engaged in discussions. In parallel, we started observing and analysing e-learning challenges and some negative outcomes were identified:

- The quality of the material supply and interaction between professors and students decreased
- Irresponsible behavior of some students.
- Missing of necessary technical skills and gadgets

Positive outcomes:



- Help in retaining information for a longer time.
- Students can learn at their own comfort and requirement.

Discussion And Conclusion

In September 2020, Faculty of Medicine converted learning process into hybrid one.

But another problem arose, students were not fully vaccinated and their desire to return in auditoriums was very low, as the risk of being infected by COVID-19 was very high. To overcome this obstacle, administration decided to conduct information/PR campaign.

Deriving from the high responsibility of the University to encourage students' return in auditoriums and to facilitate the creation of a safe learning environment and protect spread of COVID infection decision was made to test all students on university's own expenses. These efforts were warranted and resulted in the massive return of students to classes.

It can be concluded, that as ATSU as most of the universities in the world were not technically ready to switch to distance learning in a very short period.

Take Home Messages

Nothing can replace face to face communication, constant control over learning process, provided the objective of the program is achievement of professionalism among medical students.



6L13 (3004)

Date of presentation: Monday 29th August

Time of session: 17:35 - 17:40

Location of presentation: Salon Tete d'Or

“I'm very good at saying I'm fine when I'm not” – Unearthing the impacts of COVID – A qualitative study examining the mental wellbeing of qualifying doctors during the COVID-19 pandemic.

Luke Flain^{1,2}, [Helen West](#)², [Oscar Edginton](#)²

¹ *Royal Liverpool University Hospitals NHS Foundation Trust, Liverpool, UK* ² *University of Liverpool, Liverpool, UK*

Background

The impact of COVID-19 on qualifying doctors' mental wellbeing may be far greater than quantitative data can portray.

Burnout and psychological distress have increased among healthcare professionals, and urgently need to be addressed. The “coping reservoir model” provided the framework for this study.

Summary Of Work

Qualitative semi-structured interviews were conducted with 29 participants who graduated medicine in 2020 and 2021. Interviews were audio-recorded, transcribed, anonymised and imported into NVivo. Data were analysed using reflexive thematic analysis.

Summary Of Results

Analysis identified three key themes, with corresponding subthemes: 1) Factors draining mental wellbeing – including experiences of death, uncertainty, negative public perceptions, and social isolation from family and friends; 2) Factors protecting mental wellbeing - the importance of social connections, formal and informal support, and being able to feel purposeful and helpful; and 3) Personal outcomes from COVID-19 - including burnout, poor mental health, empathy or emotional self-protection, preparedness, and building resilience and confidence. Recommendations to improve wellbeing support systems can be developed based on this data.



Discussion And Conclusion

Participants' experiences of qualifying as a doctor during COVID-19 were affected by a variety of draining and protective factors, which impacted their psychological health. Many participants reflected on how these challenges had improved their resilience.

Relational connections played an important role: existing relationships were solidified through adversity and shared experiences, and informal support was an important protective factor. Formal support was most helpful when accessible and individualised, and was criticised for relying on "generic messages and signposting".

Take Home Messages

This study highlights the protective effects of social connections and effective individualised wellbeing support and emphasises the role negative public perceptions and high mortality rates can have upon mental wellbeing. Our findings reinforce and broaden the scope of the coping reservoir model and can inform student and healthcare wellbeing services.



6L14 (1223)

Date of presentation: Monday 29th August

Time of session: 17:00 - 17:05

Location of presentation: Salon Tete d'Or

Sustainability of Virtual Outpatient Clinics in an Outpatient Referral Center Using Modified Pediatric Telemedicine Satisfaction Survey (PTSS)

Zahra Bazargani¹, Fatemeh Khajeh², Vahide sadat Sherafat², Ghasem Nikfar², Seyed Mohammad Hadi Sadati², Maryam Bahmanyar², Abbas Abdolahi³, Alireza Tavassoli³, Elham Kebriyaei²

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Background

The needs for virtual health care services has been raised rapidly during COVID-19 pandemic, especially in pediatrics group. The first virtual outpatient (VOP) clinic was started in pediatrics group in our referral center of pediatrics. Sixth and seventh year medical students also collaborated and participated in this VOP clinic.

The needs for virtual health care services has been raised rapidly during COVID-19 pandemic, especially in pediatrics group. The first virtual outpatient (VOP) clinic was started in pediatrics group in our referral center of pediatrics. Sixth and seventh year medical students also collaborated and participated in this VOP clinic.

Summary Of Work

Retrospective analysis of VOPCs was performed at a pediatric referral center over a 6-month period during the COVID-19 epidemic. The demographic clinic was general (complaint submission, new follow-up, type of consultation), as well as outcome data (medical or surgical intervention, discharge versus ongoing examination, follow-up referrals, examinations, and face-to-face conversion). In addition, a modified 15-point survey of patient satisfaction was created. The Pediatric Telemedicine Satisfaction survey (POTSS), was an adaptation of 4 validated patient satisfaction tools including the General Medical Council (GMC) patient questionnaire, the telehealth satisfaction scale (TESS), the telehealth usability questionnaire (TUQ), and the telemedicine satisfaction and usefulness questionnaire (TSUQ).

Summary Of Results

Of 814 patients visited virtually over a 6-month period, 163 (20%) were randomly selected to participate this survey. of which 147 met our inclusion criteria. The most common mode of



consultation was telephony (86%, n = 140). A subsequent face-to-face appointment was required in 10% of participants. Overall, satisfaction when assessing physician-patient relationship, privacy and trust, as well as areas of counseling, was high, with the vast majority of parents of future integration and participation in VOP clinics.

Discussion And Conclusion

VOP clinics prepare a steady flow of patients within an elective outpatient services, without risk of contamination. In this survey majority of parents want long-term sustainability of VOP clinics parallel to face to face clinics, even after OVID- 19 pandemic.

Take Home Messages

Good News in Telemedicine:Virtual out patient clinics have been born and growing up in COVID-19



Workshop 6M (0229)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 3A

The shift to remote consulting: a threat or opportunity for undergraduate medical education?

Richard Darnton¹, Louise Younie², Rofique Ali²

¹ *University of Cambridge, Cambridge, UK* ² *Queen Mary University of London, London, UK*

Background

The use of remote consulting (RC) during the pandemic created new opportunities in medical education (for example medical students consulting from home). However, the shift away from face-to-face contact with patients was also commonly perceived as a threat to learning.

As the pandemic recedes, it remains to be seen what proportion of medical consultations will continue to be undertaken remotely and which related teaching innovations will remain. Questions raised by this include: what specific skills does RC require and how do we teach/assess these? What RC innovations born during the pandemic have sufficient merit to be continued long-term? How could the shift to RC undermine or enhance medical education? Does RC have any as yet untapped potential for medical teaching?

Who Should Participate

Those who wish to: explore the potential of RC in medical education, share the highs and lows of its use in teaching, consider what skills unique to RC should be taught/assessed and reflect on potential risks to learning medicine that RC may pose.

Structure Of Workshop

- 1) Introductory presentation drawing on: literature, presenter publications (<https://doi.org/10.1080/0142159X.2020.1829576>; <https://doi.org/10.1080/0142159X.2021.1990239>) and experience forming the UK medical schools' Cross Institutional Remote Consulting Alliance in Medical Education (CIRCA MedEd)
- 2) In groups, sharing experiences with RC in MedEd and considering international variation
- 3) New subgroups will then explore:
 - what skills are unique to RC and how might we assess these?
 - what current/previous innovations do we need to keep/evaluate/expand?



- what potential of RC as a learning and teaching tool remains as yet untapped and what innovations should/could be piloted?
- what risks does RC pose to medical education and how can these be mitigated?
- what research needs to be done to inform RC in MedEd?

Intended Outcomes

Attendees will leave the workshop with:

- 1) Awareness of RC innovations currently used in MedEd
 - 2) Tips and warnings regarding use of RC in MedEd
 - 3) Ideas for new innovations and research related to RC in MedEd
 - 4) Summary of skills unique to RC and ideas regarding how to assess these
 - 5) An international network of educators with an interest in RC
-



Workshop 6N (0934)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 3B

Blind spots in medical education: How can we envision new possibilities?

Sean Tackett¹, Yvonne Steinert², Cynthia R. Whitehead³, Darcy Reed⁴, Scott Wright¹

¹ Johns Hopkins Bayview Medical Center, Baltimore, USA ² McGill University, Montreal, Canada ³ Wilson Centre for Research in Education, Toronto, Canada ⁴ Mayo Clinic College of Medicine and Science, Rochester, USA

Background

Every individual, and collectively groups, have blind spots that can lead to mistakes or not taking full advantage of available opportunities. As we begin to notice our blind spots, we can see the present more clearly and envision more “adjacent possibilities,” opportunities to innovate. The purpose of this workshop is to define blind spots in medical education, take time to identify and discuss some of them, and consider ways to address blind spots in our educational practices.

Who Should Participate

All attendees are welcome; we're seeking diverse perspectives.

Structure Of Workshop

We will begin by describing the concept of blind spots in medical education. Examples include individuals' unfamiliarity with the evidence and theory informing medical education and persistently shared blind spots, like the failure to engage patients in curriculum development and reform. (15 minutes)

Next, we will have small group discussions where each individual will identify a blind spot that they believe influences their work and one that might be held in their own institution or within medical education more generally. After individuals reflect, they will share answers with one another. (15 minutes)

In the full group, small groups will report selected individual and shared blind spots. We will then present the conceptual model of blind spots in medical education from our own research. (15 minutes)

We will return to small groups to consider how to address blind spots. Individuals will share their perspectives, and the group will list the most promising next steps or strategies they could apply for addressing blind spots. (15 minutes) We will ask small groups to share their strategies with the larger group and relate those to strategies described in the literature. We will conclude by allowing time for general discussion of the blind spots that came into view during the workshop. (15 minutes)



Intended Outcomes

By the end of the workshop, participants will be able to:

- Explain the importance of systematically looking for blind spots in medical education.
 - Identify at least 1 individual blind spot and 1 group blind spot that affect their own educational practices.
 - Describe at least 3 strategies to address blind spots.
-



Workshop 60 (4839)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 4

Transparent assessment of Medical Education publications through Open Peer Review

James Barker¹, Niall Rundle²

¹ F1000, London, UK ² Taylor & Francis, Abingdon, UK

Background

The decisions around the publication and acceptance of academic research are mostly conducted behind closed doors, with readers unaware of how the article they are reading came to be published. Withdrawals of high-profile papers, particularly during the COVID-19 pandemic, have highlighted the need for transparency in the peer review process, allowing readers to scrutinise the decisions leading to publication as well as the publication itself. AMEE's open access publishing platform MedEdPublish implements an open peer review model, with reviews and reviewers' names published alongside the article. We will discuss how MedEdPublish conducts peer review with the tenants of transparency and openness as the central focus.

Who Should Participate

This sessions will be suitable for any researcher, student or educator interesting in learn about MedEdPublish and open peer review. While we will use MedEdPublish as our case study the tips and tricks we will provide will also be applicable to authors and reviewers using more traditional peer review methods. **Background** – The decisions around the publication and acceptance of academic research are mostly conducted behind closed doors, with readers unaware of how the article they are reading came to be published. Withdrawals of high-profile papers, particularly during the COVID-19 pandemic, have highlighted the need for transparency in the peer review process, allowing readers to scrutinise the decisions leading to publication as well as the publication itself. AMEE's open access publishing platform MedEdPublish implements an open peer review model, with reviews and reviewers' names published alongside the article. We will discuss how MedEdPublish conducts peer review with the tenants of transparency and openness as the central focus.

Structure Of Workshop

The workshop will introduce MedEdPublish and the peer review process through a series of presentations from James Barker (Associate Publisher, F1000) and Niall Rundle (Global Head of Portfolio, Taylor and Francis), followed by discussions with an author and a reviewer about their experiences with post-publication peer review. There will be extensive time for questions at the end.



Intended Outcomes

Participants should leave with an understanding of the importance of open peer review and how it is conducted on MedEdPublish.



Workshop 6R (1452)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Roseraie 1

Evidence Based Bioethics Teaching Methodology in Medical Education

Professor Russell D'Souza^{1,2}, Mary Mathew^{3,4}, Joseph Thornton⁵, Derek DSouza⁶, Princy Palatty⁷, Madelina Patricio⁸

¹ Department of Education International Chair in Bioethics (UNESCO), Melbourne, Australia ² International Institute of Psychological Medicine, Melbourne, Australia ³ Manipal University, Manipal, India ⁴ University of Florida, Gainesville, USA ⁵ University of Florida, Gainesville, USA ⁶ D Y Patil University, Pune, India ⁷ AMIRTA University, Kochi, India ⁸ University Lisbon, Lisbon, Portugal

Background

Studies were carried out in Medical Schools in North America. A significant translation gap between classroom teaching and application. clinical ethical decision making and healthcare, provider-patient interface. In 2001 UNESCO Charged the International Centre on Health, Law and Ethics to develop a reformed curriculum and evidence-based teaching methodology to satisfy the requirements of doctors and healthcare providers of the future. . A reformed vertically integrated ethics curriculum based on the Universal Declaration on Bioethics and Human Rights was established and piloted (Medical Teacher; 40:6, 573-577 DOI). The department of education established a teaching methodology program for Medical and Health science teachers using evidence-based innovative pedagogy in medical humanities. The use of the innovative methodology f- the use of Participatory Theatre, Cinema, Roleplay, Debate, Tableau and Art. The use of formative and summative assessment of Bioethics in medical and health science education The use of bioethical Deliberation technology for clinical ethical decision making and microteaching focussing on delivery and knowledge transfer technology of a Bioethics. The teaching methodology was piloted Internationally program The outcomes were positive 4000 teachers were trained in teaching methodology.

This workshop will offer Bioethics teaching competencies.

Who Should Participate

Teachers from Medical schools

Teachers of Health Science education

Health Profession educators

Structure Of Workshop



The workshop will be delivered by accredited trainers delivered in an interactive workshop model face to face using a cafeteria setting, iThe use of innovative teaching methodology using role play, acting, debates, moral games and cinema, will be demonstrated, with workshopping of the fully evaluated case-based teaching methodology. Participants will take part in the practice sessions of the innovative methodology. The simulated teaching viva and assessment at the end of the course will offer dynamic feedback on teaching skills and knowledge transfer technology demonstrated by the participants.

Intended Outcomes

- Use .of the innovative methodology for teaching Bioethics use of Participatory Theatre, Cinema, Roleplay, Debate, Tableau and Art
- Use of Formative and Summative assessment in Bioethics in medical and health science education
- The successful completion with certification, offers credentials in competencies to teach bioethics in their respective, medical and Health Science discipline
- Membership in the International Forum of Teachers of Bioethics Sophia



Workshop 6S (0154)

Date of presentation: Monday 29th August

Time of session: 16:30 - 18:00

Location of presentation: Roseraie 2

Extended Reality in Health Professions Education: An experiential workshop

Daniel Salcedo¹, Yerko Berrocal², Michelle Aebersold³, Deborah Lee³, Raquel Correia⁴, James Thomas⁵

¹ Case Western Reserve University, Cleveland, USA ² University of Illinois at Chicago-Peoria, Peoria, IL, USA ³ University of Michigan School of Nursing, Ann Arbor, USA ⁴ Nova University, Lisbon, Portugal ⁵ University of Oxford, Oxford, UK

Background

Extended reality (XR) is a term that encompasses several immersive technologies (VR, AR, MR) that continue to gain ground in the field of health professions education. However, like any new technology, many unknowns remain.

Understanding these technologies and their potential to transform the way we train health professionals requires essential knowledge of the hardware, software, and educational frameworks that make them effective educational tools.

This hands-on workshop aims to provide the essential knowledge necessary to help you understand these new technologies and the different ways in which they can be integrated into Health Professions Education.

Join us in and have some fun while we experience hands-on the world of XR in a safe and friendly environment.

This workshop is supported by the AMEE TEL Committee

Who Should Participate

Faculty, administrators, and students interested in understanding immersive learning technologies and their role in Health Professions Education.

Structure Of Workshop

- Introduction to XR: Discussing basic concepts and terminology (15 min)
- Understanding the hardware: A hands-on experience with different types of XR equipment (20 min)
- XR software: What kind of learning can we do in XR? A deep dive into XR applications (25 min)



- Integrating XR into Education: A review and discussion of some of the methodologies that enable learning to happen in XR (10min)
- Examples of XR in Health Professions Education: Case studies and discussion (20min)

Intended Outcomes

- Understanding the basic principles of XR as a learning tool in Health Professions Education
- Comparing the features of different kinds of XR hardware and software
- Determining best practices in the integration of XR in the curriculum
- Analyzing authentic cases of XR implementation
- Reflecting on best practices for XR use for Health Professions Education



Plenary 7A (2985)

Date of presentation: Tuesday 30th August

Time of session: 08:00 - 08:45

Location of presentation: Amphitheatre

The Personal is Political in the Struggle for Equity in Global Medical Education Research and Scholarship

Thirusha Naidu¹

Moderators: Rashmi Kusrkar², Ardi Findyartini³

¹ *Department of Behavioural Medicine, School of Public Health and Nursing, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa* ² *Amsterdam University Medical Center, Amsterdam, The Netherlands;* ³ *Universitas Indonesia, Jakarta, Indonesia*

Medical education research is rooted in a long tradition of objectivity, evidence-based methods and clinical surety. In this session I trouble the inexorable confidence, medical education research education and scholarship has in the manifest supremacy of western science as *the* foundational epistemology in our field. Where does this bravado originate? Is it legitimate and if so by what authority? How does this dominance of western epistemic frames determine how we are seen and how we see ourselves as medical education researchers; how and why we conduct research and what we consider what is important to research in medical education. The answers are different depending on where we position ourselves or are placed in a hierarchy of scholarly privilege.

I pose that the supremacy of Western scientific epistemology in modern medical education, research, practice blurs differently coloured scientific lenses and silences marginalized voices from legitimate contribution to our field. Medical education deprives itself and ultimately the future of medicine of access to the full range of human learning, creativity, ingenuity and ways of thinking. Excluding different ways of thinking, acting and speaking is epistemically violent towards marginalized groups and is a form of self-harm that privileged groups inflict on themselves. As a consequence of the recent global radical turn towards social equity, justice and anti-racism, we in medical education find ourselves in a moment of rupture. In this moment we can stand our old ground or we can consider what means and methods there are to create global counterspaces for decolonial enactment in medical education. Will we free our minds?

Bio

Dr. Naidu is a clinical psychologist and health professions educator at the University of KwaZulu-Natal Nelson R Mandela School of Medicine. Dr. Naidu's current research focus area is the intersection between Health Humanities, Health Professions' Education and Global Health. Her current projects explore reflexivity, decoloniality and Global North- South engagement in Health Professionals research with a specific focus on the geopolitical dynamics of medical education, research, scholarship and the politics of publication. Her work on dismantling power structures and levelling the



Northern tilt in global health professions' education appeared in Academic Medicine and Advances in Health Sciences Education. She is a scholar-poet and has published poetry and reviewed poetry related papers in academic (medical) journals and texts. Dr. Naidu's poetry centres on health disparities, equity, clinician reflexivity and Global North- South engagement in health professions education. Her recent writings on decoloniality, epistemic violence, voice and equity in medicine and medical education appear in the Lancet Global Health and Academic Medicine. Dr. Naidu was selected in the inaugural group of Fellows of the Karolinska Institute Prize for Research in Medical Education (KIPRIME) and was invited junior faculty on the 2021 KIPRIME Fellowship cohort program. She is privileged to work with scholars from many different global North and South locations.



Symposium 8A (0568)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Amphitheatre

Accreditation for every medical school in the world: what could possibly go wrong?

Sean Tackett¹, Cynthia R. Whitehead², Anne-Louise Carlton³, Mohammed Ahmed Rashid⁴

¹ Johns Hopkins, Baltimore, USA ² University of Toronto, Toronto, Canada ³ WHO Consultant, Melbourne, Australia ⁴ University of College London, London, UK

Background

International authorities promote the accreditation of medical schools as a key element of quality assurance and regulation strategies. The World Federation of Medical Education's (WFME's) recognition programme continues to expand its influence as it formally recognizes a growing number of accrediting authorities that collectively have jurisdiction over hundreds of medical schools and thousands of medical students and faculty.

Topic Importance

As accreditation expands internationally, few have carefully looked for potential unintended consequences. Many stakeholders affected by accreditation have little understanding of how to be critical while participating in change. Lack of transparency in accreditation practices in some settings can further limit opportunities for stakeholder participation. Our goal in this symposium is to create an international forum that stimulates critical dialogue around accreditation's global expansion to ensure that accreditation processes serve their intended quality improvement purposes.

Format and Plans

We will begin by polling the audience on their knowledge of current accreditation procedures and their assumptions related to accreditation. We will also solicit questions that we can address during presentations.

Dr. Tackett will moderate, briefly define accreditation, then introduce panelist presentations. Dr. Carlton, senior researcher for a WHO-sponsored review of the evidence for regulation across health professions worldwide, will share their group's findings on evidence informing accreditation practices. Dr. van Zanten will describe the current state of WFME's recognition programme. Dr. Rashid will summarize results from his critical discourse analysis on the globalization of accreditation. Dr. Whitehead will describe her experience engaging in processes of positive change in cooperation with a national accrediting authority.



After panelist presentations, we will revisit poll results and the questions solicited at the start of the symposium and invite additional questions from the audience. Our hope is that by increasing audience members' awareness of the limited evidence informing current accreditation practices and sharing ways they can influence change, audience members will feel empowered to engage in activities that can improve accreditation.

Take Home Messages

Accreditation of medical schools is expanding without significant scrutiny. Greater understanding and participation among the many stakeholders influenced by accreditation can lead to innovation and elevate the quality of accreditation.



Symposium 8B (1059)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Auditorium Lumiere

SNAKES & LADDERS: Supporting Early-Career Educators

Lisa-Jayne Edwards^{1, 2}, Jamie Fisher^{1, 3}, Jamie Read^{1, 4}, Julie Browne^{1, 5}, Senior Fellow to be determined¹

¹ Academy of Medical Educators, Cardiff, UK ² Oxford University Hospitals NHS Trust, Oxford, UK ³ University of Surrey, Surrey, UK ⁴ University of Plymouth, Plymouth, UK ⁵ Cardiff University, Cardiff, UK

Background

Medical education is becoming a popular para-clinical career choice amongst early-career healthcare professionals. With increasing opportunities to undertake postgraduate qualifications, teaching fellowships and educational research, it is an attractive field for study and practice.

Furthermore, introducing standards, accreditation and appraisal has professionalised the field. Despite this, forging a career in medical education lacks a clear pathway for early-career educators to navigate.

Topic Importance

Students and junior health professionals are the future of the medical workforce and the future of medical education. Therefore, early-career healthcare professionals must be supported to pursue a career in medical education to adequately lead and engage within their faculties, programs and scholarship. As the new group for early-career educators at the Academy of Medical Educators (AoME), the Developing Medical Educators Group (DMEG) is uniquely positioned to host such a discussion.

Format and Plans

Before the panel, attendees will be asked to participate in an anonymous Mentimeter to explore their ideas and priorities in supporting early-career educator development. Four expert panellists will give a ten-minute pitch to answer the question, “*how can the development of early-career medical educators be supported?*”. Presenting panellists will range in seniority, perspective and background to give a well-rounded set of ideas. Attendees will then be invited to discuss the topic amongst themselves and with the panellists; this discussion will be chaired/moderated by a fifth panellist.

In addition to the Mentimeter and Q&A-style discussion with panellists, we would encourage attendees to share discussion points through any conference platform provided. We would invite



attendees to continue the conversation on social media and consider joining DMEG themselves. Panellist details can be shared with attendees (with consent) on request.

Take Home Messages

We hope that this session will elucidate the many ways that early-career healthcare professionals can build a career in medical education, with reference to the AoME Professional Standards. The session will also signpost attendees to relevant resources and interest groups.



Symposium 8C (4816)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Bellecour 1

Transformational leadership – a key competence of contemporary health professionals: WHO Europe Symposium

Hans Kluge¹, Gabrielle Jacob², Pascale Goreux³, Janusz Janczukowicz⁴, Lukasz Strakowski⁴

¹ WHO Regional Director for Europe, Copenhagen, Denmark ² WHO Europe Special Adviser on Transformation and Organizational Development, Copenhagen, Denmark ³ WHO Europe Senior Specialist, Copenhagen, Denmark ⁴ Medical University of Lodz, Lodz, Poland

Background

The Covid-19 pandemic has shown us that now, more than ever, we need health professionals equipped with transformational leadership competence, ready to effectively strengthen the local and global health systems. This symposium will use the case study of the new WHO/Europe's Pan-European Leadership Academy (ELA) to discuss the ways to support the development of the above competence via the health professions education. At the heart of the Academy is a central focus on transformational leadership for health and the acquisition or enhancement of core transformational leadership skill sets and competencies to lead and drive change at all levels of health systems. The first ELA demonstration project aimed at young professionals from public health and health related fields was launched in June 2021 with a further demonstration project focusing on mid-career professionals coming on-stream during the second quarter of 2022. The symposium presentations will be followed by the discussion focused on the methods of teaching, learning and assessing the leadership competence.



Research Papers - New Roles

8D1 (0806)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:50

Location of presentation: Bellecour 2

Medical students attitudes toward and intention to work with the underserved: a systematic review and meta-analysis

Edouard Leaune¹, Roy Strowd², Sonia Crandall³, Gilles Rode¹

¹ *Faculté de Médecine Lyon-Est, Lyon, France* ² *Wake Forrest School of Medicine, Winston-Salem, USA*

³ *Wake Forrest School of Medicine, Wiston-Salem, USA*

Introduction

The term “underserved” defines vulnerable populations, especially individuals who are uninsured, poor, from racial and ethnic minorities, homeless, newly immigrated, socially isolated, or poorly educated. Many studies demonstrated that underserved populations experience health disparities, including increased premature mortality, poorer physical and mental health status, and diminished access to the healthcare system. Experts in the field of medical education emphasized the need for curricula that improve students’ attitudes toward the underserved. However, medical education may tend to worsen these attitudes in students.

Our systematic review and meta-analysis aimed to examine the three following questions:

1. How do medical students attitudes toward the underserved (MS-ATU) and medical students intention to work with the underserved (MS-IWU) change throughout medical education?
2. How do sociodemographic and educational factors predict MS-ATU and MS-IWU?
3. What types of educational interventions show the best effectiveness to improve MS-ATU and MS-IWU?

Methods

The systematic review protocol was based on the PRISMA protocol and registered on the PROSPERO database (registration number CRD42019120628), in March 2019. The electronic search was conducted on the following databases: Medline, Scopus, and Web of Science. The following search terms were grouped by subject as follows: a) context of medical education; b) outcomes: change in MS-ATU and/or MS-IWU, predictive factors for MS-ATU and/or MS-IWU, effectiveness of educational interventions; c) underserved population. Three investigators independently conducted the electronic search. We assessed the change in medical students attitudes toward the underserved by computing a weighted mean effect size of studies reporting scores from validated scales. We performed a meta-



analysis for the sociodemographic and educational factors associated with medical students attitudes toward and/or intention to work with the underserved.

Results

A total of 2857 articles were identified, of which 55 were included. The studies were published between 1980 and 2019 and included 109,647 medical students, 101,327 of whom were U.S. medical students (92.4%). The average response rate was 73.2%. The quality of studies was heterogeneous. We observed a significant decline of MS-ATU throughout medical education, in both US and non-US studies. A moderate effect size was observed between the first and fourth years ($d = 0.51$). Higher favorable MS-ATU or MS-IWU were significantly associated with female gender (OR= 1.47; 95%CI 1.18-1.81), being from an underserved community or ethnic minority (OR= 2.20; 95%CI 1.51-3.21), exposure to the underserved during medical education (OR= 1.47; 95%CI 1.26-1.71) and intent to practice in primary care (OR= 1.97; 95%CI 1.27-3.05). Regarding educational interventions, the effectiveness of experiential community-based learning and curricula dedicated to social accountability showed the most positive outcome.

Discussion And Conclusion

We performed the first systematic review and meta-analysis on MS-ATU throughout medical education. First, our systematic review demonstrated that MS-ATU significantly declines throughout medical education. Second, we found that factors associated with more favorable MS-ATU were sociodemographic characteristics, such as gender and social origin, not related to medical education. Third, community-based interventions were the only clear educational strategies that significantly improved MS-ATU. Experiential community-based learning and curricula dedicated to social accountability tended to show the highest levels of effectiveness in improving attitudes and intentions.

Our systematic review had several limitations. First, over 90% of the studies were performed in high-income countries. Second, studies had considerable heterogeneity in terms of outcomes and design. Third, we choose to exclude qualitative studies of the systematic review to limit the heterogeneity of data, which may have impeded the exhaustiveness of our results. Finally, medical students' attitudes represent a limited part of the competencies related to social accountability.

References

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Leaune E, Rey-Cadilhac V, Oufker S *et al.* Medical students attitudes toward and intention to work with the underserved: a systematic review and meta-analysis. *BMC Med Educ.* 2021;21:129



Marrast LM, Zallman L, Woolhandler S, et al. Minority physicians' role in the care of underserved patients: diversifying the physician workforce may be key in addressing health disparities. *JAMA Intern Med.* 2014;174:289–91



8D2 (0695)

Date of presentation: Tuesday 30th August

Time of session: 09:50 - 10:10

Location of presentation: Bellecour 2

Student-as-Teacher Curricula: Literature-Informed Recommendations for Undergraduate Medical Education

Alexandra Cohen¹, Yvonne Steinert², Elisa Ruano Cea^{2,3}

¹ *University of Ottawa, Ottawa, Canada* ² *Institute of Health Sciences Education, McGill University, Montreal, Canada* ³ *Department of Pediatrics, McGill University, Montreal, Canada*

Introduction

Medical students play an important role in teaching peers and junior learners; they routinely engage as teachers during their undergraduate training and are expected to assume key teaching responsibilities starting early in residency. However, trainees often report feeling ill-prepared to assume teaching roles. While formal teaching skills training is well-established at the postgraduate level through Resident-as-Teacher curricula, such training is limited in Undergraduate Medical Education (UGME). We therefore conducted a narrative review to comprehensively synthesize the Student-as-Teacher (SaT) literature with the goal of proposing strategies for curriculum development in UGME.

Methods

In August 2020, we searched Medline, Embase, and Scopus databases to identify articles published between 1985-2020 related to teaching medical students to teach. Search terms included 'student(s) as teacher(s)', 'near-peer teaching', and 'teaching to teach'. Two authors independently completed the review process to select the articles that met inclusion criteria. The selected articles were then summarized and synthesized.

Results

Forty-three articles met the inclusion criteria. These included 33 SaT program descriptions, three literature reviews, six surveys of medical school faculty leadership or students, and one Delphi study with leaders in medical education. Existing SaT curricula were usually optional in nature and were delivered as short courses targeting senior students. Curricular content commonly included planning and delivering learning activities and providing feedback. Additional content areas recommended by medical students and medical educators included mentorship and professionalism as medical educators. Of the numerous teaching modalities employed, students indicated a preference for interactive and experiential learning. Students' teaching skills were not routinely assessed; however, direct observation and feedback from students' learners were valued assessment methods.



Discussion And Conclusion

Based on our findings and informed by outcome-based educational frameworks, we suggest four guiding principles for SaT curriculum development: 1) Teaching skills training should be formally implemented in UGME to adequately prepare trainees for their current and future teaching responsibilities; 2) Teaching skills should be taught longitudinally and progressively along the undergraduate to postgraduate learning continuum to allow for continuity and refinement of skills over time; 3) Curricular content should be aligned with the school's pre-existing curriculum and local context to best respond to trainees' learning needs; and 4) Authentic opportunities for trainees to engage in teaching with coaching and feedback should be included to facilitate trainees' development of competence as teachers. We also recommend literature-informed^{1,2} strategies for SaT curriculum content, teaching modalities, and assessment methods. We propose that content areas include: planning and delivering a learning activity, providing feedback, assessing teachers and learners, promoting a safe learning environment, and role modeling, mentorship, and professionalism as a medical educator. For teaching modalities, we recommend the use of interactive strategies, such as small group discussions, role play activities, and authentic hands-on teaching experiences with built-in opportunities for coaching and feedback. Finally, for the assessment of students' teaching skills, we suggest including Observed Structured Teaching Encounters (OSTEs) or other forms of direct observation.

Our findings highlight the paucity of teaching skills training in UGME and the need for medical schools to better prepare students for their current and future teaching roles. We propose literature-informed recommendations to help guide the development and implementation of SaT curricula in UGME. We also suggest that more studies evaluating the implementation of longitudinal SaT curricula are needed, with a focus on the impact of SaT curricula on student teachers' teaching skills, both in the short and long-term.

References

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8D3 (0731)

Date of presentation: Tuesday 30th August

Time of session: 10:10 - 10:30

Location of presentation: Bellecour 2

Learning in and across communities of practice: nursing students' learning from boundary crossing

Malou Stoffels¹, Stéphanie van der Burgt², Larike Bronkhorst³, Hester Daelmans¹, Saskia Peerdeman², Rashmi Kusurkar¹

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Introduction

Adapting to new contexts is key in health professions' education (HPE). In each clinical placement, students have to apply knowledge and skills in a novel setting with different role models. Moreover, they have to find their place within the community of practice (CoP). When differences between and within contexts temporarily hamper students' learning process, they are labeled 'boundary experiences'. In the literature, these boundary experiences are mostly approached as being problematic. However, recent studies suggest that while challenging, successfully dealing with boundary experiences can stimulate the development of professional identity and adaptive expertise¹. Little is known about if and when HPE students (can) utilize these boundary experiences for learning. We investigated how nursing students learn from boundary experiences they encounter in clinical placements, and how this learning interacts with their position within the CoP.

Methods

Fourteen nursing students were followed during a clinical placement in a single university hospital. In pre-placement interviews, students were asked about expectations and previous learning experiences. During the placement, they recorded or wrote short diary fragments when they encountered something different from what they had experienced before. After the placement, they were interviewed about (boundary) experiences and perceived learning outcomes. Data were interpreted using a constructivist paradigm. First, (boundary) experiences and learning outcomes were identified with inductive thematic analysis by two researchers independently. Second, responses to boundary experiences were analyzed with directed content analysis, using learning mechanisms from previous boundary crossing literature (identification, coordination, reflection, transformation)² as a framework. Findings were integrated into themes through consensus to answer the research question.



Results

We identified three themes describing how students learn from boundary experiences: a) experiencing theory in action b) contrasting 'role models' and c) recognizing individual learning preferences. From the beginning of the placement, students realize that knowledge and skills they learned at school are not readily applicable to their current setting. First, they focus on understanding which knowledge is relevant by observing staff and immersing themselves in ward-specific resources. Later, they deepen their understanding in (interprofessional) conversations. Moreover, students notice the way nursing care is delivered varies between placements or between supervisors within a placement. Once they feel safe, they discuss this variance with supervisors, and integrate this into their image of the nurse they want to become. Students are more likely to adopt a critical attitude when their ethical standards are violated or when they are highly motivated to learn, and less likely when they think it will negatively affect their assessment. Students also identify different expectations with respect to their learning process. They mostly find practical solutions to coordinate conflicting requirements. Although this process eventually helps them become aware of their learning preferences, it takes a lot of energy. Aids designed to bridge theory and practice, such as feedback forms, are sometimes helpful, but raise additional barriers when these are not implemented well in practice. Some students want to use their boundary experiences to permanently transform practice, which is difficult within their temporary position within the CoP.

Discussion And Conclusion

This study shows that boundary experiences are an inevitable source of learning in HPE. Successfully overcoming boundary experiences can strengthen students' knowledge and professional values, which may eventually help them improve practice. In line with previous research, this study suggests that addressing doubts in clinical practice requires a basic level of psychological safety. Students should be invited to discuss their boundary experiences *within* the CoP as a group and to further reflect on them outside the CoP. School and practice should collaborate in the design and implementation of aids to connect practices. This study adds to the literature by demonstrating the learning potential of boundaries in HPE, and by identifying personal and environmental factors that affect students' learning behavior at the boundaries.

References

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2. Akkerman, S. F., & Bakker, A. (2011a). Boundary crossing and boundary objects. *Review of educational research*, 81(2), 132-169.



Short Communications - Competency Based Medical Education 2: Assessment

8E1 (0136)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:45

Location of presentation: Bellecour 3

Locally adapting generic rubrics for the implementation of outcome-based medical education: A mixed-methods approach

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Background

Rubrics are frequently used to assess competencies in outcome-based education (OBE). The implementation of assessment systems using rubrics is usually realised through years of involvement in projects with various stakeholders. However, for countries or specialities new to OBE, faster and more simplified processes are required. In March 2019, Japan introduced nine competencies and generic rubrics of competencies for medical residents. We explored the local adaptation of these generic rubrics and its consequences for assessors.

Summary Of Work

The study followed three steps. First, we locally adapted the generic rubrics. This was followed by conducting mixed-method research to explore the effect of the local adaptation. In step two, we examined the correlations between the scores in the locally adapted assessment sheets for supervising doctors, and the generic rubrics. In step three, we conducted interviews with supervising doctors. The study was conducted in the General Internal Medicine Department of Nagoya University, Japan. In the first step, doctors in the Medical Education Center and other medical departments, clerks, and residents participated. Supervising doctors in the General Internal Medicine Department participated in the second and third steps.

Summary Of Results

A locally adapted assessment system was developed and implemented in seven months. The scores of the generic rubrics and the adapted assessment tool completed by the supervising doctors showed good correlations in some items as opposed to others, assessed mainly with other tools. Participant interviews revealed that local adaptation decreased their cognitive load leading to consistent ratings, increased writing of comments, and promoting reflection on instruction.



Discussion And Conclusion

This adaptation process is a feasible way to begin the implementation of OBE. Local adaptation has advantages over direct use of generic rubrics.

Take Home Messages

Local adaptation of generic rubrics for competencies is a feasible way to begin the implementation of OBE. Local adaptation decreased their cognitive load leading to consistent ratings.



8E2 (0947)

Date of presentation: Tuesday 30th August

Time of session: 09:45 - 10:00

Location of presentation: Bellecour 3

Utilizing Natural Language Processing to Sort and Display Narrative Feedback Into a Competency Based Framework

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Background

In order to ensure students are ready to transition from one stage of training to the next, schools must gather feedback and assessments to ensure students are meeting milestones in achieving competency in the clinical skills necessary to provide excellent patient care. Schools utilize checklists and other numerical scoring assessments to measure progress, however utilizing narrative comments can be difficult and time-consuming in this framework. Comments can offer more in-depth reflections of a student's skills and attitudes and should ideally be part of any assessment system.

Summary Of Work

Both Northwestern and Columbia University Medical School have worked to find ways to summarize and visually display narrative comments to help with competency achievement. Natural language processing (NLP) techniques are used to sort comments into the skills and attitudes determined in their framework to allow for more efficient review by students, coaches and competency committees.

Summary Of Results

Columbia has been able to train its NLP algorithm to sort comments into the EPA framework. As of now we have reached training thresholds in EPAs 1, 2, 6 and 9 as well as components of professionalism including accountability and discernment. The algorithm also sorts by sentiment into positive and negative comments. Northwestern's model visually summarizes and synthesizes narrative comments collected over the pre-clerkship phase, with the goal to assist human reviewers on competency committees to make more efficient progression decisions.

Discussion And Conclusion

Written comments provide a valuable source of feedback necessary to understanding medical student progression by competency area over time. By using the NLP model developed, this data can



be efficiently extracted from narrative feedback and organized into a dashboard for use by students and coaches, effectively sorting large amounts of data for greater ease of use.

Take Home Messages

Narrative comments from assessors offer rich insights into a student's progression.

This data can be difficult to easily sort through, interpret and use by students, coaches and competency committees.

NLP offers a potential solution by allowing an automated sorting of data into more usable categories.



8E3 (3174)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:15

Location of presentation: Bellecour 3

Adding validity evidence to Core end of undergraduate training EPAs by examining students' learning curve

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Background

Several countries have defined a set of Core Entrustable Professional Activities (EPAs) as end-of-training outcomes for undergraduate medical education. In Germany, a group of experts defined such Core EPAs that will be implemented at the national level in 2025. The presented study searched for validity evidence of the defined set of EPAs by exploring students' learning curve over the course of their undergraduate studies.

Summary Of Work

In 2021, a survey was sent to students of all semesters of the undergraduate medical curriculum at the Charité – Universitätsmedizin Berlin. They were voluntarily asked to rate under which level of supervision they are able to perform the defined 13 Core EPAs and 10 Core Procedures in a patient-safe manner. The supervision levels ranged from “not able to perform the EPA” to “I can perform the EPA autonomously, with remote monitoring and key findings being reviewed.” Descriptive statistics and correlational analyses were conducted.

Summary Of Results

The data of students from semesters 1 to 10 (n=445; response rate 15%) were included in the data analyses (62% females; 37% males, mean age of 25). Results of the correlational analyses showed that the level of supervision decreased in the course of the study for the majority of EPAs and procedures. The strength of the association ranged between $r(411)=.110$, $p<0.05$ and $r(410)=.510$, $p<0.01$. No association between the level of supervision and the semester could be found for the procedures “preparing medications for injection and infusion”, “basic immobilization and application of a bandage” and “performing septic and aseptic dressing changes”.

Discussion And Conclusion

The study provides complementary evidence for the validity of the defined set of EPAs, as students reported to be able to perform the majority of EPAs and procedures under a decreasing level of supervision in the course of their study. Variations in the strength of the associations between EPAs



and semester can be used for discussing both the content of the undergraduate curriculum and the content of the EPAs themselves.

Take Home Messages

Students' learning curve over the course of studies can be employed to provide complementary content validity evidence for Core end-of-undergraduate-training EPAs.



8E4 (4225)

Date of presentation: Tuesday 30th August

Time of session: 10:15 - 10:30

Location of presentation: Bellecour 3

Mayo EPA Longitudinal Assessment Tool (M.E.L.A.T.) for Learner Growth

NEEL SHAH¹, Luke Hafdahl¹, Audrey Elegbede¹

¹ *Mayo Clinic, Rochester, USA*

Background

Medical student evaluations that provide meaningful feedback are critical to learner growth. There is a gap between the formal evaluations on clerkships and the ability to provide feedback to inform individual growth while also providing a longitudinal assessment across their training years. Entrustable Professional Activities (EPAs) evaluate learners' clinical competencies through direct observation. The Association of American Medical Colleges (AAMC) developed 13 EPAs that students should be able to perform upon starting residency. Challenges to implementing EPAs include a generic entrustability scale, variation in expectations between EPAs, and evaluator unfamiliarity with EPAs.

Summary Of Work

Mayo Clinic Alix School of Medicine (MCASOM) created an EPA-based assessment tool ('MELAT') designed to be implemented with minimal faculty development and to assess learner growth longitudinally through the medical school curriculum. The 13 AAMC core EPAs were utilized. We developed unique entrustability scales for each EPA and, utilizing the RIME model, we included training level targets for each EPA with relevant behavioral anchors.

In this framework, feedback supports a growth mindset where all stakeholders are invested in the educational process, not just evaluative outcomes. This engages a shift from assessment *of* learning to an assessment *for* learning and supports the institutional priority to reduce the impact of implicit bias on student assessment.

Summary Of Results

MCASOM is launching MELAT across all clinical rotations and collecting data with a mixed methods approach.

- Surveys of students, faculty, student focus groups, statistical and qualitative review of student evaluations of courses, and comparative review of the data on bias in grading and qualitative comments (using natural language processing), before and after implementation.
- Desire to conduct graduate and residency program director surveys to assess perception of preparedness for residency.



Discussion And Conclusion

Widespread application of a tool relying on standardized performance goals will support systemic, consistent, and aligned delivery of actionable, reliable, and equitable feedback to students while also tracking their learning trajectories towards graduation expectations.

Take Home Messages

Implementation of an EPA-based assessment tool for medical students on clinical rotations offers the opportunity to investigate the effectiveness of a single tool as a formative assessment strategy across a multi-site clinical education curriculum and develop mastery orientation to learning.



Short Communications - Medical Education Research

8F1 (4132)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:45

Location of presentation: Gratte Ciel 1

Using theory to inform research on clinical reasoning in teams.

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Background

There has been substantial theory informed progress in our understanding of clinical reasoning over the past four decades. A number of information processing theories (e.g. dual process theory, script theory and cognitive load theory) have been used to inform research in clinical reasoning. Each of these theories use a lens that places emphasis on clinical reasoning residing in the mind of a solitary individual at a single moment in time. Grand or macro level situativity theories may provide a more fecund lens from which to research clinical reasoning occurring within multi-professional teams in the clinical workplace.

Summary Of Work

Situativity theory refers to family of related theories (e.g. situated cognition) that grew out of the need to understand that cognitive resources used to solve a problem and perform a task (such as the processes of clinical reasoning) are not confined to an individual; they are performed across a larger unit of analysis to incorporate the involvement of other social actors and the use of artifacts (or tools) in the environment. To provide additional insights, we will explore clinical reasoning in teams through another member of the situativity family: Distributed Cognition (DCog).

Summary Of Results

We will provide details of the historical origin of DCog by expounding central tenets and explicating insights into how DCog can inform research. We will provide an empirical example that illustrates both the potential and limitations of DCog to answer a research question and select methodological approaches. We will illustrate the potential of combining macro theories with micro theories such as cognitive load.



Discussion And Conclusion

Practical implications of theory informed research will be discussed and include health care delivery and medical education and how we teach and assess clinical reasoning within collaborative interprofessional teams and the structured environment that they have created to organise their cognitive processes and perform optimal patient care.

Take Home Messages

Theory informed research to improve our understanding of the clinical reasoning process and outcome in the context of teams is likely to be critical if we are to meet the National Academy of Medicine's key recommendation to improve team work to reduce error in diagnosis.



8F2 (2971)

Date of presentation: Tuesday 30th August

Time of session: 09:45 - 10:00

Location of presentation: Gratte Ciel 1

A Phenomenological Exploration of Global South Authors' Experiences around Publishing in Major Health Professions' Education Journals

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Background

This study explores global South Health Professions Education (HPE) researchers' experiences around publishing in major global North HPE journals. Phenomenological inquiry was used to explore the lived experiences of global South authors when publishing in global North HPE journals.

Summary Of Work

Participants were identified from a recent bibliometric study which reported global South authors who had published in major HPE journals between 2017 and 2018. A total of 12 participants were recruited via e-mail and semi-structured interviews were conducted via Zoom. Transcripts were coded with the use of NVivo 12 Pro software and Interpretive Phenomenological Analysis (IPA) was conducted, where the researcher's own interpretations were coupled with themes emerging from the data.

Summary Of Results

Participants reported many factors motivating them to publish in major HPE journals, such as: publication waivers, visibility for their work, accessibility for the work, and home institution promotion requirements. Challenges experienced in publishing in major HPE journals included: lack of infrastructure and resources in local and regional journals, major HPE journals editions not being interested in global South contextual work, and English dominance in global HPE publications.



Discussion And Conclusion

Imperatives around research and scholarly quality, visibility and accessibility compel or inspire global South authors in HPE to publish in global North HPE journals. At the same time, global South authors have to overcome many challenges in this process, including perceived premature desk rejections, seeing the work as repetitive, stale or irrelevant for Northern contexts. We pose that these trends reflect enduring narratives of coloniality in HPE publication culture, bolstered by skewed socio-historical and economic biases in global HPE.

Take Home Messages

Further exploration of the phenomenon of global South authors' experiences is needed, not just relating to publication, but within the broader global HPE field, in order to uncover how this may relate to the ongoing legacy of coloniality in the field.



8F3 (3327)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 1

The Voices of Medical Education Science: An Analysis of the Literature

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Background

The authors who publish in medical education have a powerful voice in the community's discourse. While aspects of this literature have been examined, including author characteristics, there has been no comprehensive analysis, which opens the possibility that the field inadvertently prioritizes certain voices.

Summary Of Work

The authors analyzed all articles in 24 medical education journals published between 2000-2020 to identify article characteristics, with an emphasis on author gender and geographic and institutional affiliation using bibliometric techniques.

Summary Of Results

The journals published 37,263 articles with the most published in 2020 (n=3,957, 10.7%) and the least in 2000 (n=711, 1.9%) representing a 456.5% increase. Articles were authored by 62,708 unique authors. Males were more prevalent across all authorship positions (n=62,828; 55.7%) than females (n=49,975; 44.3%). Authors listed 154 country affiliations with the United States (n=42,236, 40.4%), United Kingdom (n=12,967, 12.4%), and Canada (n=10,481, 10.0%) most represented. Ninety-three countries (60.4%) were low- or middle-income countries accounting for 9,684 (9.3%) author positions. Few articles were written by multinational teams (n=3,765; 16.2%). Authors listed affiliations with 4,372 unique institutions. Across all author positions, 48,189 authors (46.1%) were affiliated with a top 200 institution, as ranked by the Times Higher Education ranking.

Discussion And Conclusion

Medical education literature has grown substantially over the past 20 years. Although there appears to be a trend towards greater gender parity overall, male-dominated imbalances still persist. Additionally, most authors list affiliations in Western, English-speaking countries, and these authors tend to be affiliated with highly ranked institutions, suggesting a relative imbalance of voices. Authors of medical education articles are primary drivers of knowledge dissemination and scientific advancement in the field. These findings indicate that medical education scholarship is



growing and evolving, with more female voices being heard, but with a Western country viewpoint that still predominates. Going forward, our community should seek to expand its diversity through collaborations and explicit campaigns that solicit new scholarly perspectives.

Take Home Messages

There is a relative imbalance of author voices in medical education. If the field values a diversity of perspectives, there is considerable opportunity for improvement.



8F4 (4744)

Date of presentation: Tuesday 30th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 1

The Karolinska Institutet Prize for Research in Medical Education: A history

Robert Paul^{1, 2, 3}, Brian Hodges^{1, 2, 3}

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Background

"Those who do not remember the past are condemned to repeat it." George Santayana, American philosopher (1863-1952)

This quote is often used to illustrate the power of history and historic research to inform decisions in the present. It can also be deployed in the domain of medical education to make the point that its past has lessons for its present and our future. Speaking generally, historical research can make visible recurring patterns of behaviour, of practices and of decisions in education and academia. It can also make visible systemic problems medical education faces such as a long history of low funding support and how they might be addressed differently.

Historical research can also tell success stories and debunk mythologies and, in doing so, it can identify new ways forward.

One such success story in medical education is the story of the Karolinska prize: a story that requires understanding of its funders, its location and the Karolinska Institutet's journey to become a globally important catalyst for medical education research.

Summary Of Work

This presentation will give a brief overview of historical research as a practice and the history of the Karolinska Prize. In doing so it hopes to illustrate the importance of historical research and of understanding our own history as we work to forge the future of the domain of medical education. To do so, it will highlight how personal, structural, and systemic factors made possible the creation of a multi-million euro prize and the encouragement of global expertise in medical education research. This historical analysis, built upon a global study analyzing the state of philanthropy in medical education, will make visible the conditions that led to philanthropic success in Sweden. More specifically it will show how a unique confluence of conditions made possible the creation of the Karolinska prize and in doing so demystify some of the myths around the prize's creation.s.



Discussion And Conclusion

This presentation will argue that as we look to the future, to a likely era of post-pandemic cut backs from traditional funding sources, historical research, and work to better understand ourselves, can enhance our abilities to increase philanthropic funding and thus strengthen our domain.

Take Home Messages

Historical research is a highly valuable research domain that can help us better understand ourselves.

Historical research can inform decisions making in unexpected ways.

Funding for medical education/research is likely to be more limited – developing a better understanding of philanthropy can help address future financial challenges.

Paul, Robert, Elisa Hollenberg, and Brian D. Hodges. "Philanthropy in health professions education research: determinants of success." *Medical Education* 51.5 (2017): 511-520.

Paul, Robert, and Brian David Hodges. "The Karolinska Institutet Prize for Research in Medical Education: A history." *Medical Teacher* 42.6 (2020): 657-662.

Whitehead, Cynthia R., Brian D. Hodges, and Zubin Austin. "Captive on a carousel: discourses of 'new' in medical education 1910–2010." *Advances in Health Sciences Education* 18.4 (2013): 755-768.



8F5 (3072)

Date of presentation: Tuesday 30th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 1

The gap between reviewers' recommendations and editorial decisions in a medical education journal.

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¹ *National Institute of Medical Sciences and Nutrition "Salvador Zubirán", Mexico City, Mexico* ² *Faculty of Medicine, National Autonomous University of Mexico, Mexico City, Mexico* ³ *Mexican Medical Education Research Journal, Mexico City, Mexico*

Background

Most peer reviewers' input is in the form of free-format criticisms to manuscripts under consideration for publication. Typically, journals ask reviewers questions regarding overall quality and significance. In the Mexican Medical Education Research journal, 15 items are used to assess paper subsections, which then are interpreted by the editor evaluating the manuscript. Validity evidence and psychometric properties of the instrument have not been evaluated. The objective of the study was to assess the questionnaire and identify critical points that might be associated with rejection.

Summary Of Work

The peer reviewer questionnaires used in manuscripts that initiated the editorial process in the Mexican Medical Education Research journal (<http://www.riem.facmed.unam.mx>), an open access, peer-reviewed journal from the National Autonomous University of Mexico (UNAM) Faculty of Medicine, and that finished peer review from January 2020 to December 2021. Cronbach's alpha was calculated, and an item-response-theory model fit was used to identify the best items for discriminating publishable manuscripts.

Summary Of Results

169 Reviewer reports were collected, corresponding to 85 manuscripts that underwent peer review and reached final editorial decision. Average of reviews per manuscript was 1.99. Cronbach's alpha score considering the questionnaire only was 0.86, but including the reviewer's final recommendation and editor's final decision was 0.88. A two-parameter item-response-theory model fitted the data well (RMSEA: 0.05, TLI: 0.97). The variability identified in the estimated item discrimination parameters show that some items are more informative than others. Highest discrimination was observed in items related to validity of inferences and conclusions. However, these items have a higher proportion of missing values in responses. Correlation between instrument



scores and reviewer's recommendation was high ($r=0.88$) but translated poorly into editorial final decisions.

Discussion And Conclusion

The study adds internal validity evidence for a simple, short instrument that provides editors with an overview of the manuscript evaluation during peer-review. The model allows transforming the questionnaire responses into a score that captures the reviewer's impression of the manuscript. Discrepancies between reviewers and editors cannot be avoided.

Take Home Messages

Instruments used for the peer-review process in medical education publishing need to be evaluated for evidence of validity. There is a need for more evidence of the peer-review process in the field.



Short Communications - Postgraduate Education 3: Education & Training 2

8G1 (1878)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:45

Location of presentation: Gratte Ciel 2

Defining Entrustable Professional Activities (EPAs) for Postgraduate Training in General Internal Medicine: a Swiss national consensus study

Matteo Monti¹, David Gachoud¹, Valerie Pittet²

¹ *University Hospital and University of Lausanne, Lausanne, Switzerland* ² *Unisanté- Department of Epidemiology and Health Systems, Lausanne, Switzerland*

Background

EPAs are observable tasks that are regular parts of a physician's daily clinical work. Defining the list of EPAs that should be mastered by the end of postgraduate training (PGT) is critical to setting clear expectations about autonomous practice. We aimed to define EPAs relevant for PGT in General Internal Medicine (GIM) at a national level.

Summary Of Work

A total of 248 EPAs were drawn from a systematic review of international literature and 4 focus groups discussions. EPAs were reformulated according to published best-practices (AMEE guide 140). We used a **modified RAND appropriateness method** to evaluate and rate the relevance of the proposed EPAs to ambulatory and/or hospital training, and the maximum level of entrustment expected from trainees at the end of PGT. Ratings were made on a 9-point likert scale. Relevance was categorized as high (median 7-9), low (med 1-3) or uncertain (med 4-6) or disagreement.

Summary Of Results

28 internists with several years' experience as clinical supervisors completed the first round of individual rating (10 women, 12 from ambulatory practice) and 11 agreed to participate to the expert panel meeting. Of the initial 248 EPAs, 225(90%) were deemed high-priority and selected for PGT in GIM. 180/225 (80%) were considered relevant to both training tracks, 18 (8%) for the hospital track and 27 (12%) to the ambulatory track. 62% of EPAs were ranked with very-high priority (median score 8.5-9) for both training tracks. Low-ranked EPAs related to pregnancy, newborn or child care. 198 (88%) EPAs were considered to require a maximal level of entrustment (ability to supervise) at the end of PGT. Results could be further classified in 5 domains, 28 EPAs and 225 specifications.



Discussion And Conclusion

This study provides a list of 28 EPAs and 225 descriptors for PGT in GIM, using a national consensus process and a scientific approach. Results are generalisable beyond the Swiss context and provide a solid basis for structuring future PGT programmes in GIM. It also provides to trainees and supervisors a common reference for assessment.

Take Home Messages

Through a national consensus process and a scientific approach we defined a list of EPAs for the postgraduate training in GIM



8G2 (1863)

Date of presentation: Tuesday 30th August

Time of session: 09:45 - 10:00

Location of presentation: Gratte Ciel 2

Using Electronic Health Record Data to Facilitate Feedback Discussions and Foster Coaching Relationships

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Background

The availability and access of electronic health record data (EHR) is a game changer for medical education, but little is known about their utility for educational aspects such as teaching, assessment, and feedback. The purpose of this study was to pilot a process for using resident report cards based solely on EHR data, which captures both independent and interdependent clinical performance, to support feedback discussions and coaching between Emergency Medicine (EM) faculty and residents.

Summary Of Work

Using Action Research methodology, 8 EM residents were presented with individualized report cards containing EHR data metrics from 2017-2020; the exact number of report cards for each resident varied depending upon their year-in-training and availability of data. Then, each resident self-selected one of three EM faculty to engage in feedback discussions and coaching. Dyadic feedback sessions followed the R2C2 framework and all faculty and residents also participated in individual, semi-structured interviews following the feedback sessions. Both the feedback sessions and interviews were audio-recorded and transcribed prior to analysis.

Summary Of Results

While some participants expressed concerns about data representation and subsequent interpretation, every resident expressed that having a personalized report card was valuable for tailoring their learning throughout residency. Moreover, opportunities for in-depth conversations with faculty allowed residents to explore report card content, identify areas for improvement, receive detailed feedback, and tailor coaching regarding many aspects of residents' clinical performance.



Discussion And Conclusion

Our findings revealed that participants were keen on having access to EHR data metrics that reflect resident clinical performance and eager to build coaching relationships to support interpreting such data. This work gleaned important insights about EHR data and has implications for how EHR data are used in competency-based medical education moving forward.

Take Home Messages

The EHR a valuable source of clinical performance data and, with the support of trained faculty, can be used to tailor residents' individualized learning throughout residency.



8G3 (4605)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 2

COVID-19 impact on PGT in Europe

Shruti Sharma¹, Ellen McCourt¹, Mathias Körner¹

¹ *European Junior Doctors Association, Brussels, Belgium*

Background

COVID 19 disrupted and altered everyday life across the globe; healthcare systems overnight had to change the way they worked. Hospitals had to reallocate resources to be able to care for COVID-patients and reduce planned activity. In result junior doctors across Europe experienced disruptions to the postgraduate training (PGT).

Summary Of Work

Between 2020 and 2022 the European junior doctors (EJD) association surveyed member organisations regarding the impact of Covid-19 on postgraduate training. Qualitative information was gathered, and recurrent themes established.

Summary Of Results

16 European nations were represented in the EJD survey. 88% reported at the onset of the pandemic that Covid-19 had a negative impact on PGT, although after a year only 6 delegations reported that training in its entirety was postponed. 87% of nations reported that junior doctors had been redeployed from their usual place of work to care for covid patients; 50% of delegations reported working beyond their rostered hours and beyond EWTD. Delegations reported delays to allocation of specialism, postponement of exit exams, and cancelling of mandatory courses or being converted to online courses.

Discussion And Conclusion

The level of disruption to PGT caused by the response to the Covid-19 pandemic varied across European nations, and where disruption occurred the response by educators and employers was inconsistent. Although a number of European nations have examples of focused individualised solutions to missed training, this was by no mean universal and, despite multiple waves of the pandemic, some junior doctors still had no access to mitigations for lost training and were keen for these best practices to be shared and replicated across Europe. The increased use of digital and online meetings, courses and classes have proved somewhat effective, but will not in its entirety be able to replace physical events in terms of the learning experience.



Take Home Messages

Excellent PGT is indivisible from excellent healthcare. It is essential that the Covid-19 pandemic, or future pandemics, don't create a deficit in PGT for coming generations of doctors, as this in turn will impact the quality of healthcare.



8G4 (2237)

Date of presentation: Tuesday 30th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 2

Formal and informal supervised workplace learning: what matters?

Charlotte Søjnæs¹

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Background

The design of postgraduate medical education is underpinned by the premise that trainees learn through work. Supportive learning environments should afford trainees access to formal and informal supervision. Yet little is known about the significance of supervision in the clinical setting. We, therefore, set out to explore the experiences of supervision from the perspectives of both trainees and supervisors.

Summary Of Work

Eight trainees and their eight formal supervisors from four specialties participated in the study. A combination of qualitative methods was used; 1) an observational study, using an ethnographic approach, observing the trainees working in the clinical setting, 2) individual in-depth interviews with the trainees, and 3) semi-structured interviews with the trainees' formal supervisors were performed. Observation field notes and interview transcripts were analysed and interpreted qualitatively. The research was situated within a socio-cultural discourse with an overall focus on trainees' learning and supervision.

Summary Of Results

Trainees generally lacked support, feedback, and supervision in the clinical setting. Yet trainees expressed there was little use for formal supervision. During formal meetings, supervisors spent more time handling formal documentation rather than providing a learning space for reflection and guidance related to the progression of competencies. Furthermore, meetings were often one-way communications driven by the supervisor. While informal supervision was important to trainees, it was not always accessible. Some trainees managed to find role models or mentors amongst senior doctors, which had great significance to their education, work, and future career.

Discussion And Conclusion

Formal supervision is challenged when trainees and supervisors do not share a day-to-day working community or lack rapport. Supervisors focused on technical competencies whilst avoiding responding to trainees' emotional concerns and other aspects of competence. Overall, formal



supervision was considered time-consuming with little subjective meaning for both the trainees and supervisors.

Take Home Messages

Results demonstrate a need for reform, especially in the role of formal supervision. More competencies need to be addressed than just the medical expert role. Trainees experience a need for formal and informal educational support with consideration to collaboration, conflict management, communication, and leadership.



8G5 (2297)

Date of presentation: Tuesday 30th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 2

Scaling and Spreading Quality Improvement Education in the Face of Scarcity: Doing More With Less

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Background

Despite the explicit emphasis on quality improvement (QI) science embedded in educational frameworks and accreditation requirements worldwide, many postgraduate medical education (PGME) programs typically struggle to effectively deliver this required teaching for two reasons: insufficient faculty with expertise to teach QI methodology, and limited faculty mentorship to support experiential curricula and facilitate project success. Existing success in QI training at larger centres typically hinges on the existence of numerous faculty possessing advanced QI training with capacity to teach and support resident projects. It is unknown whether such a program is viable in a centre without an extensive academic QI infrastructure.

Summary Of Work

Over a period of eight academic cycles, we utilized Plan-Do-Study-Act cycles (a QI method from the Model for Improvement) to adapt an existing successful, highly-resourced quality improvement curriculum to our centre where faculty expertise in QI and faculty mentorship capacity are both limited. During each cycle, we identified operational gaps and corresponding interventions to address them (plan), executed the interventions (do), evaluated the results (study), and determined how to evolve the interventions (act).

Summary Of Results

Over the development period, our curriculum evolved into one that differs significantly from the original, relying on far fewer resources. In particular, human resource requirements have been minimal, and include one faculty curriculum lead (with Masters-level QI training), one faculty mentor (without advanced QI training) per residency program to supplement project coaching, and a part-time curriculum coordinator to alleviate administrative burden. Recent cycles have added an educationalist, as well as a Masters-trained quality improvement advisor to enhance educational rigor and scalability, respectively.



Discussion And Conclusion

Application of the Plan-Do-Study-Act method enabled the adaptation of a successful, but resource-intensive QI curriculum to an academic centre with a less-advanced QI infrastructure. With few faculty experts, success hinged on asynchronous content delivery utilizing a low-cost online learning management system, micro-lecture video format, and free virtual collaboration platforms. This model is adaptable and scalable to other centres.

Take Home Messages

Creative approaches to education and personnel can be used to augment and scale effective QI training when access to expert faculty is limited.



Short Communications - Subjects in the Curriculum 3

8H1 (4529)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:45

Location of presentation: Gratte Ciel 3

Medical Science 101 by medical students for the medical students.

Saloni Mitra¹, Dilge Kocabaş², Beyza Erkan³, Ana Teresa Leitão⁴, Alexandra-Aurora Dumitra⁵, Irem Aktar⁵, [Berkay Akad Ülker](#)⁵

¹ *Bogomolets National Medical University, Kyiv, Ukraine* ² *Izmir University of Economics, Izmir, Turkey*

³ *Gazi University, Ankara, Turkey* ⁴ *NOVA Medical School, Lisbon, Portugal* ⁵ *European Medical Students' Association (EMSA), Brussels, Belgium*

Background

Science and scientific thinking are an essential part of medicine and medical practice that physicians should be aware of, since their early years in medical education journey. With this motto, the European Medical Students' Association (EMSA) created a booklet, the Medical Science 101 "by the medical students for the medical students", including the basics of medical science which provides a guideline to the medical students who wish to maintain research activity on their own or with little guidance from tutors, increasing their interests in research.

Summary Of Work

The booklet aims to help students by providing a portfolio for scientific activities and workshops promoting research and its outcomes. It also includes a part that demonstrates the significance of scientific thinking, not just in means of researching but also for improving clinical decision-making. This helps them in the advancement of their career by providing them guidance. We also invited Nobel Laureate, Ada Yonath, for a follow-up webinar on ribosomes, antibiotic resistance, and her journey on being a researcher.

Summary Of Results

By creating a booklet on the topic, EMSA aimed to raise awareness regarding science and encourage students to engage actively in advancing healthcare through scientific research. According to feedback, it worked as a guide through their scientific journey as it widened their horizons in means of reasoning as well as allowed peer-to-peer teaching in various faculties all over Europe.



Discussion And Conclusion

This booklet is a guideline for medical students who want to research, aside from inspiring others with structured project ideas to spread science enthusiasm. An array of activities is discussed in this booklet to develop the reasoning process and to create opportunities for people to become more involved in science. The feedbacks underline the importance of research education activities that will enhance people's ability to think scientifically and analytically. Therefore EMSA believes that this booklet is a powerful tool to raise awareness regarding the importance of medical science.

Take Home Messages

Scientific thinking and the spread of spirit for research are vital tools to promote advancement in medicine. Medical students as future healthcare professionals should be supported and guided with a better research education both by applying formal and non-formal methods.



8H2 (0524)

Date of presentation: Tuesday 30th August

Time of session: 09:45 - 10:00

Location of presentation: Gratte Ciel 3

Impact of physician–patient relationship training on medical students’ interpersonal skills during simulated medical consultations. A cross-sectional study

Lucie Bosmean¹, Philippe Chaffanjon², Anne-Claire Toffart², Alexandre Bellier^{3,4}

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Background

In medicine, the patient-centered approach is based on interpersonal skills, including communication, structuring the medical interview, and empathy, which have an impact on health professionals’ interpersonal relationships and the quality of care. Training courses on this issue are therefore being developed in universities. We hypothesized that specific training courses in the physician–patient relationship could improve interpersonal skills among medical students during simulated consultations.

Summary Of Work

This cross-sectional study enrolled fourth-year medical students who participated in a simulated medical consultation session with standardized patients. The evaluation of interpersonal skills was carried out using the Four Habits Coding Scheme, producing a synthetic score out of 115 points used as the primary endpoint. Some students benefited from the training courses offered by the university or by other organizations, mainly based on communication, active listening, or patient-centered approach. These trainings were given in small groups with role plays or viewing of consultation examples. All the training sessions were held more than one year before the simulated consultations. A comparison was made with students from the same graduating class who had not received any training.

Summary Of Results

The analysis of the interpersonal skills showed a difference of 5 points between the group of students who had attended at least one training course and those who did not ($p= 0.001$). This difference was even more marked when the students had completed several training courses, up to 14 points higher with three training courses ($p= 0.001$), each with positive results in different areas of the care relationship. When considering each training independently, there was a 5.1-point increase



in the 4-HCS score for academic training ($p=0.002$) and a 5.9-point increase for peer training ($p=0.031$).

Discussion And Conclusion

Physician–patient relationship training currently provided in initial education appears to be effective in improving interpersonal skills, even after more than 1 year, even if they are given early in the curriculum, and even if their content is heterogeneous. A repetition of this training is necessary to increase its impact.

Take Home Messages

- Whatever the methodology of training, an improvement in interpersonal skills can be observed
 - Improvement in interpersonal skills can be observed several years after a training
-



8H3 (3962)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 3

From Classroom to Clinic: Medical Students Learning, Observing and Navigating Triadic Communication

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Background

At our institution, medical students expressed a need for education on communicating with young people and specifically navigating triadic communication, conversations where a third party is involved. An experiential learning session was developed to meet these needs. To allow students with a particular interest in this area, a student selected placement (SSP) was developed in parallel with the adolescent and young adult cancer (AYAC) speciality.

Summary Of Work

An experiential learning session and a student selected placement were created with the following objectives:

1. Develop skills to build rapport with AYACs, in the context of a triadic interview.
2. Build confidence in taking a psychosocial history and using this as a way to engage the AYA.
3. Give opportunities to observe the multidisciplinary team members involved in AYAC care.

Feedback questionnaires are distributed at the end of each experiential learning session, and we conducted a focus group exploring student experiences of the specialist placement.

Summary Of Results

The results from questionnaires are overwhelmingly positive. A focus group of students who had completed the specialist placement was held, the transcript was analysed thematically. Six themes were identified: specialised and holistic care; patient's perspective; connectedness and professional boundaries; triadic communication; emotional impacts; and professional development and support. The learning was hugely valued by the students.



Discussion And Conclusion

We developed an experiential learning session as part of the core curriculum in the classroom and a specialist placement in parallel, for a small cohort of students who have a deeper interest in adolescent and young adult communication.

Communication with AYACs is complex and at times challenging even for experienced clinical communicators, with previous literature showing HCPs identify individual areas of challenge. The communication skills required for effective consultations with AYACs likely extend more widely to adolescents and young adults in a healthcare setting. The medical students in our focus group have observed and experienced the specialty and echoed key features of AYAC communication found in the literature.

Take Home Messages

We would argue that adolescent and young adult communication should be a core component of undergraduate medical education, and other institutions could adopt a SSP to develop the skills of those with a special interest in adolescent communication



8H4 (2443)

Date of presentation: Tuesday 30th August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 3

Deservingness: how learners determine who gets advocacy

Ian Scott¹, Renate Kahlke², Maria Hubinette¹, Theresa van der Goes¹

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Background

Health advocacy is a core component of physicians' education and practice. Even though these activities are core, learners often struggle to find time to advocate which they often perceive as "going above and beyond" their regular work. They must therefore make tough decisions about when to advocate and who to advocate for when allocating their limited time and energy. We sought to understand how they make these decisions.

Summary Of Work

This study is a sub-analysis of a larger study on how learners conceive of and carry out advocacy. With an eye to understanding conceptions of "deservingness", we reanalyzed interviews with 16 medical students and residents from across British Columbia, Canada.

Summary Of Results

How learners perceived their patient's "deservingness" of their advocacy efforts influenced who received these advocacy efforts. To make these decisions, learners used heuristics aligned with a social support "deservingness" framework, including their perceptions of the patient's: **control** over their situation; **attitude** toward help; shared social **identity** (or similarity between learner and patient); **reciprocity** (or the patient's shared interest in their own wellness); and **need** for support. For example, some learners deemed their patient less deserving because they saw them as responsible for (or in control of) their illness.

Discussion And Conclusion

Given that patient advocacy is often opportunistic, idiosyncratic, and without established protocols and processes, advocacy decisions may be especially prone to problematic biases based on the values, interests, and beliefs of individual learners making these decisions. For example, if learners see patients as responsible for their illness (when the root cause of illness may be systemic racism or food insecurity), advocacy resources may not be allocated to those in greatest need. Thus, we urgently need to incorporate reflection and teaching about conceptions of advocacy "deservingness" to support learners in bringing greater understanding, intention and evidence to these decisions.



Take Home Messages

While advocacy can narrow health disparities, it may also widen them when patients are assessed as undeserving. Developing curriculum and resources to support learners in reflecting on how they distribute their advocacy efforts represents a critical first step toward addressing these disparities



8H5 (4155)

Date of presentation: Tuesday 30th August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 3

The various use of reflective writing in teaching of communication skills—a systematic review

Renato Soleiman Franco¹, Camila Ament Giuliani dos Santos Franco¹, Milton Severo², Maria Amélia Ferreira³, Orit Karnieli-Miller⁴

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Background

Physicians have a challenging task in tailoring communication to different patients needs, perspectives, and contexts. To foster this ability medical training includes teaching communication skills while enhancing self-awareness and reflective ability. Reflective writing (RW) has the potential to engage students in developing this reflective ability. This presentation includes a systematic analysis of the use, assessment, and measured outcomes of RW in teaching communication to medical students.

Summary Of Work

A systematic search of seven electronic databases (PubMed, Educational Resources Information Center, Scopus, Scielo, LILACS, Cochrane Controlled Trial, and ProQuest Health and Medical databases), focused on using RW in teaching communication skills until 24th August 2020. Three reviewers selected and synthesized data based on thematic analysis using Braun and Clarke's approach.

Summary Of Results

From 1325 identified studies, 101 full-text articles were reviewed, of which 12 were included in the analysis. The four themes identified showed that RW is not a stand-alone practice; RW is blended with other teaching strategies. Through RW, students identified structural, emotional, and relational aspects of communication. Guidelines to support students in writing reflections varied between studies; however, six elements were identified: describing the event, exploring and analyzing one's own and others' emotions and perspectives, presenting lessons learned, and plans. There was no consensus on the assessment method.



Discussion And Conclusion

RW is and can be integrated with diverse teaching methods and used before or after experiential learning, following clinical observations or practice, theoretical presentation, or group discussions. Through RW students were able to reflect upon their patients' emotions, values, behaviors, and needs identifying challenges and practices relevant to communication. However, few studies assessed the level of reflective practice and its impact. These found a positive correlation between reflective ability and communication skills.

Take Home Messages

RW can be helpful for teachers and students to address and explore structural, relational, and emotional factors related to communication.

Teachers can guide reflections depending on their learning objective using it to enhance learning from various teaching methods.

Further educational development and high-quality empirical research on the use of RW and unique outcomes are needed to support communication skills learning.



8H6 (2026)

Date of presentation: Tuesday 30th August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 3

Practicing health advocate competency roles in pharmacist workplace-based training

Kerry Wilbur¹, Amrinder Dhatt¹, Mojan Fazelipour¹, Tom Sun¹, Arwa Nemir¹

¹ *University of British Columbia, Vancouver, Canada*

Background

Health advocacy for patients and populations is currently subject to one of the most critical glares of our time. These past two years of pandemic have underscored new and existing matters of health inequity and social injustice. Yet health advocate competency role development is neglected in health professional curriculum and clinical learning environments. We explored how pharmacy students practice health advocacy in workplace-based training and any assessment feedback they receive.

Summary Of Work

We conducted a longitudinal diary study of Canadian pharmacy students completing clerkships in outpatient and inpatient care settings in their graduating year. At pre-determined intervals during each of these two-month clerkships, twenty-five students recorded workplace-based activities they recognized as health advocacy, as well as any assessment feedback they received. Participants were not expressly re-oriented to educational outcome definitions of the health advocacy competency for pharmacists. As such, these students recorded episodes of patient care reflecting their own interpretation of the health advocacy role construct in practice. Diary data from a total 164 records were analyzed by 5 researchers according to reflexive thematic analysis steps and principles.

Summary Of Results

We organized how pharmacy students recognize health advocacy roles in workplace-based training into five themes including 1) disease prevention; 2) health promotion; 3) seamless care; 4) usual pharmacist care; and 5) professional advocacy. Although clerkship course in-training evaluation reports included scores for items related to health advocacy competency, few students confirmed receiving specific written or verbal feedback from their clinical supervisor.

Discussion And Conclusion

Pharmacy students construct health advocacy roles in workplace-based training through biomedical-oriented practices like vaccine administration, smoking cessation support, prescription modifications,



or medication education; little directed input is offered from supervisors. However, these recorded activities are consistent with competency descriptions for pharmacists which do not reflect educational outcomes associated with systems- or patient-level support to address socio-political determinants of health.

Take Home Messages

Understanding how health professional trainees conceptualize and enact health advocacy is fundamental to competency-based education programs whose stated aims are to graduate professionals capable of fulfilling changing societal needs. Pharmacy education requires contemporary updates to health advocacy competency descriptions, as well as explicit engagement for its development in the clinical learning environment.



Workshop 8I (4840)

Date of presentation: Tuesday 30th August

Time of session: 09:00 - 12:00

Location of presentation: Tete d'Or 1

Health Education England – Building the Future

Wendy Reid¹, Sheona Macleod², Liz Hughes³, Adrian Brooke⁴, Simon Gregory⁵, Sam Illingworth⁶, Alan Ryan⁷

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Background

Health Education England is the national health 'statutory education body' responsible for all healthcare education in England (within the bounds of its mandate from Government). This session will be an opportunity to share the learning from its near decade of activity and consider lessons learned to explore how we might best prepare the future health and care workforce and support the current. This session will include work to broaden participation in healthcare professions, use our levers to address health inequalities, improve the quality of education and training and to innovate and reform including responding to the challenges of the COVID-19 pandemic. Delegates are invited to join us to explore our experiences and share your experiences and insights. This will be a vibrant session of short presentation combined with discussion and exploration.

Refreshment will be provided for the session

Structure Of Workshop

- Medical Education in England across the decade 2012-2022 (WR). 15 minutes
- What did Covid teach us? (SM) 20 minutes
- Increasing access to medical training. (EH) 20 minutes
- How can medical education address health disparity? (AB) 20 minutes
- Discussion 15 minutes
- Working together as health and care systems to support a sustainable workforce – how can medical education help and how do we look after our future doctors? (SG) 20 minutes
- Using quality to drive improvement in healthcare education. (SI) 20 minutes
- Linking experiences and learning from across the healthcare professions so reform is integrated. (AR) 20 mins
- Discussion 15 minutes
- Where next for medical education in England? (WR) – closing remarks 15 minutes



Short Communications - Curriculum Approaches 1

8J1 (2516)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:45

Location of presentation: Rhone 2

Patient outcomes in a medical education Longitudinal Integrated Clerkship: a systematic literature review

Alastair Dodsworth^{1,2}, Katie Munro³, Katie Parton³, Hugh Alberti³, Paul Paes³, [Jan Illing](#)^{3,4}

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Background

Patient-student relationships are at the heart of Longitudinal Integrated Clerkships (LIC). Outcomes for students and preceptors are beneficial, but patient outcomes remain unclear.

Our aim, was to address the gap in the literature and ask the research question, what are the outcomes for patients involved with medical students completing an LIC following a qualitative synthesis of patient, student and preceptor perceptions?

We defined patient outcomes as issues related to patient safety, clinical effectiveness or patient experience.

Summary Of Work

Seven bibliographic databases were searched. A wider search strategy included a hand search of three medical education journals' previous issues, backward/forward citation searching of included studies and of a relevant systematic review. Included studies were quality appraised and assessed for their strength and level of evidence. A qualitative data synthesis was performed.

Summary Of Results

Database searches identified 7237 titles. Following the removal of duplicates, titles and then abstracts were reviewed against the inclusion criteria. Forty-eight studies had a full-text review, 19 met the inclusion criteria. Seven further studies were included from the wider search strategy. Only seven studies included patient participants. Two themes were identified:



(1) 'A trusting patient-student relationship' grows through an LIC, developing from two sub-themes of students showing patients '*care and compassion*', and supporting '*patient education and empowerment*'. When the LIC ends patients can experience the third sub-theme, '*the loss of the student as 'my' doctor*'.

(2) 'The student acts as an agent of change for the patient' contains two branches. The first is the sub-theme of '*enhancement of preceptors, healthcare services and communities*'. The second branch comes from relational agency theory with sub-themes of: '*patient advocacy*', '*supporting the patient to navigate the healthcare system*', and '*communication between patient and healthcare professional*'.

Discussion And Conclusion

Patients develop trusting relationships with LIC students which are different from those with non-LIC students. It is the relationship which gives agency to the student to act on behalf of their patients and improve their healthcare experiences. Key to these findings is theory related to relationships and relational agency.

Take Home Messages

There are positive outcomes for patients involved in an LIC, providing further evidence for the expansion of LICs in medical education curricula.



8J2 (1384)**Date of presentation:** Tuesday 30th August**Time of session:** 09:45 - 10:00**Location of presentation:** Rhone 2

Implementation of integrated clinical education for medical students: How can the barriers be overcome?

Vanessa Sivam¹

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Background

International and UK health policy is moving in the direction of integrated care provision that is continuous, local and person-centred to improve long-term patient outcomes. However, the current landscape of healthcare systems remains challenging, with entrenched specialty-specific silos, and needs re-modelling to make it more conducive to integrated working.

One way to tackle this challenge could be to train the future workforce in integrated clinical practice. Models of integrated clinical education in the form of Longitudinal Integrated Clerkships (LICs) have grown in popularity internationally. Early evidence shows LICs can nurture more patient-centred future doctors, who can navigate multiple disciplines simultaneously. The evidence is promising, yet some medical schools have struggled to implement, expand and sustain LICs.

Summary Of Work

A realist review approach was used to explore ‘what works for whom, under what circumstances, how, and why’, to take a deeper look at the barriers to LIC implementation. Following a scoping review, search criteria were developed, and selected papers were analysed for barriers in relation to specific stakeholders, exploring how and why they occurred. This led to the development of a programme theory using context-mechanism-outcome configurations identified from each paper. Strategies to overcome these barriers are presented using a ‘change management’ framework.

Summary Of Results

The barriers to LIC implementation across stakeholders appear to be ‘uncertainty about LICs’ and ‘lack of resources’, which leads to an overriding ‘resistance to change’. To overcome this, preemptive consultation and relationship building is required with all stakeholders, as well as providing support with planning, resourcing and development.



Discussion And Conclusion

The findings are underpinned by two educational theories. 'Landscapes of practice' reflects how stakeholders must navigate the unforgiving landscape of LICs. Moreover, the criticisms of this educational theory mirror the main barriers to LIC implementation. To overcome the barriers, it appears that stakeholders may need to undergo a process of emancipatory transformative learning within this LIC landscape, facilitated by change management principles that help to overcome resistance to change.

Take Home Messages

Through mitigating the barriers to LIC implementation, we hope that medical schools may successfully implement models of integrated clinical education to train our future workforce in providing effective integrated care that improves patient outcomes.



8J3 (3335)**Date of presentation:** Tuesday 30th August**Time of session:** 10:00 - 10:15**Location of presentation:** Rhone 2

Medication safety as a team sport: Implementation and evaluation of an experiential inter-professional medication safety micro-curriculum delivered at large-scale within Medicine, Pharmacy and Nursing degrees.

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Background

Medication safety is a core principle for all professionals involved in safe and effective management of drugs. Medication management is taught traditionally in silos within health professional degree programs. Inter-professional education enables students from multiple professions to learn core clinical and teamwork skills within authentic clinical teams. Medication management provides an exemplar activity for interprofessional education.

Summary Of Work

A fully integrated, multi-week, inter-professional medication safety module was delivered within the MD, B.Pharmacy and B.Nursing degrees, (n=650 students) in June 2021. Students follow the medication management cycle (medical students prescribe, then medication review by pharmacy and nursing students) as well as coming together in person to review as an inter-professional team. All medication charts and progress notes were analysed for follow-up session debriefing the quality use of medicines and feedback on creating highly effective healthcare teams.

Summary Of Results

There was variable confidence in core pharmacology knowledge and application of this knowledge within each of the degree program (44% - 55%) prior to the module. Improvements in medication charts were observed following team review. Students had high satisfaction in their team performance with 90% rating their team as 4 or 5 star (response rate: 74%) with between 5-10 changes being made to improve the chart for patient benefit. Teaching in the Medication Safety



Module was rated by students as highly effective (85% agree) and increased the confidence in core pharmacology knowledge and application by 11% and 15% across the whole cohort.

Discussion And Conclusion

Preliminary thematic analysis of open-ended comments (n=600) and semi-structured interviews (n=5) describe experiential learning of individual professional roles within an inter-professional team and sharing complementary and often distinct medicine-related knowledge are at the heart of the effectiveness of this teaching activity. Further evaluation with a realist evaluation model is ongoing to investigate the relationships between contexts and mechanisms explaining how inter-professional teamwork generates improvements in the education of the quality use of medicines.

Take Home Messages

Medication management is a clinically authentic experience that students within the health professional degrees with primary responsibility should be learning as a team for preparation of future practice.

Inter-professional teaching and learning is sustainable at scale with careful planning.



8J4 (2248)**Date of presentation:** Tuesday 30th August**Time of session:** 10:15 - 10:30**Location of presentation:** Rhone 2

Developing students' handover skills through a virtual, SECTORS-based, interprofessional handover workshop

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Background

The reduction in junior doctors' hours has resulted in increased shift changes and handovers, and a corresponding rise in handover errors and patient harm (Joint Commission, 2017; Scott et al, 2017). Systematic reviews of the handover education literature (Gordon and Findlay, 2011; Gordon et al, 2018) reveal that the theoretical and educational bases of these programmes are often poorly reported and that interprofessional delivery, and a focus on developing non-technical skills, are essential for gaining competence in patient handover.

Summary Of Work

We developed an interactive, inter-professional handover education workshop which was delivered virtually using Microsoft Teams. This was adapted from a classroom-based version, which ran as a feasibility study in 2018 (Gordon et al, 2019). It is underpinned theoretically by the SECTORS model (Gordon, 2013) and educationally by the Three Pillars of Handover Education (Darbyshire et al, 2013) and Gagne's Nine Events of Instruction (Kruse, 2008). The workshop was offered on an extracurricular basis.

Summary Of Results

37 medical, nursing and Operating Department Practice undergraduates participated. Knowledge, skills and attitudes towards handover improved following the workshop. Students reported that the structure and content of the workshop, together with interprofessional working, enabled them to develop the knowledge and non-technical skills to communicate handover information effectively. However, some anxieties in doing so arose from professional differences in the way handover information was focussed, alongside perceived professional hierarchies.

Discussion And Conclusion

The workshop was effective in delivering virtual interprofessional handover education to undergraduate students. Crucially being able to 'step outside' their own professional perspectives –



through interprofessional working and use of non-healthcare examples of critical errors – enabled them to learn.

Take Home Messages

The SECTORS model provided an appropriate theoretical basis for structuring the educational intervention.



8J5 (2373)**Date of presentation:** Tuesday 30th August**Time of session:** 10:30 - 10:45**Location of presentation:** Rhone 2

Assessment Of Self-Perceived Interprofessional Collaborative Competency Of The Health Professions Students At Grenoble Alpes University

Hélène Hiscock¹, Pauline Girard¹, Jean-Didier Bardet¹, Nicolas Pinsault¹, Anne-Claire Toffart¹

¹ *Université Grenoble Alpes, Grenoble, France*

Background

Interprofessional collaboration is a major factor to improve safety and quality of care. Interprofessional education is one of the major levers for improving interprofessional collaborative competencies of healthcare professionals. To develop and evaluate the impact of interprofessional education programs, we evaluated self-perceived interprofessional collaborative competency of health professions students at Grenoble Alpes University.

Summary Of Work

An online survey based on the Interprofessional Collaborative Competencies Attainment Survey (ICCAS) self-assessment tool was distributed to health students of Grenoble Alpes University in 2021.

Summary Of Results

Out of about 1800 students contacted, 290 completed the survey: medicine (MD) (n=93), physiotherapy (PT) (n=72), nursing (Nur) (n=62), pharmacy (Pharm) (n=49), others (n= 14). Average scores on a 7 point scale were: Communication 5,9 ($\pm 1,2$), Collaboration 6,3 ($\pm 1,0$), Roles and responsibilities 6,0 ($\pm 1,1$), Collaborative Patient/Family-Centred Approach 6,10 ($\pm 1,3$), Conflict Management/Resolution 6,0 ($\pm 1,1$) and Team functioning 5,5 ($\pm 1,6$). Within Communication sub-scale, differences were observed between health professions subgroups for item « express my ideas » (MD: 5,1 \pm 1,7 ; PT: 5,7 \pm 1,4 ; Pharm: 5,7 \pm 1,6 ; Nur: 5,5 \pm 1,9) et « feedback » (MD: 5,1 \pm 1,7 ; PT: 5,7 \pm 1,0, Pharm: 5,8 \pm 1,11 ; Nur: 6,0 \pm 1,0). Concerning MD students, their self-perceived competence decreased between 1st and 2nd part of medical degree (respectively from 13% to 24% disagreement), and increase during residency (respectively from 24% to 6% disagree). Differences between health professions students were also observed for item "address conflict" (MD: 5,0 \pm 1,9; PT: 5,6 \pm 1,6; Pharm: 5,9 \pm 1,4; Nur: 5,6 \pm -1,5) and "negotiate responsibilities" (MD: 4,7 \pm 1,8 ; PT: 5,6 \pm 1,4; Pharm: 5,4 \pm 1,8; Nur: 5,8 \pm 1,4). Regarding item "address conflict", the self-perceived competence decreased between 1st and 2nd part of the professional degree for PT students, while it improved for Pharm and MD students. Regarding item "negotiated responsibilities", self-perceived competence of PT and Pharm students decreased between 1st and 2nd part of professional degrees, while it improved for MD students.



Discussion And Conclusion

Students reported good self-perceived interprofessional collaborative competencies, but differences exist between items and study fields. Continued efforts are required to optimize interprofessional education among health professions students.

Take Home Messages

Interprofessionnal communication and role clarification needs to be improved in initial training.

Interprofessional education should take place in education and practice.



8J6 (2583)

Date of presentation: Tuesday 30th August

Time of session: 10:45 - 11:00

Location of presentation: Rhone 2

The Westerveld Interprofessional Feedback Intervention for Medical and Nursing students

Claudia Tielemans¹, Sebastiaan van Dort¹, Renske de Kleijn¹, Marleen Schultz², Marieke van der Schaaf¹

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Background

Interprofessional feedback dialogues enable adaptive teamwork in healthcare. The Westerveld framework by Tielemans et.al. was developed to support the training of healthcare as givers and users of feedback information in interprofessional dialogues. It centers around the criteria: *Open & Respectful, Timing, Relevant, Dialogical, Sense making, and Actionable*, and describes principles for giving and using feedback in an interprofessional health care context.

Summary Of Work

Based on the Westerveld framework, the *Westerveld Interprofessional Feedback Intervention (WIFI)* was developed. This ePoster/short communication reports on its structure and content, and shares findings gained from the evaluation of its implementation.

Summary Of Results

WIFI consisted of two parts: 1. Two digital half-day workshops where students discussed the Westerveld framework in interactive lectures with (video)examples and used the framework to give peer-feedback on simulated dialogues in a small group setting. 2. A subsequent internship assignment, where students set a goal for their interprofessional feedback practice and exercised and reflected on their dialogue with an interprofessional colleague in the workplace. Between Sept 2020 and November 2021, 1016 5th-year medical, and 4th-year nursing students participated in WIFI. Part 1 was evaluated using questionnaires (n=293), and part 2 using focusgroups on goal setting (3 groups n=11) and on performing workplace dialogues (6 groups n=36).

Discussion And Conclusion

Students viewed engaging in interprofessional feedback dialogues as valuable for their development, and successfully used the Westerveld framework for reflection, peer-feedback, self-assessment, and goal setting regarding interprofessional feedback. However, despite them being senior students, they



lacked prior theoretical knowledge and practice experience with interprofessional feedback dialogues, giving them little to reflect on and limiting their ability to generate specific goals for practice. Additionally, barriers such as perceived hierarchies, workloads of-, and limited contact with members of other professions limited their ability to practice and evaluate their interprofessional dialogues in the workplace.

Take Home Messages

The Westerveld framework is a suitable basis for the design of interprofessional feedback dialogue training. Prerequisite is to address the contextual and cultural barriers that can hinder open dialogues.



ePosters - Continuing Professional Development

8K01 (2804)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:35

Location of presentation: Tete d'Or 2

Learning Needs Assessments in Healthcare Continuing Professional Development: A scoping review

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Background

A rigorous learning need assessment (LNA) is a crucial initial step in the Continuing Professional Development (CPD) process. A LNA driven approach can lead to a change in practice, largely as a result of the learning being directly linked to personal and practice needs. This review aimed to collate, summarize and categorize the reported LNA approaches adopted to inform healthcare professional CPD and highlight the gaps for further research.

Summary Of Work

In August 2020, nine bibliographic databases were searched for studies conducted with any health professional grouping, reporting the utilized LNA inform CPD activities. Two reviewers independently screened the articles for eligibility and charted the data. A descriptive analytical approach was employed to collate, summarize, and categorize the literature.

Summary Of Results

151 studies were included. The majority adopted quantitative methods (92; 60.9%), the majority were surveys. Mixed-methods approaches were reported in 35 studies (23.2%). LNAs largely relied on assessment via self-reported domains. Few studies (13; 14.6%) described the use of objective tools.

Descriptions of LNA development were noted for their absence of reporting measures to enhance their rigor or robustness.

Discussion And Conclusion

Despite the growing evidence base that offers recommendations for best-practice, this review has demonstrated few studies in which proposed strategies for LNA design have been fully adopted. This



raises the important question as to why CPD developers continue to utilize approaches that are reported to be sub-optimal. In order to accurately and comprehensively answer this question, further investigation into the contributory factors is necessary. Thus, this review provides the foundations for further research that should include focus on supporting CPD developers to adopt evidence-based approaches and construct effective LNAs.

Take Home Messages

CPD developers are recommended to review the existing evidence-base to determine the optimal approach for constructing an effective LNA.

CPD developers are encouraged to seek the involvement of practice-based colleagues including senior management and line managers to access and incorporate practice-based data that can be utilized to assess competence, performance and practice outcomes.

CPD developers should seek engagement opportunities with health care professionals who may champion the need for CPD activities that are specifically targeted to improving patient care and health outcomes.



8K02 (2275)

Date of presentation: Tuesday 30th August

Time of session: 09:35 - 09:40

Location of presentation: Tete d'Or 2

Learning to Think About Intimate Partner Violence: Critical Perspectives on Physicians' Roles

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Background

Intimate partner violence (IPV) refers to physical, psychological or sexual harm that occurs in the context of a current or past romantic or sexual relationship. Although timely access to compassionate medical care may help mitigate negative health sequelae related to IPV, people affected by IPV report reticence to disclose their experiences to healthcare providers because of concerns related to stigma and re-traumatization. To identify opportunities to improve care for patients affected by IPV, our research examined 1) how physicians' roles in addressing IPV are represented in medical education materials; and 2) how physicians perceive their own roles in addressing IPV.

Summary Of Work

We conducted: 1) a critical discourse analysis of training materials and policy documents related to IPV that were developed for a Canadian medical audience; and 2) interviews with 57 physicians and resident physician trainees from three Canadian provinces.

Summary Of Results

Three core professional roles linked to IPV for Canadian physicians were constructed based on education materials and policy documents: *learning* about IPV, *identifying* patients experiencing IPV, and actively *responding* to patients' IPV disclosures. By contrast, the physicians that we interviewed perceived their roles in addressing IPV as focusing around *identifying* patients who were experiencing IPV and then *connecting* those patients with community resources and/or other clinicians and service providers. While the *learning* role described in training and policy documents emphasized the importance of classroom education and training experiences for physicians, the physicians we interviewed framed experiential learning as centrally impactful to shaping their professional practice

Discussion And Conclusion

This research identified an important disconnect between how physicians' roles in addressing IPV are constructed in formal medical curricula and how physicians perceive their roles. While our study of medical education resources and policies revealed an active and interventionist role for physicians in



addressing IPV, the physicians that we interviewed framed providing referrals as the central feature of their response to IPV.

Take Home Messages

Strategic use of experiential learning may offer leaders in medical education an opportunity to reshape how physicians understand their roles in supporting people experiencing IPV.



8K03 (4575)

Date of presentation: Tuesday 30th August

Time of session: 09:40 - 09:45

Location of presentation: Tete d'Or 2

Impact of in situ training in obstetric emergencies on improving team knowledge and a quality of care indicator.

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Background

Since 2014, in situ simulation training has been carried out in the Aurore perinatal network. This training uses a high fidelity mannequin. It is dedicated to an interprofessionnal team of anaesthetists, midwives, obstetricians and auxiliary nurses, in a delivery room. It is intended for continuing education. The network in which this training is carried out includes 25 maternity units in the same territory, and these maternity units perform 40,000 deliveries per year.

Summary Of Work

Our objective was to study the impact of the training, on the one hand on the knowledge of the teams concerning obstetrical emergencies, at a distance from the training, and on the other hand on an indicator of quality of care in obstetrical practice, severe post-partum haemorrhage.

During these training sessions, we carried out a pre-test and a post-test questionnaire evaluating the learners' knowledge. We conducted a second post-test at a distance from the training, in 2021, to assess the persistence of the acquired knowledge.

An indicator of quality of care, the rate of severe post-paprtum hamorrhage, is regularly monitored in all the maternity units of the network. We compared this rate of severe bleeding before and after the training, for each delivery unit.

Summary Of Results

The results show a persistence of the knowledge acquired during the training. The effect on the rate of severe post-partum haemorrhage, with data for the year 2021, will soon be available.

Discussion And Conclusion



The implementation of these training courses in the maternity network has made it possible to promote continuous training by in situ simulation, in an interprofessionnal team. The improvement in knowledge and perhaps in the quality of care indicator can be linked to other actions implemented during this period, such as the implementation of morbidity and mortality reviews by the perinatal network, but also the initiatives of each maternity hospital. The training courses have probably helped to motivate other actions which, in total, allow knowledge and practices to be improved.

Take Home Messages

- In situ simulation with interprofessionnal team in delivery unit to improve quality of care
 - Improvement of knowledge by in situ training
-



8K04 (2808)

Date of presentation: Tuesday 30th August

Time of session: 09:45 - 09:50

Location of presentation: Tete d'Or 2

Shoulder dystocia simulation training reduces the incidence of permanent brachial plexus birth injury

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Background

Shoulder dystocia is an unpredictable obstetric emergency in which fetal shoulders cannot be delivered. It is the most common reason for permanent brachial plexus injury (PBPI). As shoulder dystocia and the risk for PBPI are difficult to predict, high quality management and training is important.

Summary Of Work

In Helsinki University Hospital, multi-professional and systematic simulation trainings on obstetric emergencies, including shoulder dystocia, were started in 2015. Both technical and non-technical skills are taught, and special emphasis is given to technical skills and posterior arm delivery. Our retrospective study analyzed the impact of training on the incidence of PBPI during the study period of 2010-2019. Years 2010-2014 were considered as a pre-training period and years 2015-2019 as a post-training period.

All children presenting with BPBI were seen by a specialized team at the Helsinki University New Children's Hospital. A permanent BPBI was defined as clinically evident limited active or passive range of motion or decreased strength of the affected limb detectable at the age of one year. The diagnostic criteria for shoulder dystocia and permanent BPBI remained the same throughout the study period.

Summary Of Results

During the study period 113 085 deliveries in vertex position were recorded. The incidences of major risk factors for shoulder dystocia (gestational diabetes, maternal age and weight, induction of labor, vacuum extraction) increased and were all significantly higher ($p < 0.001$) during the post-training period. No difference was found in the mean birthweight of newborns ($p = 0.043$). The incidence of shoulder dystocia increased significantly (0.01 vs. 0.3%, $p < 0.001$) during the study period, but after



the implementation of systematic simulation trainings, the number of children with PBPI decreased dramatically (0.04 vs. 0.02%, $p<0.001$). A reduction of shoulder dystocia associated permanent BPBI with a decreased from 42.8 % to 5.3 % ($p<0.001$) was noted.

Discussion And Conclusion

Shoulder dystocia in an unpredictable obstetric emergency. Systematic simulation training of midwives and doctors improved individual and team performance and significantly reduced the number of PBPI .A detailed advise on technical management and posterior arm delivery is recommended and can improve the outcome of shoulder dystocia cases.

Take Home Messages

Systematic simulation training significantly improves shoulder dystocia management and delivery outcome.



8K05 (3666)

Date of presentation: Tuesday 30th August

Time of session: 09:50 - 09:55

Location of presentation: Tete d'Or 2

Characteristics of excellent medical professionals, a systematic review

Abdullah Khawar¹, Femke Frederiks¹, Mana Nasori¹, Marianne Mak-van der Vossen¹, Mechteld Visser¹, Faridi van Etten-Jamaludin¹, Agnes Diemers², Nynke van Dijk¹

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Background

Some medical professionals are identified as being an excellent physician by their peers, supervisors, teachers or patients. However, there is no common ground on how excellence in medicine should be defined. Prominent models such as Renzulli's seem broadly applicable to define excellence. However, we lack an overview of empirical studies that address the characteristics of excellence among medical professionals (i.e., residents and specialists). Therefore, we performed a systematic review to identify these characteristics. This definition can help with talent recognition and facilitating the development of excellent physicians, which also may add to the development of methods for optimizing learning in the clinical setting.

Summary Of Work

This review was performed according to AMEE guideline for systematic reviews. Two independent researchers screened articles for the eligibility criteria. We used the QATSDD for quality assessment.

Summary Of Results

Of 6704 found articles, eleven articles met the eligibility criteria and were included for this review. We found characteristics of excellent medical professionals from four different perspectives; 1) physician on physician, 2) physician on resident, 3) patient on physician, and 4) mixed group on physician. The characteristics can be grouped in three clusters; above average competencies (e.g. medical knowledge and communication), task commitment (motivation and enthusiasm) and being adaptable and flexible.

Discussion And Conclusion

We provided a narrative overview of the literature on characteristics of excellent medical professionals. The characteristics we found in the literature seem to fit the three cluster structure of



Renzulli's model; above average ability, task commitment and being creative. We prudently conclude that his model can be useful in recognizing medical excellence. Future research should focus on the learning characteristics and preconditions of excellence. This might result in the development of methods for optimizing learning in clinical practice.

Take Home Messages

Defining excellence among medical professionals is important to recognize and facilitate the development of excellent physicians. On the basis of our results, we propose the use of three clusters to define excellence: above average competency, task commitment and creativity.



8K06 (3699)

Date of presentation: Tuesday 30th August

Time of session: 09:55 - 10:00

Location of presentation: Tete d'Or 2

European Guideline Education and Cost-Conscious Care (CoCoCare)

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Background

Rising health expenditures continue to threaten the sustainability of healthcare worldwide. Nevertheless, health professionals' knowledge of cost-conscious practices remains limited. Clinical guidelines aim to guide the decision process, influencing quality and cost-effectiveness of healthcare. Involving professionals in guideline development process could increase their motivation to use guidelines.

Summary Of Work

In 2018, European consortium initiated a collaboration – CoCoCare – with the aim of developing a guideline education program for residents across Europe. The aims of the training have been to teach residents how to develop and implement high-quality, evidence-based guidelines and to equip residents with the competences to work more cost-consciously. The training consists of three elements: online modules, one-day face-to-face workshop, and training-on-the-job assignments spread over a period of one year with the average workload of one day per week. The topics of the training include general introduction to clinical guidelines, evidence-based decision-making, patients' perspective in clinical guidelines, cost-conscious care, and guideline implementation. At the end of the training, the participants are encouraged to develop a guideline on the topic of choice.

Summary Of Results

In CoCoCARE, a training programme and the necessary tools and materials have been developed. Moreover, they are piloted in three subsequent rounds to enable evaluation, revision and optimisation in an iterative process. CoCoCare reached stakeholders from different European countries and beyond: Pilot 1: 22 residents from 16 EU countries, Pilot 2: 33 participants from 14



countries and Pilot 3: 36 participants from 21 countries (7 beyond EU). For evaluation, we chose to use questionnaires. Focus groups were used for evaluation of the first pilot.

Discussion And Conclusion

Participants thought this course was a unique chance to learn about a topic they did not know much about. They mentioned the CoCoCare training was valuable for their career. After completing the course, they felt that they were able to develop a (local) guideline. They felt that their goals were achieved and their expectations were met. The course opened their eyes, primarily on the cost-conscious aspect of healthcare. They would recommend the training to other colleagues in the future.

Take Home Messages

Guideline education improves guideline implementation and facilitates health professionals' knowledge of the cost-conscious aspect of healthcare.



8K07 (1691)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:05

Location of presentation: Tete d'Or 2

Assessing Outcomes of a Practice Enhancement Program

Andries Muller¹, James Macaskill¹

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Background

This paper synthesizes outcomes of Saskatchewan's Practice Enhancement Program (PEP) over the last 24 years. PEP is designed to provide physicians with patient and peer feedback on their clinical practice. In doing so, the program serves as an important means of promoting reflection and continued medical education. While PEP has been delivering this service since 1994, a comprehensive program evaluation has never been done.

Summary Of Work

The research team analyze the outcomes of 825 practice assessment reports and over 4241 individual recommendations found therein, from 1997 to 2020. Data from these assessments are collected, organized, and analyzed to determine: (i) What are the areas in need of improvement? (ii) Is there any other information that results from the data?

Summary Of Results

Several themes were identified as common reasons for recommendations. The top recommendation was around documentation. Other recommendations that made the top ten list were: Chronic Disease Management, Cumulative Patient Profiles, Medications, Emergency preparedness, Lab investigations, Objective measure of lung function, patient privacy, patient safety and Mental health. It was also possible to create a profile of a physician that would be more likely to receive more recommendations: Older, male physician in solo practice who are not involved in teaching and who not hold a certification in Family Medicine in Canada (CCFP).

Discussion And Conclusion

Although some recommendations were expected (documentation, selectivity in further investigations, etc.), others were surprising (privacy, proving better mental health, etc.) It was also interesting to see how certain demographics could predict "poorer performance" in a physician.



Take Home Messages

CME can be designed around certain topics and with a certain target audience in mind, when using the results from this study.



8K08 (3182)

Date of presentation: Tuesday 30th August

Time of session: 10:05 - 10:10

Location of presentation: Tete d'Or 2

Breaking the silo – peer observation and feedback for anesthesiologists – a mixed method evaluation of a continuous professional development tool.

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Background

After training completion, physicians usually work alone or with a trainee. Clinical practices between anesthesiologists may differ widely. Self-reflection is important to maintain and improve clinical skills. Clinical collaboration between trained anesthesiologists is very limited to difficult situations where more than one anesthesiologist is needed. Peer observation and feedback is a tool that has been described for use in teaching situations and peer observation by trainees. The value generated might outweigh the invested time and cost. This study's aim was to evaluate peer observation and feedback for trained anesthesiologists in the operating room.

Summary Of Work

Anesthesiologists at a university level hospital participated in peer observation and feedback encounters. Two anesthesiologists (one observing/one performing) were paired and randomized to high-turnover or high-complexity lists. Participants were encouraged to discuss similarities and differences in practice. After the experience, all participants answered a questionnaire and an interview facilitated by a researcher. The primary outcome parameter was predefined as the percentage of participants who would either consider making any changes to their future practice and/or consider gathering more knowledge in an identified topic. Data analysis used descriptive statistics and a thematic analysis approach.

Summary Of Results

In 23 of 25 (92%) encounters, at least one of the two anesthesiologists reported that they would consider making changes and/or acquiring more knowledge. Fifteen (71%) anesthesiologists agreed to that statement. In high-complexity lists significantly more participants agreed ($p=0.022$). All anesthesiologists recommended the use of this tool for continuous professional development. Some voiced concerns about the cost of such a project. The qualitative analysis is currently ongoing.



Discussion And Conclusion

Ninety percent of peer observation and feedback encounters resulted in at least one anesthetist either considering making changes to their practice and/or acquiring more knowledge. This supports the usefulness of this process as a tool for continuous professional development. High-complexity surgical lists seem to be more beneficial.

Take Home Messages

Peer observation and feedback for trained physicians seems to encourage self-reflection of one's own training, which is critical for health care professionals and may also has the power to improve patient care.



8K09 (2116)

Date of presentation: Tuesday 30th August

Time of session: 10:10 - 10:15

Location of presentation: Tete d'Or 2

The role of regulators and professional regulations in fostering the use of electronic health data to strengthen Continuing Professional Development (CPD) for medical practitioners: a documentary data analysis and semi-structured interviews with key informants.

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Background

Few studies have supplied knowledge around the correlations between existing medical regulations, electronic health data analysis technologies, and current performance review practices and CPD programming for medical practitioners. For this reason, this study aims to compare existing regulatory policies for medical practitioners in 5 selected countries to understand how medical regulators conceptualise and envision the use of electronic health data for performance feedback and strengthened CPD.

Summary Of Work

Policies and other documentary data on medical regulations in Australia, Canada, New Zealand, the UK, and the USA were collected and reviewed to examine content and aims. In addition, 18 semi-structured interviews with international key informants from relevant medical regulatory bodies were conducted and are about to be thematically analysed to investigate the context, rationale, and applicability of those regulations.

Summary Of Results

An initial analysis of the documentary data shows a relatively recent shift in medical regulations and CPD requirements in all the countries under investigation. Depending on the jurisdiction, over the last 10 to 20 years medical regulators have in fact placed more emphasis on those CPD activities that aim at reviewing and measuring clinical performance using patient-related data analysis.

Despite this conceptual shift in regulatory policies, several key informants have stated that multiple challenges are still limiting the use of electronic health data analysis for CPD purposes. For instance, it has been reported that the necessary data to complete these activities is not always accessible to



the practitioner or, if available, it is manually collected and analysed making the whole process lengthy and burdensome.

Interestingly, the interview data indicates that medical regulators will need to play an advocacy role to address existing issues of data accessibility.

Discussion And Conclusion

Final considerations will be disseminated at study completion.

Take Home Messages

Despite medical regulatory bodies' interest in data strengthened CPD, the findings of this study show that data-driven CPD programming and planning will be possible only after the development of clear policy implementation strategies, the creation of *ad hoc* processes and procedures for healthcare services organisations, and the design, implementation, and evaluation of new digital and data analytics tools.



8K10 (1696)

Date of presentation: Tuesday 30th August

Time of session: 10:15 - 10:20

Location of presentation: Tete d'Or 2

Readiness of Healthcare Professionals as an Inter-professional Team for Teaching the Good Practices of Diabetic Foot Self-Management among Individuals with Diabetes –A Qualitative Study

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Background

Diabetic patients' lack of knowledge about foot self-care is a major cause of diabetic foot ulcers. Diabetes and associated diabetic foot ulcers require a coordinated strategy including several health care providers (HCPs) to manage due to their complexity. An interprofessional (IP) team-based approach is essential for effectively controlling and educating the population on suitable diabetic foot self-management strategies.

Summary Of Work

This qualitative study included HCPs involved in patient education and treatment related to diabetic foot management. The HCPs were from Anatomy, Medicine, Endocrinology, Surgery, Physiotherapy, Diet & Nutrition, and Nursing. The HCPs would form an IP team, which would be responsible for teaching diabetic foot self-management practices to patients with diabetes. Seven in-depth interviews were conducted. The study participants were interviewed one-on-one using an interview guide. Thematic analysis was performed on the interview transcripts, and themes were identified.

Summary Of Results

Seven HCPs (five males and two females) who agreed to be a part of the IP team were interviewed. The findings demonstrated that every research participant was highly motivated to work as a member of the IP team in managing diabetic foot care. The themes identified from participants' comments that supported the IP team-based approach in diabetic foot-care were: 'patient-centric practices,' 'comprehensive care,' 'teamwork and coordination for improved patient outcome,' and 'integrated approach' 'professional knowledge amalgamation,' 'time management' 'education in a favorable environment' with 'constant motivation and support through educational modules.'



Discussion And Conclusion

The study explores HCPs' readiness to work as part of a well-motivated IP team involved in teaching appropriate diabetic foot self-management strategies to patients with diabetes. It highlights the HCP's suggestions for developing an IP training module for teaching diabetic foot self-management strategies to individuals with diabetes.

Take Home Messages

- IP approach is better than the multidisciplinary approach to achieve quality patient care
 - IP team-based approach in diabetic foot-care involves 'patient-centric practices,' 'comprehensive care,' 'professional knowledge amalgamation,' 'teamwork and coordination for improved patient outcome.'
 - The development of an IP collaborative educational module will be helpful in imparting the appropriate diabetic foot self-management strategies to individuals with diabetes.
-



8K11 (1744)

Date of presentation: Tuesday 30th August

Time of session: 10:20 - 10:25

Location of presentation: Tete d'Or 2

Cliques within the crowd: Identifying medical conference attendee subgroups by their motivations for participation

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Background

Catering medical conferences to the individual needs of participants is challenging, especially at large-scale conferences with an increased diversity of attendees. Creating a program with the right balance of activity requires better understanding of delegate variability and comparability of their needs. This study explores whether, and how, attendees can be grouped based on motivations for attendance to offer guidance to conference organisers.

Summary Of Work

We adopted a case study approach. Survey results of 1,229 attendees' perspectives underwent cluster, factor and directed content analyses.

Summary Of Results

Motivations were clustered into three factors: learning, personal and social. Three groups of attendees were identified using these factors. *Group 1* (n=500) scored high in learning, social and personal factors driving conference attendance, never or rarely attended in-person, were very satisfied with the virtual format and had no future preference for virtual or in-person formats. *Group 2* (n=345) scored high in learning factors driving conference attendance, had attended some conferences in-person, but would prefer online formats. *Group 3* (n=188) scored high in social factors driving conference attendance, had attended many in-person meetings and would prefer in-person formats. 196 attendees did not fit into a particular group.



Discussion And Conclusion

Three groups were identified through clustering attendees based on their motivations for attendance and previous number of in-person conference attendances. These groups can be used to make conference attendance more appealing by better enabling participants to fulfil their needs (e.g., creating a “spark” for delegates to meet and discuss ideas with more established colleagues to kickstart their career).

Take Home Messages

Medical conference attendees can be clustered based on their motivations for attendance i.e., whether for knowledge gain (learning), individual progress (personal) or interacting with others (social).



8K12 (3595)

Date of presentation: Tuesday 30th August

Time of session: 10:25 - 10:30

Location of presentation: Tete d'Or 2

Shoulder dystocia simulation training in Helsinki University Women's Hospital. Midwife experiences, impact on shoulder dystocia management and permanent brachial plexus injury.

Anne Vesterinen¹, Johanna Tölli¹, Marja Kaijoma ¹

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Background

Shoulder dystocia is an obstetric emergency where fetal shoulder(s) are stuck in mother's pelvis. It is unpredictable and, in most cases, shoulders are released by a midwife. Regular training of shoulder dystocia management is necessary to ensure the best outcome of delivery.

Summary Of Work

In Helsinki University Women's Clinic, regular and structured shoulder dystocia simulation trainings were started in 2015. Both technical and non-technical skills are taught, but special emphasis is given to technical management of shoulder dystocia.

A retrospective study was made to analyze dystocia management during pre-training (2010-2014) and post-training (2015-2019) periods and midwives' training experiences and self-confidence in shoulder dystocia treatment were evaluated by a questionnaire. The incidence of shoulder dystocia and permanent brachial plexus injury during the study period (2010-2019) was also analyzed.

Summary Of Results

Among 113 085 vertex deliveries 246 shoulder dystocia cases were recorded. The incidence was higher during the post-training period (0.1% vs. 0.3%, $p<0.001$).

The delivery of shoulders was mostly performed by a midwife (85.5% vs, 87.0 %, $p=0.77$). No difference was detected in the use of Mc Robert's maneuver (80.6% vs. 87.0%, $p=0.22$), suprapubic pressure (61.3% vs. 52,2%, $p=0.21$) and internal rotational maneuvers (11.3% vs. 17.9%, $p=0.22$). During the post-training period, a significant improvement was detected in the successful posterior arm delivery (11.3% vs. 23.4%, $p=0.04$).



In the post-training questionnaire (n=81) 68 % of midwives reported an improved self-confidence in shoulder dystocia management and 57 % an improved skill in the posterior arm delivery. Consistently with an increased successful posterior arm delivery, the incidence of permanent brachial plexus injury after shoulder dystocia decreased significantly (42.8 % vs. 5.3 %, $p<0.001$) during the post-training period.

Discussion And Conclusion

High quality management of shoulder dystocia requires good technical and non-technical skills. A detailed training on technical skills and posterior arm delivery is recommended and can significantly improve individual skills and the outcome of shoulder dystocia cases.

Take Home Messages

Midwives have an important role in the management of shoulder dystocia. The implementation of systematic simulation and technical skills training can significantly improve individual performance, self-confidence and clinical outcome.



ePosters - Faculty Development across a Continuum 1: A focus on faculty members

8L01 (2699)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:35

Location of presentation: Salon Tete d'Or

Millennial Teachers for Millennial Learners: MT4ML

Alasdair Nazerali-Maitland¹, Amil Shah¹, Barry Chan¹, Reed Holden¹, Christina Douglas²

¹ *University of British Columbia, Vancouver, Canada* ² *UBC, Vancouver, Canada*

Background

Postgraduate training in Canada has adopted a Residents as Teachers initiative in order to best prepare future graduates for integration of teaching skills with patient care as well as to introduce additional medical education opportunities upon completion of residency. Although exacerbated through the pandemic, the availability and general dwindling interest of faculty to participate in bedside clinical examination teaching provided a unique opportunity to provide teaching opportunities for keen residents, as well as to expose medical students to recently graduated (chief) residents who were not only aware of the exit requirements of pre-clinical studies, but who were also highly adaptable to the virtual/telemedicine delivery formats of clinical skills.

Summary Of Work

Using well understood notions of using teachers that have more recently graduated, we examined and compared 50 trainees who had completed a formal Medical Education Elective at the University of British Columbia who each taught between 12 and 16 sessions. Using these 800 "teaching fellow sessions" as a comparison, we compared our MEE residents with experienced clinical faculty in terms of quantitative feedback in numerous domains as well as the number of low performance flags. During pandemic years additional analyses were completed to compare the number of session cancellations and percentage of completed sessions.

Summary Of Results

The MEE resident trainees outperformed the experienced clinical faculty in four domains - observed performance, collaborative teaching environment, probing clinical reasoning and giving students responsibility to their level of training. MEE residents also observed a lower level of flagged encounters and had a higher session completion rate.



Discussion And Conclusion

The Medical Education elective rotation provides an opportunity for students to have exposure to talented resident teachers as well as to have more supervision and entrustment to the level of their training. During the pandemic it assured a reliable number of face to face sessions could take place, and the implementation of more simulation and telemedicine sessions were made possible due to these focused trainees.

Take Home Messages

A careful blend of those clinical skills tutors that have decades and mere months of experience can be beneficial for delivery of an ever-evolving medical curriculum, especially in pandemic waves where face-to-face sessions have increased risk.



8L02 (2086)

Date of presentation: Tuesday 30th August

Time of session: 09:35 - 09:40

Location of presentation: Salon Tete d'Or

Teaching patterns and scripts: a qualitative study

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Background

Clinical teachers use both clinical and teaching scripts when supervising students in their daily practice. Teaching scripts result from the knowledge of medicine and patients, of context, and of teaching and learners. Contrary to clinical scripts, little is known about the development of teaching scripts. The aim of the study was to explore how the different dimensions of teaching scripts interact with each other and whether they vary according to clinical teachers' level of teaching experience and professional background.

Summary Of Work

A purposeful sample of twenty clinical teachers from different disciplines and levels of teaching experiences were invited to conduct a videotaped clinical supervision with a simulated resident about a patient presenting with subacute lower abdominal pain. The session was followed by a semi-structured and a stimulated recall interview. Both were transcribed and analysed using deductive and inductive approaches.

Summary Of Results

According to their working context, participants' approach to the supervisory role differed. They usually categorised learners according to their level of experience and the fact that they had worked with them before or not. They used such categorisation to judge the degree of autonomy and reliability of the learner. Knowledge of patients was embedded in all dimensions but more visible when participants taught the clinical reasoning process. Regarding knowledge of teaching, we distinguished four clear teaching patterns in terms of teaching intentions, learning culture and clinical reasoning approach: simple (pedagogical framework) and flexible (teaching approach), simple and fixed, complex and fixed and complex and flexible. Others were defined as "in transition" as they were still in development. Participants' work setting, prior clinical and teaching training, reflective and analytical skills as well as their ability to enrich their pedagogical framework with other influences seemed to determine the development of these patterns.



Discussion And Conclusion

The results of this study sheds light on how faculty development programs can adapt and guide faculty's supervision skills based on their existing teaching patterns and allow them to reach a both rich and flexible approach to teaching in the clinical context.

Take Home Messages

We found clear differences regarding teaching/pedagogical dimensions despite reported similar use of teaching tools and learning culture.



8L03 (4068)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 09:35

Location of presentation: Salon Tete d'Or

The Function of Instructional Design in Empowering Faculty Members

Hossein Karimi Moonaghi¹, Hora Ashrafifard¹, Ali Emadzadeh¹, Hamed Tabesh¹

¹ *Mashhad University of Medical Sciences, Mashhad, Islamic Republic Of Iran*

Background

Empowering faculty members for professional development and achieving educational goals is crucial to preparing them for their effective and practical instructional role. The present study aims to investigate the effect of motivational design using learning styles on learning of faculty members as well as the ability to predict the amount of motivation through learning styles.

Summary Of Work

This research was an applied and pre-experimental study. The statistical population consisted of 138 faculty members of Mashhad University of Medical Sciences who were teaching during 2018-2019 and who were included in empowerment courses. They were selected as the research sample based on universal sampling method. To collect data in this study, three questionnaires of Kolb Learning Styles Inventory, self-reported Teaching Competencies Questionnaire, and Keller's Instructional materials motivation survey were used. Data were analyzed using SPSS version 20.

Summary Of Results

The learning styles of the faculty members were Assimilator (60%), Convergent (28%), Divergent (9%), and Accommodator (3%), respectively. This study showed that the application of motivational model have a significant effect on learning. It was also shown that motivational nature of instructional course materials was predictable through learners' learning styles. There was a linear relationship between learning styles and motivation (0.7) and transformation and motivation variables (0.75).

Discussion And Conclusion

If the motivational design model is used correctly, it can be an effective model for designing empowerment courses. On the other hand, one of the factors that should be considered in designing motivation considering learners' characteristics is attention to learning styles of individuals.



Take Home Messages

Motivational design model can be an effective model for designing empowerment courses if used properly.



8L04 (4467)

Date of presentation: Tuesday 30th August

Time of session: 09:40 - 09:45

Location of presentation: Salon Tete d'Or

The Insertion Of Teaching In Medical Residency Programs: The Preceptors' View.

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Background

Medical residency programs are considered the gold standard in the specialization of medical professionals and their main feature is in-service training that articulates teaching in the practice setting. However, residents also develop the teaching role, even if it does not appear in the Competency Matrices. This teaching and learning process during residency is still poorly studied, especially in Brazil. In several countries it is known as "Resident as Teacher".

Summary Of Work

The study aims to identify, among Brazilian medical residency preceptors, the perception of teaching insertion in Medical Residency programs. Methods: A cross-sectional study with a qualitative and quantitative approach, with preceptors from higher education institutions from all regions of Brazil, invited via WhatsApp to answer a Google Forms questionnaire with questions that addressed the preceptors' socio-demographic data, their perception of the teaching process by the residents of the program where they work and whether or not they consider it important that the resident has a teaching background. Descriptive analysis was used for these variables. For qualitative data, open responses were grouped using the Braun & Clarke thematic analysis method.

Summary Of Results

The response of 102 preceptors was obtained. More than half (64.7%) are between 40 and 60 years old and have more than 10 years of practice. The majority (96.1%) agreed that their activity as a preceptor is a teaching activity, but that within the Residency Program in which they worked as a resident, they did not receive training focused on teaching (81.4%), with 78.4% sought some training in teaching outside their Program. The qualitative analysis showed the need to qualify the resident for teaching with a focus on the future, while contrary arguments were based on the fact that the medical residency aims to train in a specialty, and if there is an interest in teaching, this should be individualized or directed to supervisors.



Discussion And Conclusion

Our results suggest that the training of residents in teaching is essential, as these professionals act directly in the training of their peers, becoming models of values and academic and community leadership.

Take Home Messages

Teaching and learning are interdependent activities when we are role models for someone else.



8L05 (0321)

Date of presentation: Tuesday 30th August

Time of session: 09:50 - 09:55

Location of presentation: Salon Tete d'Or

'It's going to change the way we train': Qualitative evaluation of a transformative faculty development workshop

Caroline Ong¹, Yang Yann Foo², Debra Nestel³

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Background

Relatively little is known about faculty development (FD) activities that help participants achieve sustainable behavioral change. This qualitative study evaluated the medium- to long-term impact of a FD workshop informed by transformative learning theory. It aimed to discover which aspects of FD prompted healthcare professionals (HPs) to adopt effective teaching and learning practices.

Summary Of Work

Seventeen participants were interviewed between January and July 2020, 7 to 30 months after the workshop. Purposeful sampling strategies were used to collect data and analysis was performed using reflectixive thematic analysis.

Summary Of Results

Four themes were identified: perspectival shift in educational practice, re-affirmation of current practices, becoming an educator, and valuing FD that accommodates HPs' multiple communities of practice (CoPs). Workshop activities foregrounding critical discourse and reflection helped participants gain new knowledge and deeper understanding of education. Transformative learning was likely when participants already identified as an educator in addition to their HP identity. Additionally, a workplace CoP determined the type and level of support affecting HPs' development as educators.

Discussion And Conclusion

Aspects of FD that prompted HPs to adopt effective teaching and learning practices included initiatives that catalyzed critical discourse and reflection. Readiness for Transformative Learning is promoted when HPs have a strong educator identity because of workplace educator CoPs. Future research could explore effecting sustainable post-workshop behavioral change in HPs through the



strengthening of workplace educator CoPs. To do this, institutions could send co-located HPs from different disciplines to the same FD program.

Take Home Messages

Transformative FD workshops utilise instructional design that promote critical discourse and reflection. Workplace educator CoPs that support strong educator identity in HPs enhance transformative learning through FD activities.



8L06 (3908)

Date of presentation: Tuesday 30th August

Time of session: 09:55 - 10:00

Location of presentation: Salon Tete d'Or

The online switch: Faculty perceptions of online teaching

Rebecca Stout¹, David Moore¹

¹ London School of Hygiene and Tropical Medicine, London, UK

Background

The last two years have brought significant changes to medical education, with COVID-19 necessitating switching to the online learning environment. While many studies have assessed the impact on students, less look at faculty.

Summary Of Work

The Diploma in Tropical Medicine and Hygiene (DTM&H) is an intensive 12-week course which prior to 2020 was delivered entirely face-to-face. Prior to online sessions, faculty had a one-to-one with course organisers to discuss online methods of delivery and how to improve interaction. Each session was chaired by an organiser who monitored the 'chat-box'. We set out to evaluate faculty perception and experience of the online switch. We delivered a cross-sectional survey to all members of faculty after they delivered an online teaching session

Summary Of Results

79/120 (66%) of faculty members responded to the survey. 63% (50/79) perceived the interactive aspect to be worse online compared to face-to-face delivery. Some qualitative comments reflected this "...no question you lose something when the dynamic of direct interpersonal interaction is taken away" however others felt being online improved interaction "some people dare to ask [questions] in the chat that they would never ask otherwise." Other challenges included feeling isolated, "it feels like you are teaching into a 'black hole'," and feeling self-conscious, "I worry they may have come across as stilted," however this was partially remedied by "good support." Benefits included lower carbon footprint, more diverse faculty and the time-saving nature of online delivery. In future, 71% would prefer to deliver sessions face-to-face, with 20% having no preference and 9% preferring online delivery.

Discussion And Conclusion

This study highlights challenges for faculty with the online switch of delivery of education. As the world continues to adjust to the aftermath of the global pandemic, institutions have decisions to make about whether to continue online delivery or go back to face-to-face teaching. Faculty



preference and experience should help form this decision. That faculty can feel isolated while teaching online may indicate a need for wellbeing support.

Take Home Messages

As institutions decide whether to continue online delivery, faculty perception and experiences should be considered

Faculty may require wellbeing support over and above what they would require during face-to-face teaching



8L07 (2772)

Date of presentation: Tuesday 30th August

Time of session: 10:00 - 10:05

Location of presentation: Salon Tete d'Or

Exploring Internal and External Contributors to Mental Health among Thai Physicians in Clinical Teaching Contexts

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Background

Physicians who teach in clinical settings experience considerable psychological challenges in providing both educational training and patient care. The present study aimed to determine the prevalence of physician burnout and professional fulfillment, and to identify internal and external factors associated with mental health outcomes among Thai clinician teachers working in non-university teaching hospitals.

Summary Of Work

A one-time online questionnaire was completed by physicians at 37 governmental, non-university teaching hospitals in Thailand, with 227 respondents being assessed in the main analyses. Four outcomes were evaluated including physician burnout, professional fulfillment, quality of life, and intentions to quit. Descriptive and hierarchical regression were used in statistical analyses. Hierarchical regression analysis evaluated both an internal, psychological predictor (clinical teaching self-efficacy) and external, structural predictors (multiple roles at work, teaching support) controlling for the background variables of gender, years of teaching experience, family roles, and chronic disease.

Summary Of Results

Among the 227 clinician teachers, the observed prevalence of professional fulfillment was 20%, and burnout was 30.7%. Results of hierarchical regression analyses showed clinical teaching self-efficacy to positively predict professional fulfillment ($b = .29, p \leq .001$) and negatively predict burnout ($b = -.21, p = .003$) after controlling for the background variables.



Discussion And Conclusion

The prevalence of professional fulfillment is relatively less than burnout prevalence in clinician teachers in the context of Thai non-university teaching hospitals (20% vs. 30.7%, respectively), yet similar to international data. Interestingly, our study showed that clinical teaching self-efficacy positively predicted professional fulfillment and negatively predicted burnout. These results highlight the importance of faculty development for Thai physicians to enhance clinical teaching self-efficacy and improve mental health.

Take Home Messages

Clinical teaching self-efficacy positively predicts professional fulfillment and negatively predicts burnout in the context of Thai non-university teaching hospitals, which highlights the importance of faculty development to enhance the clinician teachers' teaching self-efficacy and improve their mental health.



8L08 (3750)

Date of presentation: Tuesday 30th August

Time of session: 10:10 - 10:15

Location of presentation: Salon Tete d'Or

Take 5 for Faculty Development: An Innovative Approach for Providing Practical Faculty Development

Heather Billings¹, Angela Bergene¹

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Background

Today's chronically overloaded faculty are asked to teach and assess learners with diverse levels of understanding, in an efficient and effective way in order to accelerate demonstration of competency and application. The importance of providing consistently high-quality, relevant faculty is more important than ever, the ACGME and the LCME both include faculty development as a core component of medical education and training programs (ACGME, LCME).

Summary Of Work

We created the Take 5 video series to address this challenge. Each 5 minute video includes 5 key pearls or strategies and can be viewed independently, shared as a prompt for group discussion, or delivered in sequence as part of an onboarding or remediation process. A systematic review of more than 100 faculty development programs suggests that the most successful programming includes evidence-informed design principles, relevant content, experiential learning, opportunities for practice, feedback and reflection, and community building (Steinert, 2016). We prioritized high yield, broadly relevant topics, drafted succinct and engaging scripts, recruited presenters with “psychological size”, reinforced the messaging with on screen text and graphics, and included references to medical education literature and cognitive science (Mayer 2001).

Summary Of Results

The 45 videos in the collection, have been viewed more than 120,000 times in 4 years. The videos are distributed through quarterly newsletters, played during department and division meetings, shared with external colleagues .

Discussion And Conclusion

In under 5 minutes, highly respected teaching faculty from across the AMC deliver five concrete tactics for how they approach a common teaching challenge (e.g., teaching in a busy clinical setting, balancing supervision and autonomy, recognizing and responding to patient bias, supporting learners in distress, delivering effective feedback, responding to professionalism lapses, etc.



Take Home Messages

We prioritized high yield, broadly relevant topics, drafted succinct and engaging scripts, recruited presenters with “psychological size”, reinforced the messaging with on screen text and graphics, and included references to medical education literature and cognitive science. Forty three Take 5 videos have been created and generated over 144,300 views. Many educational leaders show the videos during committee meetings and other scheduled gatherings of the faculty, suggesting the actual number of unique views is much higher.



8L09 (4501)

Date of presentation: Tuesday 30th August

Time of session: 10:20 - 10:25

Location of presentation: Salon Tete d'Or

A Uniquely Purposed Journal Club for a Longitudinal Instructional Development Program

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Background

Most academic medical Journal Clubs (JC) focus on critiques of methodology, critical analysis of results, and review the quality and applicability of new knowledge obtained in journal articles. The Master Teacher Program (MTP), a 2-year longitudinal instructional development program for busy clinician teachers at the University of Toronto, runs a JC with very different objectives. MTPs JC encourages exploration of new knowledge on teaching techniques and medical education research with direct application to clinical teaching practice.

Summary Of Work

MTP participants are required to present one 30 minute JC session during the second year of the MTP. They choose an article that is relevant to their teaching or educational needs. While the format is very flexible, presenters are encouraged to offer a 5-minute summary of the article and then lead a group discussion. This process allows participants to discuss the relevance of the article to medical teaching and emphasize the impact of the published information on teaching or education practices. The JC presentations of 30 participants were analyzed in the last two years.

Summary Of Results

MTP has produced 227 graduates in the last 17 years. Analysis was conducted of the JC presentations performed by 16 participants in the 2019-2020 cohort and 14 participants in the 2020-2021 graduating cohort. The JC allowed participants to: 1) gain exposure to a large variety of salient medical teaching and education journals, 2) explore clinical discipline-specific journals that feature medical education, 3) expand teaching content knowledge on a wide variety of topics, and 4) apply new understanding to enrich personal teaching practice.

Discussion And Conclusion

The MTP JC format encourages and is purposed to allow diverse academic reading habits. It enhances knowledge and exposure to medical teaching and education literature on teaching practice, and allows for rich discussion among participants in an instructional faculty development program.



Take Home Messages

A JC for busy clinician teacher faculty members in a longitudinal instructional development program can emphasize practical medical teaching content and application to teaching practice. This may be of more benefit and relevance to these participants than a journal club which focuses on methodology and critical appraisal.



8L10 (2505)

Date of presentation: Tuesday 30th August

Time of session: 10:20 - 10:25

Location of presentation: Salon Tete d'Or

AMEE International Networking Center in Georgia: 3 year experience

Gaiane Simonia¹, Salome Voronovi¹, Zurab Orjonikidze¹, Khatuna Todadze¹ Zurab Vadachkoria¹

¹ *Tbilisi State Medical University (TSMU), Tbilisi, Georgia*

Background

In May 2019 AMEE International Networking Centre was opened in Georgia, based at Tbilisi State Medical University. Center aimed to share modern methodology in medical education, to deliver training courses and to provide higher education institutions and their academic and administrative staff, medical education experts and other stakeholders with relevant information and materials. Center envisaged to become a Regional International Hub in Medical Education

Summary Of Work

Before and amidst the pandemic Georgian AMEE Center organized 11 face-to-face and online training courses. Professor Trevor Gibbs started the new enlightening era for medical educators in the South Caucasus region. Well-known international experts in medical education conducted highly demanded courses and contributed to the development of high-quality education. Faculty development meetings between courses enhanced the motivation of staff to share and gain as many best practices as possible and attend AMEE conferences.

Summary Of Results

Since 2019 due to high interest and increasing demand 11 ESME courses were organized by Georgian center: 4 ESME - Essential Skills in Medical Education; 2 ESMEA - Essential Skills in Medical Education Assessment; 2 RESME -Research Essential Skills in Medical Education, 2 ESME EtT- Evaluating the teacher course; ESME Lead - Essential Skills in Educational Leadership and Management. 10 research projects were elaborated between courses and results were presented at AMEE conferences and published in different medical journals.

Discussion And Conclusion

AMEE International Networking Center in Georgia helped medical educators from 3 South Caucasus countries to master the essential and advanced skills in medical education. 36 candidates are considered to be awarded with AMEE specialist certificate, which can be considered a huge success.



Take Home Messages

AMEE Center in Georgia truly achieved the desired outcome to become the regional hub for the improvement of medical education in the country and in whole South Caucasus region.



8L11 (4461)

Date of presentation: Tuesday 30th August

Time of session: 10:25 - 10:30

Location of presentation: Salon Tete d'Or

Reflection of online practice as the core of faculty development in medical schools

Lena Vania Carneiro Peres¹, Renan Gianotto-Oliveira¹, Flávia Lemos Abade¹, Valéria Menezes Peixeiro Machado¹, Débora Alvarce¹, José Lúcio Machado¹

¹ *Inspirali Medical Education, Sao Paulo, Brazil*

Background

Faculty development is an ongoing process. Two years ago, six medical schools with integrated curriculums based on competencies implemented a reflection on online practice from the perspective of teacher training and development.

Summary Of Work

Teaching medicine professors to use active learning methodologies, through practice reflection, was a key factor in their engagement at Inspirali's faculties of medicine, which has a curriculum anchored by competencies in the Unified Health System (SUS).

Summary Of Results

The faculty development board organized every month, two hours of continuing education meetings using reflection on practice, with 98 teachers (gathered in groups of 15), facilitated by a trained facilitator. Teachers were asked to bring up any critical incidents that occurred in the period before the meeting. Following the detailed description of the critical incident (CI), colleagues were encouraged to contribute their knowledge and experience to support the CI processing. A technical workshop may be held if necessary to address the gaps identified. Each teacher performs an assessment at the end of each meeting in three areas: self-assessment, group assessment, and facilitator assessment. Participants are asked to evaluate the activities at the end of the semester, identifying three strengths and three challenges. Reflection on the practice was characterized by three strengths: engagement, collaboration, and acquisition of new learnings. Among the challenges listed were difficulties in effective curriculum integration and little knowledge of active learning methodologies among medical students.

Discussion And Conclusion

Brazil does not have a regular practice of online teacher training with reflection on the practice for teachers in medical schools. Critical incident processing allows the elaboration of improvement plans



with peer collaboration. Reflection on the practice was perceived as having the following strengths by most teachers: engagement, collaboration, and acquisition of new learning. In a country where education is still largely teacher-centered, the challenges listed were: effective curricular integration and a lack of knowledge about active methods among medical students.

Take Home Messages

Reflection of the practice had a fruitful effect on teachers' engagement and in the formation of a collaborative environment among the teachers.



Workshop 8M (4647)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Rhone 3A

Clinical Reasoning During Disruption: Lessons from the COVID-19 Pandemic

Emily Abdoler¹, Lekshmi Santhosh², James Boyle³, Andrew Parsons⁴, Steven J. Durning⁵, Joseph Rencic⁶

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Background

The COVID-19 pandemic disrupted all facets of clinical practice, including how physicians engage in clinical reasoning. Initially, the unfamiliarity of COVID-19 affected diagnostic reasoning. Eventually, practicing within overwhelmed health systems with scarce resources, facing devastating loss of life, lacking proven therapies, and being forced to act with minimal data all likely impacted how physicians reasoned through diagnosis and management decisions. Examining how clinical reasoning was shaped by practicing early in the COVID-19 pandemic and describing the types of reasoning errors likely to occur has the potential to improve clinical practice in future pandemics and large scale disruptions to clinical practice.

Who Should Participate

Anyone interested in clinical reasoning.

Structure Of Workshop

- Introduction (10 minutes): Concise overview of key clinical reasoning terminology and concepts, including diagnostic reasoning, management reasoning, cognitive biases, and thresholds.
- Small Group Exercise (25 minutes): Facilitators will share a series of vignettes depicting clinical scenarios common during the pandemic. Participants will work in small groups to identify how clinical reasoning might be impacted by the situation.
- Large Group Discussion (15 minutes): Participants will share the changes in clinical reasoning they experienced during the pandemic, as well as errors they commonly witnessed. Facilitators will share data from their research of clinical reasoning during the pandemic.
- Small Group Exercise (25 minutes): Again in small groups, participants will brainstorm strategies to counteract the diagnostic and management challenges arising in each scenario from the earlier vignettes.
- Large Group Discussion (15 minutes): Small groups will share the key strategies they identified. Facilitators will lead a discussion of the key clinical reasoning lessons that have emerged from the pandemic and how those lessons could be applied to future states of disruption in medical practice.



Intended Outcomes

- Describe the likely impact of the COVID-19 pandemic on clinical reasoning, both diagnosis and management
- Identify strategies to counter clinical reasoning errors that arose during the COVID-19 pandemic
- Discuss the key clinical reasoning lessons that emerged during the COVID-19 pandemic and how they could apply to future states of disruption



Workshop 8N (2218)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Rhone 3B

Teaching clinical reasoning

Nicola Cooper¹, Mini Singh²

¹ *University of Nottingham, Nottingham, UK* ² *University of Manchester, Manchester, UK*

Background

Students and postgraduate trainees largely learn the knowledge, skills and behaviours required for effective clinical reasoning implicitly, through experience and apprenticeship. There is a growing consensus that medical schools and postgraduate training programmes should teach clinical reasoning in a way that is explicitly integrated into courses throughout each year, adopting a systematic approach consistent with current evidence. However, the clinical reasoning literature is 'fragmented' and can be difficult for medical educators to access. The purpose of this workshop is to provide practical recommendations that will be of use to all medical schools, and adaptable to their local context. The workshop will be led by committee members of the UK Clinical Reasoning in Medical Education group (CREME).

Who Should Participate

Teachers in the healthcare professions

Curriculum planners/leads

Structure Of Workshop

- 10 mins - introductions and welcome (Dr Nicola Cooper, University of Nottingham Medical Education Centre). Overview of the consensus statement on the content of clinical reasoning curricula in undergraduate medical education.
<https://doi.org/10.1080/0142159X.2020.1842343>
- 20 mins - overview of effective teaching strategies (Dr Nicola Cooper)
- 10 mins Q&A/discussion
- 20 mins - implementing a longitudinal clinical reasoning curriculum (Prof Mini Singh, University of Manchester School of Medicine)
- 10 mins Q&A/discussion
- 20 mins - small groups discussion: can we do this where we are? Faculty development and assessment.



Anything to do with teaching clinical reasoning at AMEE tends to be very popular, we anticipate 50-100 people will want to attend this workshop.

Intended Outcomes

Aim

To provide an overview of evidence-based strategies for teaching clinical reasoning and share practical recommendations for implementing a longitudinal clinical reasoning curriculum.

Intended learning outcomes

At the end of this session, participants will be able to:

4. List the domains of clinical reasoning education
5. Describe teaching strategies that facilitate clinical reasoning development most effectively
6. Develop their own ideas for a faculty development programme in their own institution
7. Use ideas from one medical school (Manchester) to create a longitudinal clinical reasoning curriculum in their own programme
8. Discuss the implications for assessment in their own local context.

We also hope this will be a perfect opportunity for networking and sharing ideas and resources among different schools/programmes.



Workshop 80 (0974)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Rhone 4

Who Are You? Your Changing Identity as a Health Professions Educator

Kimberly Dahlman¹, Zhi Xiong Chen², Neil Osheroff³

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Background

The development of professional school curricula that include highly integrated courses and active learning methods has significantly impacted the career paths and professional identities of many medical science and clinician educators. Over the past decade, there has been a seismic shift from the traditional health professions teacher, whose duties were often limited to lecturing or course coordination, to a professionalized educator with a multidimensional skill set. As a result, it is important for educators to assess their current skills and motivations, and develop competencies and qualities in areas important for modern curricula. These skills include educational leadership, curriculum design/implementation, mentorship and coaching, competency-based assessment, evidence-based teaching/facilitation, and educational scholarship.

Who Should Participate

This workshop is tailored for medical science and clinician educators involved in health professions education. Educators at all career stages will benefit from attending.

Structure Of Workshop

This 90-minute workshop will begin with an interactive large group session that explores how the professional identity of health professions educators has changed over the last decade. This will be followed by an interactive discussion regarding the roles of the modern health professions educator. Three small group activities will follow where attendees will:

- Discuss standards for assessing educator excellence. This discussion will be followed by a report back to the large group.
- Identify their areas of strengths and weaknesses as an educator, then share and provide feedback to one another on their self-reflections.
- Develop an action plan for improvement for at least two educator roles, then share and provide feedback to one another on their action plans.



Intended Outcomes

This interactive workshop will explore changes in health professions curricula, how those changes have induced a shift in professional identity, and how individuals can develop key modern educator competencies. Following this workshop, participants will be able to:

9. Describe their professional identity and how it has changed as a result of health professions curricula changes.
 10. Characterize the roles of modern health professions educators.
 11. Describe best practices and potential standards to assess educator excellence.
 12. Identify individual strengths and weaknesses as an educator, and develop strategies for improvement.
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Workshop 8R (1411)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Roseraie 1

There's a poet in all of us: how to engage in poetic inquiry for transformation and flourishing within medical education

Megan Brown¹, Martina Kelly², Louise Younie³

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Background

Poetic Inquiry – the practice of reading or writing poetry to deepen inquiry — can support both transformation and flourishing (1). In order to invite transformation towards person-centred practitioners, health professions education needs to offer meaningful and safe small-group experiences where lived experience and emotion can be explored (2). Poetic inquiry, a creative-reflective methodology, invites engagement with the ineffable, tacit, and emotional dimensions of our experience and, alongside critical reflection, can stimulate transformative learning (1). Through enhancing understanding of ourselves, the other, and our context, poetic inquiry also invites flourishing (1) a new concept which moves the wellbeing conversation beyond 'resilience', to emphasize meaning-making, growth, and the interconnected nature of our wellbeing (1).

In short, poetic inquiry can shift focus to the human dimension of healthcare, promoting engagement with lived experience to stimulate transformative learning and acting as a space for flourishing during difficult times.

References:

1. Younie L. What does creative enquiry have to contribute to flourishing in medical education? The mental health and wellbeing of healthcare practitioners. 2021.
2. Bansal A et al. Optimising planned medical education strategies to develop learners' person-centredness: a realist review. *Medical Education*. 2021.

Who Should Participate

All interested students, educators, researchers, and clinicians. No poetic skills required.

Structure Of Workshop

- Overview of poetic inquiry, its applications, connection to transformative learning and flourishing.



- Create a safe shared space e.g., establish confidentiality and boundaries.
- Choose a postcard from an online collection that resonates with lived (personal or professional) experience and dialogue over choice in small groups. Share experience in large group.
- In small groups create and potentially share individual haikus based on the lived experience participants have begun to consider.
- Post Haiku's or poetic lines onto Padlet (anonymously if they wish) and respond to others.
- Large group sharing of poetic lines, experiences of writing poetry, and potential uses in own practice.
- Highlight further resources for poetic inquiry.
- Survey evaluation (Mentimeter).

Intended Outcomes

1. Discuss potential uses and benefits of poetic inquiry within medical education
 2. Learn skills in undertaking poetic inquiry within education, research, and reflective practice
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Workshop 8S (0720)

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Roseraie 2

Close encounters with the sick: Facilitating professional identity formation through structured early patient contact

Edvin Schei¹, Knut Eirik Eliassen¹, Eivind Alexander Valestrand¹

¹ *University of Bergen, Bergen, Norway*

Background

Effective health care requires well-rehearsed patient contact skills. But the diagnostic and therapeutic potentials of clinical interactions can be fully realized only if health personnel are able to move beyond skills, rules and models, and connect with the help-seeking person as a caring co-human. Medical education should therefore provide a rich understanding of what sickness does to persons, highlight the healing power of relationships, and stimulate clinicians' courage to engage with the existential challenges of patient-centered medicine.

PASKON ("patient contact") is a teaching method where groups of novice medical students get to know people with serious health problems. Having to enter the intimacy sphere of a vulnerable stranger is an orchestrated rite of passage that breeds unease, surprise, excitement, and a fledgling sense of what it takes to be a helper for sick people.

The underlying worldview of the workshop is that the relationship with the other person - the "patient" - is always emotionally significant for the helper. Denying this fact is common in the medical culture, and may lead to cynicism, poor quality of care, and burnout in students and clinicians who feel vulnerable and insecure when faced with suffering and helplessness.

Who Should Participate

The workshop is relevant to all educators involved in clinical education. No specific background is required.

Structure Of Workshop

Part 1 is a short introduction to emotions and relationships in clinical medicine and in medical education, with an overview of the course and its pedagogic elements. Part 2 engages participants in group work, as students or patients, exploring the experience of sharing stories of suffering, and how it can be used to trigger reflection, empathy, role awareness and self-confidence.



Intended Outcomes

This interactive workshop will analyze the rationale for working with relationships, emotion and self-awareness in medical education, and guide participants through a simulated session of PASKON, while providing intellectual and pedagogical tools that may help educators and students acknowledge and deal with the uncertainty, unpredictability and vulnerability that inevitably emerge in complex helping relationships.



8T Meet the Expert

Date of presentation: Tuesday 30th August

Time of session: 09:30 - 11:00

Location of presentation: Roseraie 3

Meet the Surgery Track Committee

Ajit Sachdeva¹, James Garden², Monica Ghidinelli³, Marisa Louridas⁴, Susan Moffatt-Bruce⁵, Steven Yule²

¹American College of Surgeons, Chicago, USA; ²University of Edinburgh, UK; ³AO Foundation, Dübendorf, Switzerland; ⁴St Michael's Hospital, Toronto, Canada; ⁵Royal College of Physicians & Surgeons of Canada, Ottawa, Canada

The Surgery Track Committee has put together a series of presentations at AMEE 2022 including a Symposium, a Short Communication session, an ePoster session, a Pearls session, a Conference workshop and an online Short Communication session.

If you would like to talk about surgery education, whether to ask them to expand on aspects covered in other sessions in the theme, or in your own context, the team will be pleased to meet you.



Symposium 9A (1027)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Amphitheatre

CPD in a Changing Healthcare Landscape: Embracing Opportunities

Samar Aboulsoud¹, Kathy Chappell², Lawrence Sherman³, Maureen Doyle-Scharff⁴

¹ Cairo university, Cairo, Egypt ² American Nurses Credentialing Center, Maryland, USA ³ Meducate Global, Florida, USA ⁴ Pfizer Inc, New York, USA

Background

COVID-19 pandemic has obviously challenged the well-established, traditional structure of CPD. The unprecedented situation caused by the pandemic and the immediate robust responses of the healthcare systems in order to contain the spread of disease mandated an immediate change in the traditional approach to medical education and CPD.

Topic Importance

Most importantly, the situation clearly amplified the need for expanding the competencies of healthcare professionals. The emerging competencies include the ability to address public health issues; improve health care systems awareness; incorporate data and technology in patient care, research, and education. Furthermore, the limitations of physical presence have stimulated and advanced the development of an online learning environment, and the introduction of novel ways of assessment and evaluation.

Format and Plans

This workshop will include case studies and group discussions on examples of remarkable innovations and novel adaptations to the new circumstances that impacted healthcare professionals and CPD educators with emphasis on strategies employed to implement innovative modalities, what worked and what did not work, and how lessons learned could be applied to the future.

Target audience: Medical educators, CPD professionals, healthcare leaders

Level: Intermediate to advanced

Take Home Messages

It is certain that the pandemic brought both clarity and urgency to purpose of health professions education. While many will remember the COVID-19 pandemics as the monstrous health and



education challenge of the century, it is definitely an opportunity for disruptive innovations. Tackling challenges in an uncertain world requires collaborative partnerships that are flexible, responsive, and robust in the face of new challenges. If such opportunities are well invested it is likely that it will be an accelerator for the notion of medical education and CPD reforms that had been brewing for the past decade.



Symposium 9B (0642)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Auditorium Lumiere

Designing effective hybrid learning opportunities for clinician educators

Shuh Shing Lee¹, Dujeepa Samarasekera¹, Yvonne Steinert², Lambert Schuwirth³, Rita Mustika⁴

¹ National University of Singapore, Singapore, Singapore ² McGill University, Montreal, Quebec, Canada ³ Flinders University, Adelaide, Australia ⁴ Universitas Indonesia, Jakarta, Indonesia

Background

Online learning is not something novel in faculty development. While it might be well-suited for health professions educators due to time and location, this method was seldom adopted. However, COVID-19 has accelerated the adoption of online learning in faculty development worldwide. All the facilitators and learners have no choice but to accept this form of training due to physical distancing and movement restrictions. It has been a year since the adaption of online learning for faculty development and the learners constantly expressed the lack of face-to-face interaction which creates a sense of isolation. Although some courses involving online collaboration, learners still find this less socially fulfilling than face-to-face interactions. This in turn can impair engagement and satisfaction which might lead to poor learning.

Topic Importance

Inevitably, online learning has its advantages for faculty development especially during COVID-19. However, research for online faculty development for post COVID-19 is sparse. Most studies only present anecdotal lessons learned and some lack of sufficient conceptual or theoretical alignment. Hence, it is importance to discuss learners' acceptance underpinned by some theoretical frameworks of online learning, the evidence that support online learning and how to deliver an effective faculty development using online learning during post-COVID-19.

Format and Plans

The symposium will consist of 5 speakers with the first speaker shared the trend and the theories behind for online learning prior and post-COVID-19 in faculty development. 3 Speakers will focus on the evidence on how best to integrate online learning in faculty development by providing examples. And, last speaker will provide a model on the online learning for faculty development. The speakers will engage the participants using some Q&A or polling tools.

Take Home Messages



The success for online learning in faculty development is multifactorial. Although learners are increasingly expressed their preference for face-to-face workshops, we should not abandon online learning entirely. Rather, educators should continually have discussion on what works and what doesn't so that the session would be delivered in a successful manner.



Research Papers - Learning in Health Professions Education

9C1 (0839)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:50

Location of presentation: Bellecour 1

What knowledge matters in Health Professions Education?

Susan van Schalkwyk¹, Cecilia Jacobs¹

¹ Faculty of Medicine and Health Sciences, Stellenbosch University, Stellenbosch, South Africa

Introduction

What knowledge matters in HPE is an issue of debate in Health Professions Education (HPE) literature that has been foregrounded by the COVID-19 pandemic. Bekele and Binagwaho (2020) argue that only if healthcare professionals are able to “look beyond medical charts and see the bigger picture” will the world be better prepared to deal with future pandemics and health challenges. This work echoes calls for medical education to move beyond a biomedical model (Ng et al. 2015). Accordingly, Jacobs et al (2020) argue that educating future healthcare professionals should involve developing a critical consciousness of global health inequality in addition to being clinically competent. Our paper builds on this work. Specifically, our research question was: What knowledge is valued or legitimated by health professions educators responsible for the development of future healthcare professionals?

Methods

Thirty-four health professions educators from two purposively selected programmes in the Faculty of Medicine and Health Sciences at Stellenbosch University, South Africa (MBChB and Physiotherapy), participated in 11 interviews and 11 focus group sessions. Thematic analysis, used for the first iteration of data analysis, suggested that participants understood the need to develop students who were both clinically competent and critically conscious. However, there was a tension in the data regarding what knowledge was valued. This led to further analysis to uncover what kinds of knowledge were legitimated by the respondents using Legitimation Code Theory (LCT) as analytical framework. The LCT dimension of Specialization (Maton 2014) was chosen as this dimension is premised on the claim that every knowledge practice is about or oriented towards something (*epistemic relations - ER*) and by someone (*social relations - SR*). The differing views about the relative importance of ‘clinical competence’ and ‘critical consciousness’ were explored in greater detail using *ER* and *SR* as coding categories.

Results

ER was coded as participants understanding the development of future healthcare professionals in relation to biomedical knowledge, and *SR* was coded as participants understanding the development



of future healthcare professionals in relation to their social dispositions and attributes. The ER/SR analysis differentiated three sets of ideas regarding what knowledge participants valued (biomedical knowledge – theory; clinical competence – practice; and ‘non-clinical’ – tools/skills) and three sets of ideas regarding the social dispositions and attributes that participants valued (critical consciousness – being; characteristics and attitudes – attributes; and acting on the world to change it - behaviours). Strong and weak forms of each idea set were identified emphasising the range and extent of views that were held.

Discussion And Conclusion

The results revealed that biomedical knowledge and clinical competence mattered more than knowledge informing the being and becoming of critically conscious healthcare practitioners. The data also revealed that the social dispositions and attributes relating to the development of critical consciousness were often not considered knowledge at all. Thomas et al. (2020) propose that there should be a change in the content that is taught in HPE, with a shift in focus from biomedical knowledge towards knowledge from the ‘social sciences’. Our contention is that both of these knowledge bases are equally important in the development of future healthcare professionals and that they need to be interwoven throughout HPE curricula.

References

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- Maton K. Building powerful knowledge: The significance of semantic waves. In: *Knowledge and the future of the curriculum 2014* (pp. 181-197). Palgrave Macmillan, London.
- Ng SL, Kinsella EA, Friesen F, Hodges B. Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Medical education*. 2015 May;49(5):461-75.
- Thomas A, Kuper A, Chin-Yee B, Park M. What is “shared” in shared decision-making? Philosophical perspectives, epistemic justice, and implications for health professions education. *Journal of evaluation in clinical practice*. 2020 Apr;26(2):409-18.



9C2 (0601)

Date of presentation: Tuesday 30th August

Time of session: 11:50 - 12:10

Location of presentation: Bellecour 1

“Lifelong learning by example is one of the strongest things we can do for our learners”: A qualitative study exploring the visibility of physicians’ lifelong learning

Sally Collins¹, Lindsey Haddock¹, Sara Sani¹, Josette Rivera¹, Bridget O'Brien¹

¹ *University of California, San Francisco, San Francisco, USA*

Introduction

When formal education ends and trainees become licensed professionals, their learning must continue. This professional commitment is widely recognized as lifelong learning. Ideally, lifelong learning spans all aspects of professional practice, though much of the literature focuses on measurable competencies such as medical knowledge and clinical skills rather than on attributes and values such as compassion and integrity.¹ Given that much lifelong learning occurs through participation and observation in daily practice,²⁻⁴ the professional and social norms that influence what physicians do and do not openly discuss in practice has implications for both the focus of their lifelong learning and what they model to trainees.^{5,6} If aspects of practice such as emotional experiences or challenging interactions are rarely discussed, they are, perhaps, rarely pursued as learning opportunities and trainees may infer that these are not areas for continuous improvement.

To enrich understanding of lifelong learning, our study explores:

- how physicians conceptualize and pursue lifelong learning
- how, if at all, they teach or model lifelong learning to trainees.

Methods

We used a general qualitative approach⁷ with a constructivist orientation to explore how physicians approach lifelong learning in practice and with trainees. We invited physician-faculty from all ranks and multiple specialties, senior medical students and senior residents/fellows from one institution (UCSF). All interviews were recorded via Zoom and transcribed. Using a semi-structured interview guide, we asked faculty to describe and provide examples of what lifelong learning meant to them, their approach to lifelong learning in multiple domains (e.g., medical knowledge, communication, emotional experiences) and whether and how this lifelong learning was visible to trainees. Similarly, we asked trainees to describe what lifelong learning meant to them, and whether and how they saw faculty engage in lifelong learning across domains. We began analysis with low inference codes aligned with interview questions, then reviewed the coded data to identify



overarching concepts and themes. At this stage, we recognized patterns aligning with literature describing discourses of competence and caring in medical education¹, which we then used to guide the final stages of our analysis.

Results

We interviewed 34 faculty and 19 trainees. Participants primarily described lifelong learning as “keeping up to date” with evidence and techniques – a view that aligns with the discourse of competence. While they endorsed the concept of lifelong learning in the caring, or relational and personal, aspects of medical practice, many had difficulty articulating what this entailed, noting, “I have not thought as much about...what lifelong learning looks like in terms of resilience, or ...internal, emotional experiences.” They tended to frame caring-oriented lifelong learning as improvement of skills or behaviors. Many faculty described being very “open” about their lifelong learning with trainees, at least with clinical knowledge, citing the importance of modeling “uncertainty”. Few offered examples of sharing their lifelong learning with trainees regarding emotional experiences or challenging interpersonal interactions, describing these areas as more “personal” and “vulnerable.” Trainees’ descriptions aligned with faculty, though they emphasized the value of learning how to better “harness” or “manage the emotional aspects...our work entails.”

Discussion And Conclusion

Our findings identify aspects of medical practice that are 1) less salient in physicians’ conceptualizations of lifelong learning and 2) difficult to articulate and share as part of their approach to lifelong learning. These findings have implications for what aspects of lifelong learning faculty teach and model to trainees and highlights important opportunities to expand the lexicon of lifelong learning so that caring becomes a more visible, accessible, and acceptable part of the discourse of lifelong learning.⁸ Trainees expressed a desire for more insight into how faculty continue to work on their own emotional wellbeing, which further supports the expansion of faculty’s pedagogical repertoire so they are better equipped to discuss caring-oriented dimensions of lifelong learning with trainees and discern appropriate times and ways to do so.

References

1. MacLeod A. Caring, competence and professional identities in medical education. *AHSE*. 2011;16(3):375–94.
2. Eraut M. Informal learning in the workplace. *Studies in Continuing Education*. 2004;26(2):247-273



9C3 (0221)

Date of presentation: Tuesday 30th August

Time of session: 12:10 - 12:30

Location of presentation: Bellecour 1

Becoming a doctor for older patients: ‘being close, that’s what it’s all about’.

Annemarie Moll-Jongerius¹, Kirsten Langeveld¹, Anneke Kramer¹, Esther Helmich², Wilco Achterberg¹

¹ LUMC, Leiden, The Netherlands ² Amsta, Amsterdam, The Netherlands

Introduction

To prepare medical students for the growing population of older patients, the development of an appropriate professional identity is required (1-5). The dominant discourse of cure in medical school will lead to the student’s expectation of becoming a curative doctor. This is not suitable for older patients’ health care which is also focused on care (6,7). A caring-oriented context may influence students to become a more caring doctor. To gain more insight we explored the influence of the community of practice of the nursing home including its discourse on the professional identity formation of medical students. A better understanding of this influence may help us to describe the professional identity formation of medical students in relation to older patients' health care and to describe the discourse that is relevant for this formation process.

Methods

We conducted a qualitative study based on a constructivist research paradigm, at the Leiden University Medical Center, the Netherlands. Thirteen fifth-year medical students were interviewed before and after their six-week nursing home clerkship. They were asked to share what is important to them by answering the question ‘*who do I want to become as a doctor*’ using a visual narrative method as a prompt. We applied thematic analysis to structure and interpret the data using the perspective of socialization and discourse in a community of practice as framework (2, 3, 9, 10).

Results

Students described the community of practice of the nursing home as the patient’s living environment. Being closely involved in the patient's life was meaningful for the doctor they want to become in four ways: a doctor (1) *with a complete picture*; (2) *who is close*; (3) *who is in dialogue*; (4) *who is able to let go*. Human closeness was described as an important value of this community.

Discussion And Conclusion

We explored, based on experiences of medical students during a nursing home clerkship, the influence of the community of practice of caring for older patients including its discourse on the professional identity formation of medical students, to better understand this formation in relation



to older patients' health care. Our findings suggest that the caring discourse of human closeness, resulting in a doctor who is close to the patient and to the patient's life, is important for a professional identity formation that enables medical students to give older patients the health care they need. To develop an appropriate professional identity for older patients' health care we suggest that medical education and clinical practice need to include discourses of care.

References

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 2. Jarvis-Selinger S, Pratt DD, Regehr G. Competency is not enough: integrating identity formation into the medical education discourse. *Acad Med*. Sep 2012;87(9):1185-90.
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9C4 (0807)

Date of presentation: Tuesday 30th August

Time of session: 12:30 - 12:50

Location of presentation: Bellecour 1

Threshold concepts in health professions education research: a scoping review

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Introduction

The threshold concepts (TCs) framework is increasingly used in health professions education (HPE) research. TCs are conceptual gateways that learners must transit in order for learning to advance, but which are often traversed with extensive difficulty. At their core, TCs are hence built on the idea that some knowledge is of a particularly troublesome nature (Meyer & Land, 2003). Although increasingly utilised, TCs are also criticised for, among other things, their conceptual and empirical shortcomings (Brown et al. 2021). In this paper, we report on a scoping review investigating the scope and nature of the currently available research on threshold concepts in health professions education literature.

Methods

Arksey and O'Malley's (2005) model for scoping reviews was employed. An initial and a supplementary search for literature on TCs in HPE research between 2003 and 2020 yielded 999 records. In the subsequent screening process, the following inclusion criteria was employed: 1) published in scientific peer-reviewed journals, 2) addressed learning within HPE, 3) related to TCs, resulting in 59 articles which were included in the review. Data was extracted, condensed, and entered into a data-charting spreadsheet. The data set was finally subject to quantitative descriptive analysis of article characteristics as well as qualitative thematic analysis of the scope of research on TCs.

Results

Fifty-nine articles were selected for review, 30 empirical, 26 conceptual and three reviews, representing all levels of HPE. A majority (n = 48) were published in 2015 or later. Almost half of the included articles attempted to identify possible TCs within HPE, which could concern either a specific concept or area in a professional field or the identification of TCs within an entire professional curriculum. Others investigated how TCs could be transversed through the exploration or evaluation



of learning experiences. Further, some articles suggested how the TC framework could or should influence curriculum design giving more or less detailed recommendations for educational development. Finally, some articles critically appraised TCs and how they have been or can be conceptualised and studied and hence elaborated on the very nature of TCs, often with a focus on the relationship between TCs and core concepts or competencies.

Discussion And Conclusion

This scoping review shows how the TC framework is increasingly utilised in HPE and further identified how researchers came across both methodological and definitional challenges. The scoping review hence suggests that TCs provides an attractive, but seemingly elusive prospect for scaffolding a scientific dialogue on teaching and learning in HPE. The methodological challenges related to how one could go about identifying possible TCs and involved issues like who should be included as informant in TC identification and whether learners could identify troublesome knowledge while being in the process of learning a TC. The definitional challenges were linked to identifying the essential characteristics of TCs where there seemed to be an ongoing debate on which characteristics need to be satisfied for a concept to be viewed as a TC. This concern is not unique to the HPE research community, but echoes literature in other research fields (Rowbottom 2007, Salwén 2019). In conclusion, we acknowledge the need for methodological stringency and rigour as well as more data to support the TCs framework, before embracing TCs as the next go-to theory for learning in HPE. Until then, any implementation of TCs in HPE curricula should be done cautiously.

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Symposium 9D (4824)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Bellecour 2

Teaching in emergency context

Marion Cortet¹, Sebastien Couraud², Luc Aigle³, Philippe Michel¹, Pierre Nanette¹, Bruno Lina¹

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Background

This symposium, organised by the University of Lyon 1, will deal with teaching in emergency situations. We will approach this issue with the vision of the Army Medical School, which trains French army doctors. The subject of university hospitals, which played a major role in this crisis in France, will be addressed. We will then look at the point of view of medical students, who set up emergency training courses for their peers to detect COVID during the pandemic. Finally, we will discuss this topic with a virology expert, who has been called upon many times to provide information to the general public and medical staff, but also to the decision-maker. The transmission of information in emergency situations is an important issue, with several facets, which we will address in this symposium.

Format and Plans

Modérateurs : Marion Cortet (Faculté de Médecine Lyon Est, Université Lyon 1, Lyon, France), Sébastien Couraud (Faculté de Médecine Lyon Sud, Université Lyon 1, Lyon, France)

General point of view : Luc Aigle (Ecole de Santé des Armées, Lyon, France)

University hospitals role in health profession education during COVID crisis: Philippe Michel (Faculté de Médecine Lyon Est, Université Lyon 1, Lyon, France) Place of medical students for nasopharyngeal sampling teaching : Pierre Nanette, Faculté de Médecine Lyon Est, Université Lyon 1, Lyon, France)

Transmission of scientific information and context: Bruno Lina, Faculté de Médecine Lyon Est, Université Lyon 1, Lyon, France)



Short Communications - Selection for Admission 2

9E1 (0206)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:45

Location of presentation: Bellecour 3

Using the digital space to innovate free, student-led access to medicine events during the COVID-19 pandemic: evaluation of the virtual Medic Insight Glasgow programmes

Alekh Thapa¹, Emma Bailey¹, Lauren Horsburgh¹, Marcus Boyd¹, Rebecca Glendell¹, Jodie McPherson¹

¹ *Medic Insight Glasgow // School of Medicine, Dentistry and Nursing, University of Glasgow, Glasgow, UK*

Background

Medic Insight Glasgow is a medical student-led organisation that introduces the medical profession to school pupils, promote widening access and provide guidance on the medical school application process. The COVID-19 pandemic has disrupted our programmes yet has also driven innovation. We present the design, delivery and evaluation of our virtual events.

Summary Of Work

We delivered three virtual events to 593 participants (37% from a widening participation background). The “Day Programme” (15–16-year-olds) ran over 2 days, the “Week Programme” (16–17-year-olds) over 2 weeks, and the “Interview Preparation Events” (17–18-year-olds) over 2 days. Events included a combination of lectures and workshops, covering topics including life in medical school, experiences and career paths of doctors, and the multi-professional healthcare team. Events were hosted on Zoom, funded by the University of Glasgow (the only associated financial cost). We evaluated each event with an anonymised, linked before-after survey, on self-rated knowledge and confidence concerning the learning outcomes. Week Programme and Interview Preparation Events participants were additionally asked about experiences of the digital space.

Summary Of Results

The digital transition offered several advantages including increased volunteer availability and inclusion of participants from wider geographical areas. There were some barriers to implementing the digital transition, particularly the technical literacy of volunteers. Across events, there was significant improvement in self-rated outcomes after completing our events. Reported preferences for virtual, blended, or face-to-face events and the convenience of virtual versus face-to-face events



differed significantly between events. Overall, a preference for a blended model in future was supported by participants.

Discussion And Conclusion

We translated a programme of events promoting access to medicine into the digital space, succeeding in achieving the learning outcomes within this new medium. There are clear advantages to this; beyond the COVID-19 pandemic, we must take digital innovations forward into blended models to meet the preferences of our participants.

Take Home Messages

We created and evaluated a programme of free, student-led, virtual events, for school pupils interested in a career in medicine, with a substantial inclusion of widening participation attendees. Our events can easily be replicated at other universities, though the requirement for technological infrastructure may reduce feasibility in some settings.



9E2 (3718)

Date of presentation: Tuesday 30th August

Time of session: 11:45 - 12:00

Location of presentation: Bellecour 3

Assessing the predictive validity of the UCAT - A systematic review and narrative synthesis

Laksha Bala¹, Stephen Pedder², Amir H Sam¹, Celia Brown²

¹ Imperial College School of Medicine, London, UK ² Warwick Medical School, Coventry, UK

Background

The University Clinical Aptitude Test (UCAT) is an admissions assessment used by a consortium of universities across the UK, Australia, and New Zealand, to aid the selection of applicants to medical and dental degree programmes. The UCAT aims to measure the mental aptitude and professional behaviours required to become successful doctors and dentists.

Summary Of Work

We conducted a systematic review to establish the predictive value of the UCAT for measures of performance at undergraduate and postgraduate levels. A literature search was conducted in April 2020 using eight electronic databases: MEDLINE, APA PsycInfo, SCOPUS, Web of Science, EThOS, OpenGrey, PROSPERO, and the UCAT website. Data were extracted from selected studies and tabulated as results matrices. A narrative synthesis was performed.

Summary Of Results

Twenty four studies satisfied our inclusion criteria, 23 of which were deemed to be of good quality (using the Newcastle-Ottawa Scale). For over 70% of univariate data points, the UCAT exerted no statistically significant predictive validity; for the remainder, predictive power was weak. The cognitive total and verbal reasoning subtests had the largest evidence base as weakly positive predictors of academic performance. The SJT subtest was a weak predictor of professional behaviour during medical school. Studies specific to dental schools demonstrated variable findings across the five studies. Only one study looked at postgraduate outcome measures and demonstrated that the UCAT was not a predictor of health- or conduct-related fitness to practice declarations at GMC registration.

Discussion And Conclusion

The UCAT cognitive total and verbal reasoning subtests have the largest evidence base as weakly positive predictors of pre-clinical and clinical academic performance, and UK Foundation Programme



outcomes (first two years of professional practice as a doctor). Hence, medical schools could deploy these subtests over and above other individual UCAT subtests when selecting medical students.

Take Home Messages

These data provide some support for the use of UCAT cognitive total and verbal reasoning subtests as part of medical school selection. Further research is needed to investigate outcomes beyond professional registration and for dental students.



9E3 (3713)**Date of presentation:** Tuesday 30th August**Time of session:** 12:00 - 12:15**Location of presentation:** Bellecour 3

How does a Situational Judgement Test relate to different interview types for student selection? A pilot study at three medical schools

Mirjana Knorr¹, Mike Hänsel², Ina Mielke¹, Stefanos Tsikas³

¹ *University Medical Center Hamburg-Eppendorf, Hamburg, Germany* ² *Technische Universität Dresden, Dresden, Germany* ³ *Hannover Medical School (MHH), Hannover, Germany*

Background

Situational Judgement Tests (SJTs) have found increasing interest as efficient alternatives to personal interviews or multiple mini-interviews (MMIs) for admissions into medical school. To limit development costs, an application of the same SJT across schools would be beneficial. As interview procedures often vary, it is questionable whether the same SJT successfully supplements or replaces different existing interview types. In this study, we explore the relation between SJT scores and performance in admission interviews across different interview types.

Summary Of Work

Applicants to three German medical schools were invited to voluntarily take the identical paper-pencil SJT during the admission process in 2019. The SJT had been developed at test side A. During admissions processes, test side A used a 9-station MMI with role-plays and interviews, test side B used a traditional semi-structured interview, and test side C conducted a hybrid of both procedures with 4 stations. Applicants' SJT responses were scored based on their concordance to an expert panel.

Summary Of Results

SJT performance showed a significant correlation with MMI performance at test side A ($r = .16$, $p = .03$, $n = 176$) but no relationship to interview performance at test sides B ($r = .06$, $p = .54$, $n = 113$) and C ($\rho = -0.11$, $p = 0.21$, $n = 128$).

Discussion And Conclusion

The correlation between SJT and MMI performance at test side A was small but comparable to results from previous results at this test side or reported in other research. This result could not be replicated at the two other test sides. One explanation might be that both the SJT and the MMI were developed by the same test developers at test side A and might therefore align in test content and characteristics. Yet, the results suggest that the paper-pencil SJT measures personal characteristics



differently to what has been assessed in the interview procedures. Data on predictive validity is currently collected at all test sites and will be added in this presentation.

Take Home Messages

The extent to which an SJT and different interview methods correlate depends on the local assessment strategies and the constructs the SJT and interview aim to assess.



9E4 (2190)

Date of presentation: Tuesday 30th August

Time of session: 12:15 - 12:30

Location of presentation: Bellecour 3

Title: The impact of no longer including the MMI in the selection process for medicine

Deborah O'Mara¹, Kevin Keay¹, Jane Bleasel¹, Cheryl A Jones¹

¹ *The University of Sydney, Sydney, Australia*

Background

Prior to COVID, the admissions process for the Sydney MD Program included a Grade Point Average (GPA), Multi-Mini Interviews (MMI) and an admissions test. The current accepted admission tests are Graduate Medical Schools Admissions Test, GAMSAT or the Medical College Admission Test MCAT (international only).

Due to COVID-19 in 2020, the timing, format, and delivery of GAMSAT changed. Physical distancing requirements and unknown factors of how many staff and/or applicants might be affected and travel restrictions, made in-person MMI's logistically difficult, despite our video-conferencing experience (Tiller et al., 2013).

(Reference: Tiller,D., O'Mara,D., Rothnie,I., Dunn,S., Lee,L., Roberts,C. (2013). Internet based multiple mini interviews for candidate selection for graduate entry programmes. *Medical Education*, 48(8), 801810).

Summary Of Work

A statistical model was developed using data from 2018-2020 entry with GPA and the three separate sections of GAMSAT to predict the admissions ranking had an MMI been used in combination with a total average GAMSAT score as in previous years. Logistic regression was used with a 60% training sample, and a 40% testing sample for local applicants to the MD. Separate models were also investigated for rural and international applicants and applicants to the Doctor of Dental program.

Summary Of Results

GAMSAT Section I Reasoning in the Humanities and Social Sciences, Section II Written Communication and Section III Reasoning in the Biological and Physical Sciences were significant predictors of the prior admissions score. In the model for local non-rural applicants, the accuracy of prediction for the testing sample was 96% for offers, 72% for non-offers with an overall accuracy of



91%. Few significant differences were found in the demographic composition or academic performance of the 2020 and 2021 cohorts, selected with and without an interview respectively.

Discussion And Conclusion

This research provides evidence on the usefulness of the three sections of the GAMSAT and questions the need for time intensive and expensive interviews. However, faculty still are concerned about accepting applicants who they do not interview prior to entry.

Take Home Messages

If prior admission scores can be predicted accurately, it is time to focus on the development of more discriminatory selection tools which assess important, non-academic qualities of applicants.



9E5 (1362)

Date of presentation: Tuesday 30th August

Time of session: 12:30 - 12:45

Location of presentation: Bellecour 3

Fit-For-Purpose: Validation of a Customized, Innovative, Mixed Methods Online Admission Interview for Integrated Intrinsic Attributes

Debra Sibbald¹, Andrea Sweezy¹

¹ *University of Toronto, Toronto, Canada*

Background

Intrinsic attributes, important interdependent capacities for health care professionals, are demonstrated through integrated behavioural patterns. Measuring these 'non-expert' abilities is challenging. Traditional interviews are limited in identifying skill interplay and predicting performance, and further confronted by pandemic restrictions. This study examines appropriateness of a mixed methods online recorded interview combining blueprinted, validated, weighted assessments to discriminate between large numbers of admission applications.

Summary Of Work

An innovative online instrument was designed to evaluate Pharmacy applicants (N=608) using multiple methods to assess intrinsic attributes: 10 recorded verbal responses; a written passage response and multiple-choice questions. In verbal recordings, applicants responded to objective and reflective questions related to challenging, standardized scenarios assessing interpersonal, cognitive and decision-making skills, aligned to previous MMI interviews. The written passage addressed attributes and English skills. Trained expert/non-expert assessors evaluated responses asynchronously using global ratings, noting red flag performances. MCQs measured attributes and English comprehension. Applicant results were compared to pre-launch (2nd, 3rd, and 4th year students) and concurrent pilots (1st year students; recent graduates). The conjunctive pass score combined weighted cut scores for each component. Interview scores were merged with academic GPA scores to determine and rank acceptable applicants.

Summary Of Results

All three formats showed appropriate means, difficulty, discrimination and Z-scores individually and when combined in a weighted average. Reliability coefficients were acceptable (written- α , ω = 0.9; verbal- α , ω = 0.70). Verbal responses performed well independently ($p < 0.001$) and contributed positively to overall results. Unprofessional behaviours were infrequent, in applicants who also received lower scores. Assessor consistency was acceptable. Assessor and applicant survey feedback was positive.



Discussion And Conclusion

The design was effective as an online admission screening instrument, discriminated well between applicants with an acceptable pass rate, providing evidence of interdependent competencies derived through multiple measures and perspectives.

Take Home Messages

This innovative tool offers mixed methods, online assessments of intrinsic (non-expert) attributes and was successful in the selection of Pharmacy applicants.



9E6 (3158)

Date of presentation: Tuesday 30th August

Time of session: 12:45 - 13:00

Location of presentation: Bellecour 3

Exploring the use of knowledge tests and SJTs as an alternative to interviews in postgraduate selection

Melissa Washbrook¹, Fiona Patterson^{1,2}, Emma Morley¹, Jessica Bird¹, Helen Baron¹, Geoff Wright³, Muaaze Ahmad⁴, Jonathan Howes⁵

¹ *Work Psychology Group, Derby, UK* ² *University of London, London, UK* ³ *Health Education England, South West, Bristol, UK* ⁴ *Health Education England, London, UK* ⁵ *Health Education England, Birmingham, UK*

Background

In the UK, a multi-specialty recruitment assessment (MSRA), comprising a clinical problem-solving (CPS) test and a situational judgement test (SJT), is used for shortlisting, followed by interviews, for selection into some post-graduate medical training programmes. We sought to explore the predictive power of the CPS and SJT to inform policy and decision-making, in the context of COVID contingency planning as face-to-face interviews could not take place.

Summary Of Work

Data were obtained from Health Education England and analysed for 12 UK medical specialties to explore relationships between MSRA data and subsequent interview outcomes. Some of these medical specialties were already using the MSRA, whereas others were not.

Summary Of Results

Preliminary results generally confirmed the relationship between the MSRA and interview outcomes, as expected dependent on the extent to which the constructs being measured were criterion matched.

Discussion And Conclusion

Discussion: Results provide initial evidence that the MSRA is related to performance later in the selection process, offering a valuable selection tool in contingency planning during COVID. The relationships between the MSRA scores and interview outcomes varied by specialty. Results provided insights on how best to design specialty selection processes in these extraordinary circumstances, to support with making selection decisions, similar to those made in previous years, while reducing the number of interviews required at a time where consultant availability was limited. This was while still seeking to balance the need for validity, reliability, efficiency and positive candidate reactions.



Conclusions: Results provide initial evidence of the validity of both the CPS and SJT across a range of specialties and have been used to inform future policy and decision making regarding the use and weighting of the MSRA and interviews, while seeking to enhance the reliability, validity, efficiency and candidate feedback for selection in future.

Take Home Messages

This initial research provided initial evidence of the value of the MSRA as part of selection across a wide range of UK medical specialties. It is intended that this will lead to the first large-scale longitudinal study to examine the validity of selection methods in predicting licensure exam performance, for a range of medical specialties.



Short Communications - Technology Enhanced Learning 1

9F1 (4117)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:45

Location of presentation: Gratte Ciel 1

“I’m not supposed to have to do this” - Exploring the experience of hyflex teaching for faculty and students at a healthcare-focused university

Dara Cassidy¹

¹ *RCSI University of Medicine and Health Sciences, Dublin, Ireland*

Background

In response to the pandemic, RCSI, a healthcare-focused university, introduced hyflex teaching for undergraduate students. Hyflex teaching is an instructional approach in which classes are offered in-person, synchronously online, and asynchronously online. In RCSI, hyflex teaching was primarily used to replace large-group lectures, with some use in grand rounds and interprofessional learning episodes with simulated patients.

Summary Of Work

A qualitative study situated in an interpretivist paradigm sought to explore the experience for faculty and students of participating in hyflex classes. Focus groups and interviews were conducted with 29 staff members and 27 students. The data were analysed using reflexive thematic analysis and a number of themes identified.

Summary Of Results

Six themes were identified: the convenience and flexibility of hyflex, self-direction versus the structuring role of in-person classes, implications for attendance and the student experience, requirements for faculty professional development, cognitive load and anxiety experienced by faculty, layers of support required.

Discussion And Conclusion

Staff and students generally recognised the opportunities hyflex presents and its value in the context of Covid constraints. Student positives largely centred on flexibility, the availability of recordings, and the engaging practices of some faculty. Their frustrations mainly centred on instances of inadequate faculty familiarity with the technology and poor engagement strategies. Some expressed concern at the impact on in-person attendance, and thus the university experience. For faculty, the challenge of



managing technology, content and engagement was a key concern and a factor that was felt to limit the scope for interactivity. Many faculty members recalled feelings of great apprehension as they faced the prospect of hyflex teaching for the first time. The importance of robust technical and pedagogical support was recognised.

Take Home Messages

The flexibility inherent in the hyflex model offers great potential to healthcare focused institutions with faculty and students dispersed over clinical and teaching sites. However, the successful implementation of such a model demands careful strategic consideration across many layers, including the need for infrastructural investment, alignment with existing teaching and learning methodologies, how best to support faculty and students to realise the affordances, and how to ensure the continuation of a vibrant campus community when opportunities for online participation are so many.



9F2 (1736)

Date of presentation: Tuesday 30th August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 1

Utilising Modern Streaming Technology to Meet the Increasing Demand for Clinical Teaching

Yin Chun Chan¹, Aiken Yam¹, Gang Xu¹, Mark McCarthy¹

¹ *University Hospitals of Leicester NHS Trust, Leicester, UK*

Background

An increase in medical student intake over the past two years has portrayed a significant strain on clinical placement capacity, as highlighted by the Medical School Council. The maturity of live-streaming technology makes it a viable alternative to provide quality clinical exposure and teaching for a large student cohort.

Summary Of Work

Following positive feedback from pilot projects, a clinical live-streaming teaching approach was integrated into the 2021-2022 academic year for third-year medical students attending hospital placements at the University Hospitals of Leicester NHS Trust.

Each live-streaming session consisted of one tutor in a clinical setting (e.g. a medical ward) interacting with patients and an assistant operating the streaming laptop and GoPro camera. The content is streamed to 30-40 students off-site with Microsoft Teams and interaction is facilitated using live polling software (e.g. Slido). No specialist computer hardware or software was required.

Summary Of Results

Overall feedback from tutors was positive and it was highlighted no extra preparation time or effort was required compared to in-person teaching.

Students gave favourable feedback and this was reflected by a mean satisfaction of 4.03 (n=74) on a 5-point Likert Scale on the session quality (5 being high quality). The students who attended had a statistically significant increase ($p < 0.05$) in self-reported confidence levels on the topics covered, based on a 5-point Likert scale, from 2.36 ± 1.09 (n=83) to 3.73 ± 0.98 (n=74) (5 being high confidence).



Discussion And Conclusion

Traditional clinical teaching allows one clinical tutor to interact with 2-4 students at a time. By using live-streaming technology, it allows one clinical tutor to deliver the same teaching to 30+ students simultaneously without increasing demand for patients. Moreover, live-streaming provides little disruption to the ongoing clinical work of other healthcare professionals, and also minimises disease exposure (e.g. COVID) to students. This form of teaching can complement traditional clinical teaching, and with encouraging feedback so far, more sessions have been planned for future cohorts and other specialties.

Take Home Messages

Clinical teaching using simple clinical live-streaming technology can be delivered to large groups of medical students safely and effectively to help alleviate the increase in student number and maximise teaching opportunity.



9F3 (2427)

Date of presentation: Tuesday 30th August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 1

PA Student Attitudes Toward Gamification During Cardiac Auscultation Instruction

Sarah Garvick¹, Nathan Bates¹, Chris Gillette¹, Sonia Crandall¹

¹ Wake Forest School of Medicine, Winston Salem, NC, USA

Background

For the "Millennial" and "Gen Z" generations, technology has significantly impacted connectivity; on-demand information gathering is routine. As such, these generations have clear preferences for dynamic learning with a level of interactivity that is absent in lecture-based teaching methods. Faculty must identify ways to incorporate media and gamification strategies in medical education to meet the educational needs of the 21st century learner.

Summary Of Work

Two cohorts of first-year PA students at one institution purchased the Littman Learning™ mobile app in lieu of a cardiac textbook. Through the app, students independently completed multiple auscultation modules that were self-paced but required to be finished by the end of the academic unit. Additionally, students attended ~5 "listening sessions" (LS), using their own mobile device to listen to new sounds through the app. Each LS was 45 minutes long, delivered synchronously using videoconferencing software, and guided by faculty. Students completed written and auscultation assessments, as well as a satisfaction survey at the conclusion of the academic unit.

Summary Of Results

Demographics: 100% (n=174) and 72% (n=126) of students completed the assessments and survey, respectively. The majority of students reported using the app once a week and for 10-30 minutes at a time (60%, n=70 and 66%, n=66, respectively). Average written and auscultation scores were 98.75% and 92.12%, respectively. The majority of students (90.48%, n=114) reported being fairly or completely confident in their ability to recognize normal heart sounds; 87.30% (n=110) of students agreed or strongly agreed that using the app helped develop their confidence to identify abnormal heart sounds; 88.89% (n=112) agreed or strongly agreed that using the app heightened their knowledge regarding cardiology in a clinical setting; 96.03% (n=121) reported the app was easy to use and 88.10% (n=111) would recommend the app to future students.



Discussion And Conclusion

Cardiac auscultation skill development can be enhanced by using mobile app technology. While also improving assessment outcomes, blended learning that incorporates new media technologies with reputable andragogy can improve the learning experience, motivation, and engagement of the 21st century medical learner.

Take Home Messages

Incorporating gamification of cardiac auscultation was accepted and effective among medical learners and may overcome challenges experienced with traditional teaching methods.



9F4 (1498)

Date of presentation: Tuesday 30th August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 1

What Motivates Medical Students to use Audio Podcasts and how their Educational Value can be Maximised: A Qualitative Study

Assim Javaid¹, Michal Tombs¹

¹ *Cardiff University, Cardiff, UK*

Background

Numerous studies have proven that podcasts are an effective teaching modality in medical education. However, there is a relative dearth of research into what factors motivate medical students to listen to them. The aim of this qualitative study was to explore what factors motivates students to listen to medical education audio podcasts and how to enhance their educational value.

Summary Of Work

An open invitation was sent via Twitter for UK-based medical students to contribute to the study. 17 medical students volunteered, and semi structured interviews were conducted. The Critical Incident Technique provided the methodological framework for the study. Interviews underwent thematic analysis. Formal ethics approval was granted from Cardiff University's Research Ethics Board, reference SMREC 20/15.

Summary Of Results

Data were collected from 22nd February 2021 until 24th April 2021.

Themes identified for motivating factors: 1. The Subject Material (sub-themes: Clinical Teaching, Non-clinical Teaching, and Personal and Professional Development), 2. The Strengths of Audio Podcasts, and 3. The COVID-19 Pandemic.

Themes identified for enhancing podcast educational value: 1. The Podcast Content (sub-themes: Appropriateness for UK Medical Students, The Style of Delivery, and Using the Audio Modality Effectively to Teach), 2. The Production of the Podcast (sub-themes: Presenters and Presentation Approaches, and Technical Aspects of the Production), and 3. Additional Learning Resources

Discussion And Conclusion

The following recommendations can be made for those looking to produce podcasts aimed at medical students: lowering expectations of assumed knowledge from students. ensure podcasts are



relevant either to their university exams or future clinical practice, advertise them as a resource for those who do not enjoy traditional didactic lectures, use high-quality recording equipment, ensure they are well-structured, have a duration of up to twenty minutes ideally, utilise them as an opportunity to also teach on non-clinical topics or offer career advice, and consider including additional learning materials.

Take Home Messages

When designing an undergraduate medical podcast it's important to consider the content of the podcast, the style of delivery, to use the audio element effectively, to present in an engaging manner, to ensure a high quality of technical production and to consider including additional learning resources.



9F5 (2863)

Date of presentation: Tuesday 30th August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 1

Tweet me teacher one more time.

Aniela Mendez¹, Mildred López-Cabrera¹

¹ *Tecnologico de Monterrey, Monterrey, Mexico*

Background

An important feature of GenZ members is their digital nativeness and its reflection in their social media engagement. Within these digital spaces, they create unique ways to communicate, based on daily trends and visuals. Although the use of social media in education is still in debate, it has been demonstrated as a powerful tool to increase student engagement in class.

Summary Of Work

Based on previous experiences where social media was used to engage students in class content, a Twitter account was created to share memes throughout the course. These memes addressed various topics: immunology, microbiology, and student life. At the end of the course, the engagement of the students in this educational strategy was measured using Twitter analytics and calculating the mean of the following criteria: number of tweets, mentions, impressions, and new followers. Also, a short online was shared in the account to assess followers' opinions of the content shared.

Summary Of Results

In the three-month period since the creation of the account (April to June), followers increased up to 133, most of them enrolled in the immunobiology and microbiology courses. The number of tweets ranged from 68 to 83 (mean 77). The mean of account mentions was 93, impressions 40.3K, and new followers 32.3. Tweets included mostly memes that fit in two different categories: class-related (focus in immunology and microbiology) and tweets regarding student's life. Most of the responses to the open-ended question (64%) focused on how the memes helped them to remember and relate the visuals with the learned content.

Discussion And Conclusion

The usefulness of social media in education has been widely discussed. As shown in this work, it can be useful for teachers to engage the students in the learning process and to reinforce class content in a fun, unorthodox way.



Take Home Messages

Students have already made digital spaces, trends, and memes the means of communicating. Incorporating social media into the educational practice can be a powerful ally to engage them in class content and promote meaningful learning.



9F6 (1432)

Date of presentation: Tuesday 30th August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 1

Medical students and their perceptions of digital medicine: A question of gender?

Valentina Faihs¹, Pascal O. Berberat², [Marjo Wijnen-Meijer](#)²

¹ *Technical University of Munich, TUM School of Medicine, Department of Dermatology and Allergy, Munich, Germany* ² *Technical University of Munich, TUM School of Medicine, TUM Medical Education Center, Munich, Germany*

Background

Digital technologies, such as artificial intelligence, wearables and robotics are an essential part of today's medicine and will continue to play an increasingly important role in the future. Future healthcare professionals play a central role in this digitalization process, making it essential to address new digital technologies in medical school.

Gender differences have been described in multiple aspects. For example, the conversational style of female physicians is described to be more patient-centered. Currently, the issue of gender sensitivity gets more and more attention. The knowledge of possible gender-related differences should help include teaching on digital medicine in the medical curriculum in the best possible way.

Summary Of Work

We performed a questionnaire-based study among medical students in the clinical semesters at the Technical University of Munich. Students were asked about their self-reported knowledge, self-assessment, and desire for further education regarding different topics of digital medicine using 5-point Likert-type scales.

Summary Of Results

Most students of both genders equally believed that medicine will be fundamentally changed by new digital opportunities in the next few years, but we could observe strong gender differences regarding personal affinity to this topic. Male students found it significantly more important to be able to question the results of innovative digital technologies and to be informed about the current possibilities and perspectives of digital medicine.



Across all the surveyed topics, male students reported higher levels of knowledge than female students. Significant differences were found regarding wearables and apps, digital communication methods, robotics and digital processes in patient management. Overall, male students felt significantly better prepared for the digital challenges in their future medical profession than females.

Discussion And Conclusion

Men indicated higher affinity and confidence in various areas of digital medicine. In all the areas of digital medicine surveyed, women generally rated their knowledge as worse than men. A strong desire for further education on all surveyed topics, on the other hand, was found among male as well female students

Take Home Messages

An increased and early integration of digital medicine topics into the medical curriculum could potentially compensate for existing differences and prepare both future female and male physicians for their professional lives in the best possible way.



Short Communications - Postgraduate Education 4: Specialist Training

9G1 (4474)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:45

Location of presentation: Gratte Ciel 2

User driven improvement of the specialist training for General Practitioners (GP) at Randers Regional Hospital (RRH) - an Action Research study design.

Preben Aukland^{1,2}, Annette Schlemmer²

¹ Emergency Department Randers Regional Hospital, Central Jutland, Randers, Denmark ² Randers Regional Hospital, Central Jutland, Randers, Denmark

Background

The specialist training for GP in Denmark includes 2,5 years in a Regional or University Hospital.

The specialist training program for GP at RHH

Medical department	9 months
Department of Gynecology and Obstetrics	5 months
Department of Pediatrics	5 months
Regional Mental Health Service	5 months
Emergency Department	6 months

The length of stay at each workplace is short, and time spent with other GP resident colleagues is swift and sporadically.

In Denmark, departments employing residents have an educational team. The aim of the present study was to improve the empowerment and psychological safety of the GP residents at RRH by introducing a GP resident (AP-UKYL) with reference to the hospitals senior doctor education coordinator (UKO) and with responsibilities according to two focus group interviews.

Summary Of Work

In August 2021 ten GP residents participated in two focus group interviews. All five clinical departments at RRH were represented. Interviews were conducted according to Action Research tradition with a moderator. The focus group sessions were audio recorded after oral consent from the participants.



Summary Of Results

This Action Research study shows that GP residents are generally satisfied with the educational standard at RRH. A feeling of loneliness and a need for more educational events designated GP residents was highlighted.

Suggestions for the GP education team (AP-UKYL and UKO) were as follows:

- An introduction meeting designated new resident GP
- Department specific checklist for how to master the educational goals as defined by the Danish Health Authority
- A “handbook” with tips/tricks for improving education at different departments
- The need for scheduled meetings for the GP residents with both educational and social purposes
- A forum to discuss informal subjects
- A shared drive on the hospitals computers for GP residents to upload relevant material.
- A shared mailing list for all GP

Discussion And Conclusion

This Action Research study shows that GP residents are generally satisfied with the educational standard at RRH. A feeling of loneliness and a need for more educational events designated GP residents was highlighted.

Take Home Messages

Educational and social meetings, better online communication possibilities and check lists from the departments describing how to meet their educational goals was greatly demanded.



9G2 (3954)

Date of presentation: Tuesday 30th August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 2

Hybrid early-years clinical placements in Medicine - what have we learnt in the past 2 years?

Maria Hayfron-Benjamin¹, Lucy Langford¹

¹ *Queen Mary University of London - Institute of Health Sciences Education, London, UK*

Background

The COVID pandemic forced a change in delivery of the early years clinical placements for our 500 first year medical student - from face to face in 60 primary care settings, to online in 50 Microsoft Teams each with a GP tutor.

When restrictions and placement capacity allowed, we moved to hybrid delivery with some of the group attending in person on a rotational basis, while others remained online.

Summary Of Work

Students and tutors have provided individual and group feedback on their experience of attending and delivering online and hybrid placements over the past two academic years. Views were sought at all stages in the adaptation of the module from its in person delivery to delivery online and then to hybrid delivery. Students were asked to complete group and individual evaluations during, and at the end of the placement. Tutors completed online surveys and provided anecdotal feedback.

Summary Of Results

Student satisfaction ratings for online teaching were very high (95%) and consistent with pre-pandemic rates.

Tutors found the technology challenging initially but 90% signed up to deliver online again.

Hybrid delivery requires management of the students on site while also meaningfully engaging those online, and requires careful planning and cooperation of colleagues within the practice

Student and tutor evaluation of the hybrid model will be collected in May 2022.



Discussion And Conclusion

Online clinical placements were valuable but the days have to be well structured with regular breaks to avoid screen fatigue.

Tutors needed logistical and developmental support with managing groups of first year students online in a pandemic.

Students and tutors valued the use of video resources to supplement live meetings with patients.

Hybrid placements allow smaller and more geographically distant practice to deliver teaching as students are not all on site at the same time and are travelling less frequently.

Take Home Messages

Authentic early patient contact is important to students.

Hybrid primary care placements offer flexibility for clinical tutor, students and patients and increase capacity while allowing students to engage meaningfully with the healthcare team and the context in which the patients live and receive their primary care.



9G3 (3003)

Date of presentation: Tuesday 30th August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 2

Electrocardiogram (ECG) diagnostic dilemma among postgraduate physicians; do confidence and opportunistic learning determine proficiency?

Parita Bunditboondee¹, Wattana Wongtheptian¹, Nonlawan Chueamuangphan¹

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Background

In view of cardiac emergency cases, electrocardiogram (ECG) is necessary investigation method for diagnosis. The accuracy for ECG interpretation require knowledge thoroughly medical student years to clinical experience. As general practitioner, postgraduate physicians enhance their capabilities of ECG reading by learning through clinical practice. The objectives are determining confidence, working burden, and experience increasing efficiency of ECG diagnosis in order to ameliorate ECG interpretational skill plus continuing medical education in graduated physician.

Summary Of Work

A cross-sectional study by online questionnaire covers 10 diagnostic 12-lead ECG quiz, baseline clinical experience and method to solve ECG problem among 1st- 3rd year postgraduate physicians in Chiangrai, Thailand.

Summary Of Results

82 postgraduate physicians by overall ECG interpretation score was 5.35 ± 1.49 . The average confidence for ECG reading was 50-70% which not correlated to accuracy ($P=0.47$). Most cardiac emergency experience was 2-5 cases/week (54.9%), while routine ECG reading per week distributed equally among 2-5 cases, 5-10 cases and 11-20 cases (29.3%); however, both clinical practice were not correspond analyze score, P - value = 0.18 and 0.37, respectively. Preferred methods of solving the ECG problem were friends (63.4%) or staff consultation (59.8%), while book searching was the least way (37.8%). Two most suggestive methods to augment their skill were lecture essential ECG and teleconference for physicians at rural hospital.

Discussion And Conclusion

The confidence for ECG diagnosis do not meet with accuracy. Nevertheless, the overall score was moderate, enhancing ECG interpretation competence during postgraduate years is essential. The fact that routine function and cases experience do not expertise in interpretational skill, by chance learning without systematic method may not be a proper process to accomplish. Since the most



answering ECG problem was consultation, systematic discussion with experts' guide could be appropriate training strategy.

In conclusion, opportunistic learning among graduated physicians by workaday experience might not be an effective way to enhance ECG analysis ability. Even in many years of practicing, sustainability learning as lecture or teleconference by consultant cardiologist is needed.

Take Home Messages

Continuous medical education for ECG interpretation require the postgraduate systematic learning integrated with clinical experience to polishing clinical proficiency.



9G4 (2938)

Date of presentation: Tuesday 30th August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 2

Training and assessment of musculoskeletal ultrasound and injection skills: a systematic review

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Background

Musculoskeletal ultrasound (MSUS) is increasingly used in the examination of patients with rheumatological diseases. However, MSUS is highly operator-dependent and training and assessment are crucial to ensure correct acquisition and interpretation of images, ultimately leading to improved patient treatment. The aim of this study was to examine how residents are trained and assessed in MSUS, MSUS-guided and landmark-guided joint aspiration and injection. Additionally, to present the available assessment tools and examine their supporting validity evidence.

Summary Of Work

A systematic search of PubMed, Cochrane Library, and Embase was conducted in accordance with the PRISMA guidelines and studies published from January 1, 2000 to May 31, 2021 were included. Two independent reviewers performed the search and data extraction. The studies were evaluated using the Medical Education Research Quality Instrument (MERSQI).

Summary Of Results

9,884 articles were screened, and 43 were included; 3 were randomized studies, 21 pre- and post-test studies, 16 descriptive studies, and 3 studies developing assessment tools. The studies used various theoretical training modalities e.g. lectures, anatomical quizzes and e-learning. The practical training models varied from mannequins and cadavers to healthy volunteers and patients. The majority of studies used subjective "comfort level" as assessment, others used practical examination and/or theoretical examination. All training programs increased trainees' self-confidence, theoretical knowledge, and/or practical performance, however few used validated assessment tools to measure the effect. Only one study met the MERSQI high methodical quality cut-off score of 14.



Discussion And Conclusion

The included studies were heterogeneous, and most were of poor methodological quality and not based on contemporary educational theories. This review highlights the need for educational studies using validated theoretical and practical assessment tools to ensure optimal MSUS training and assessment in rheumatology.

Take Home Messages

- Studies examining training and assessment of MSUS and injection competences have a low level of evidence.
 - No validated rating scale assessing competencies in ultrasound-guided joint injections exists.
 - International uniform competency-based training programs using validated assessment tools are needed.
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9G5 (3589)

Date of presentation: Tuesday 30th August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 2

Exploring the transition to the medical registrar role in Scotland: A narrative analysis

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Background

The role of medical registrar in the United Kingdom is challenging involving acutely unwell patients and leading the medical team.¹ The transition into this role during Internal Medicine (IM) training can cause apprehension and problems with retention.¹ There is a lack of understanding of how trainees navigate this transition. Research into doctors' identity transitions highlights the notion of occupying liminality for the transition from trainee to consultant.¹ This study aimed to explore the ways in which liminality helps us to understand the transition to the medical registrar role.

Summary Of Work

Following ethical approval, IM trainees in their second year were invited to participate in Microsoft Teams interviews to discuss their transition to medical registrar. Interviews were audio-recorded and transcribed verbatim. This constructivist study employed thematic and narrative analyses using liminality as a sensitising notion.² Transcripts were analysed by two researchers independently. Narratives were analysed using Labov's narrative components.²

Summary Of Results

Nineteen interviews were performed between January 2021 and February 2022, involving trainees from all four regions in Scotland and a range of hospitals. Narratives were categorised into: 'not yet a registrar', 'liminal phase' and 'transitioned into medical registrar role'. There were trainees identifying with each category, for example, occupying the liminal phase and 'pretending to be the reg [registrar]'. Themes influencing categorisation included prior perceptions of the medical registrar, clinical experience prior to IM training, expectations of others, imposter syndrome and procedural abilities.

Discussion And Conclusion

This study supports the concept of occupying liminality during doctors' identity transitions. Despite being the same grade, trainees varied in their perceptions of their professional identity in



transitioning to the role of medical registrar. This study has uncovered themes influencing the transition phase, including trainees prior experience and the expectations of others, which could provoke the imposter phenomenon.

Take Home Messages

- Narrative analysis provides an in-depth insight into trainees' transition to registrar experiences
- IM trainees relate to occupying a liminal phase during the transition

References

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9G6 (3625)

Date of presentation: Tuesday 30th August

Time of session: 12:45 – 13:00

Location of presentation: Gratte Ciel 2

A Phenomenological Investigation Of Residents' Experiences During Direct Observation In General Practice

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Background

Direct observation (DO) is a cornerstone of postgraduate medical education (PGME). DO is indispensable for feedback and assessment, yet, its uptake in PGME is poor. The literature on DO provides ample explanations for this deficit, such as unclear stakes, fear of assessment, difficulties in interacting with patients, and conflicting expectations concerning autonomy and efficiency. What is lacking, however, is an understanding of residents' experiences in DO situations, detached from investigators' pre-fixed ideas and theories about what DO is or what its purpose is.

Summary Of Work

We performed a phenomenological interview study, including six GP residents, focusing on the essences of the experience of being the resident in a DO situation. We analyzed the transcripts in four rounds of coding through the four phenomenological lenses of lived body, lived space, lived time and lived relationship.

Summary Of Results

If residents experienced DO situations as seeing patients together, in an equal relationship with their supervisor whom they liked and trusted, with the purpose of learning together, they were mostly relaxed and happy. At the other extreme, when residents experienced DO situations as giving a performance, being observed and assessed by a supervisor whom they did not like and trust so



much, residents were distracted by the presence of the supervisor and felt their performance was impaired by this. Most stories we heard reflected the 'performance-side' of this spectrum.

Discussion And Conclusion

Our results indicate that distress in DO situations relates to how residents (tacitly) interpret DO situations. As one example, residents reported difficulties in convincingly advising patients, while at the same time being insecure about whether the supervisor agreed with them, and aware of the possibility of being overruled by the supervisor. A simple remedy against this distress could be that supervisor and resident first briefly discuss findings and plan in front of the patient, and, when agreed upon, share these in more detail with the patient.

Take Home Messages

Residents and supervisors should approach DO situations in a continuous open dialogue about how DO situations can best serve the needs and expectations of all parties involved.



Short Communications - COVID 1: Impact on clinical teaching

9H1 (0539)

Date of presentation: Wednesday 31st August

Time of session: 11:30 - 11:45

Location of presentation: Gratte Ciel 3

A model for organizing clinical clerkships virtually in medical schools in developing countries

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Background

At the University of Ibadan, Nigeria, the fifth and sixth-year medical students undergo clinical clerkships in clinical departments twice (junior and senior postings) before sitting for major examinations. Junior postings are more of didactic lectures with some degree of clinical exposure whereas senior postings are more clinically oriented so as to acquire core clinical competencies. COVID-19 lockdown measures prevented physical teaching and in response, the Department of Obstetrics and Gynaecology of the University of Ibadan developed a model of virtual clinical postings; the implementation details of this model are discussed.

Summary Of Work

All students who underwent virtual clinical model teaching had completed the junior posting before lockdown. To begin each learning session that lasted eight weeks, students joined virtual classes twice daily. A student would clerk a simulator while others listen on. After history taking, other students would critique the clerking of their colleague. Some other students would list investigations, most likely diagnosis, possible differentials, and management options. The faculty consultant leading the exercise provides feedback on their performance and summarizes the case. At another session, students were asked to run commentaries on steps in performing physical examinations and procedures after which they watched pre-recorded videos on the tasks. Also, students were divided into groups of twos to fours and assigned to faculties who explained difficult concepts to them. Later, the students had physical sessions and the opportunity to practice clinical skills on mannequins before their examination.

Summary Of Results



These students wrote multiple-choice questions, essays, and an objectively structured clinical examination which assessed their clerkship skills using simulators, physical examinations and procedures competencies, counseling and consent taking ability, and answered oral examination questions. All the 165 students who sat for the examination passed.

Discussion And Conclusion

Medical students taught virtually demonstrated acquisition of core clinical skills and satisfied their examiners.

Take Home Messages

A model with virtual clerking sessions, clinical skills videos, and small focus group discussions proved effective in our developing country setting and can be implemented by medical schools looking to organize clinical clerkships online.



9H2 (0928)

Date of presentation: Wednesday 31st August

Time of session: 11:45 - 12:00

Location of presentation: Gratte Ciel 3

Virtual Deliberate Practice Module for Procedural Skills training

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Background

The pandemic has imposed restrictions for hands-on skills training with challenges of accessing simulation rooms and time constraints faced by clinicians due to increased work commitments. Using a virtual approach to teach procedural skills training allows for deliberate practice(DP) and mastery of skills.

Summary Of Work

We developed a virtual DP module for tracheostomy change using VoiceThread (VT) a multimedia-based collaborative learning platform. Using educational design research, we identified desirable features of virtual instruction from a needs assessment of all stakeholders on tracheostomy management. Using the 4-step coaching learners watched Demonstration, Deconstruction videos showing instructors performing the procedure. For Formulation learners recorded their narration on VT receiving immediate feedback, prior to recording their Performance videos. DP allowed for learners to practice repeatedly prior to uploading their individual videos onto VT. Two instructors rated learner tracheostomy performance videos using a checklist for task assessment, allowing further refinement and mastery of skills. System usability scale (SUS) and self-efficacy surveys were collected following module completion.

Summary Of Results

Sixty-four residents completed the module. Two independent reviewers rated the performance videos calculating interobserver agreement (IOA) of 88.1% (SD 9.7) and mean checklist score of 10.1 (SD 1.2) out of 12. The mean SUS score was 66.6+18.4 (maximum score of 100). Residents reported increased confidence in their ability to list and perform critical steps with improvement in median interquartile range from 1-4 out of 5 ($p < 0.0001$)

Discussion And Conclusion

Our module provided an asynchronous self-directed instruction, enabling DP with clearly defined objectives, assessment of performance, timely feedback, promoting intense focus for skills



acquisition. This approach can be used for other procedural and clinical skills teaching such as communication and history-taking.

We successfully developed an asynchronous virtual module for tracheostomy change. Our learners rated the module favorably demonstrated by the SUS scores and improved SE scores.

Take Home Messages

There is need for innovative approaches for teaching procedural skills using robust theory-based virtual instruction.

Utilization of an engaging virtual environment helps promote DP with refinement and mastery of skills

Virtual instruction using DP can be used to teach other skills



9H3 (3701)

Date of presentation: Wednesday 31st August

Time of session: 12:00 - 12:15

Location of presentation: Gratte Ciel 3

Spotting Red Flags in Remote Consultations: The Student Perspective

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Background

As remote consultations are now commonplace, it is important to ensure students can conduct them safely, identifying red flag signs and symptoms. This study aimed to ascertain if students could identify red flags equally well between face-to-face, telephone and video consultations. We also sought to understand students' perspectives of conducting remote consultations, compared to face-to-face.

Summary Of Work

Third, fourth- and fifth-year students based at a single hospital participated. Students conducted a face-to-face, telephone and video consultation, each of which was based on different vignettes and had equal numbers of red flags. Teaching fellows acted as simulated patients and marked a standardised proforma, highlighting which red flags were identified. The number of red flags identified was tallied for each consultation modality. A focus group was then held to understand the students' views on conducting consultations and identifying red flags through the different modalities.

Summary Of Results

Interim data is reported from 11 students. On average, students identified 73%, 60% and 58% of red flags in face-to-face, telephone and video consultations, respectively. Themes from the focus groups included: a lack of formal teaching in remote consultations, difficulties with the lack of body language and social cues, problems with technology failures, and patients' technological literacy potentially impeding remote consultations. Others felt there was lack of rapport building with a patient when conducting remote consultations. With simpler cases such as back pain, students felt more comfortable with remote consultations, whereas with complex cases such as domestic violence, subtleties were more difficult to identify in remote consultations compared to face-to-face. However, students also discussed how some types of consultations or topics may be more suited to a remote consultation and not require face-to-face interaction.



Discussion And Conclusion

Students appear to identify red flags less well in both telephone and video, compared to face-to-face consultations, suggesting further teaching or exposure to remote consultations is required. Most participants felt there were several factors which made conducting remote consultations more difficult than face-to-face. However, there were situations where students felt remote consultations may be of use compared to face-to-face.

Take Home Messages

Students identify red flags less well in remote consultations

Formal teaching is required in conducting remote consultations



9H4 (2182)

Date of presentation: Wednesday 31st August

Time of session: 12:15 - 12:30

Location of presentation: Gratte Ciel 3

Continuing Viable In-person Delivery of Education Study: COVID-ED

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Background

Delivering clinical skills content to medical students during the COVID-19 pandemic has proved to be a universal challenge across institutions. At the University of British Columbia Faculty of Medicine, the curriculum was rapidly pivoted to ensure student, staff, and patient safety while allowing students to progress with their education. The goal of these adaptations was to increase infection control measures and construct a learning environment where all participants felt safe and able to participate – either in-person or virtually.

Summary Of Work

CRISP-Workflow Adaptations:

- **Infection Control Training:** COVID-19-specific online infection control modules were delivered to teach medical students' safe practices. On the first day of clinical placement, students directly observed donning and doffing of PPE and had the opportunity to practice PPE procedures in a learning environment.
- **Assessing Participants COVID-19 Risk:** Daily screening surveys based on the provincial COVID-19 screening tool were completed by all students, preceptors, staff and patients to assess for any COVID-19 symptoms or exposure risks.
- **Strict Infection Control Measures:** Unnecessary items were removed from exam rooms, and each tutorial room was equipped with a mounted tablet to allow virtual participation.³
- **Screening & Virtual Participation:** Students with COVID-19 symptoms or exposure risk factors were not allowed to participate.
- **Conservative PPE Use⁴:** In cases when physical distancing is not possible, PPE was worn by all participants.⁵
- **Constructing Workflow that Permits Social Distancing:** Physical distancing should be maintained whenever possible during in-person clinical sessions



Summary Of Results

Overall, these infection control policies have been effective at preventing the transmission of COVID-19 in clinical teaching situations with 2584 hours of face-to-face patient contact provided to years two students in semester one.

Discussion And Conclusion

Infection control policies were used to ensure the continued safe delivery of clinical skills teaching sessions to students during the pandemic. The COVID-ED Study developed CRISP-Workflow adaptations to provide a simple method to adapt infection control measures for in-person clinical teaching sessions.

Take Home Messages

CRISP-Workflow adaptations provide a pragmatic method to implement infection control safeguards into nearly all clinical settings, which have been demonstrated to permit delivery clinical sessions safely during the COVID-19 pandemic.



9H5 (3344)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 3

Participating in COVID-19 pandemic controlling activities - Good Chances For Clinical Learning

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Background

In Competency Based Medical Education, practice-based learning plays very important roles. In 2021, more than 300 students of Thai Binh UMP participated in the COVID-19 pandemic controlling activities in Ho Chi Minh city in 2 months with many specific responsibilities and more independence. After that, they returned to UMP and took clerkships with other students. Comparing the clinical learning results of these students with that of other students can reveal the values of Participating in controlling activities for COVID-19 pandemic in clinical learning

Summary Of Work

Among 149 fourth year students participated in the 9-week internal medicine clerkship from Nov 2021-Jan 2022, there were 58 students participated in the pandemic control activities in two months before. In the end-clerkship examination, each student would be assessed the clinical skills with a real patient, by a trained faculty using a clinical skill assessment form with 10-point scale (included history taking, physical examination, recommend and interpret test, oral presentation, and case management). We compared clinical examination results of two groups of students: participated (group 1) and did not participate (group 2) in the pandemic control activities in two points of time: end of POM course (in April 2021) and end of IM clerkship (in Jan 2022).

Summary Of Results

There was no significant difference in grades of two groups of students in POM course in all skills. In IM clerkship final examination, students in group 1 have scores in history taking, physical examination and case management skills higher significantly than that of students in group 2 (respectively 8.7; 8.5; and 8.5 compared with 7.6, 7.1 and 7.6 score, p-value < 0,05). There were no significant difference on scores of recommend and interpret tests and oral presentation skills. It was reported that students in group 1 have better communication and professionalism skills.



Discussion And Conclusion

Participating in pandemic control activities brought good chances for medical students in improving clinical skills as well as professionalism.

Take Home Messages

Giving chances to students to practice in real situations could improve clinical learning



9H6 (3565)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 3

NOVITIATE: A new tool for helping medical students develop history-taking skills

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Background

The medical interview is an essential skill for physicians. Learning to take a clinical history requires practice. Due to the COVID-19 situation, however, the opportunity to teach interviewing skills with actual patients is limited, potentially resulting in less frequent faculty evaluation and feedback to improve students' skills.

Summary Of Work

The computer program "NOVITIATE" which uses artificial intelligence to evaluate the history-taking skills of medical students was developed. The program allows medical students to supplement their practicing of clinical interviews with actual patients. The participants, medical students rotating in the Department of Orthopedics, Chiang Mai University Hospital, were randomised into control and intervention groups and one hundred trials were conducted. The students in the intervention group, in addition to history taking with actual patients, performed history taking with the simulated patients. Doctor-patient conversations were converted into clinical text and evaluated both by specialists and using the program "NOVITIATE". Self-evaluation questionnaires and test scores were used to assess the program's effectiveness and the accuracy of the program results was evaluated. After the session, confidential feedback and scores were delivered to the students.

Summary Of Results

More than 80% of participants in the intervention group reported that the program helped improve their clinical history interviewing skills and confidence. The test scores of participants were statistically significantly higher in the intervention group. Agreement of the test scores with the specialist's assessment was approximately 90%. The majority of participants (>95%) said they would recommend NOVITIATE to their colleagues.



Discussion And Conclusion

"NOVITIATE" is a novel program related to learning style developed in response to the special conditions in this pandemic era for developing the clinical interview skills of medical students. No additional faculty resources or control are required. The program provides an opportunity for medical students to asynchronously rehearse history taking and to receive reliable evaluations and constructive feedback to enhance their competence. This preliminary study demonstrates the effectiveness and precision of the program.

Take Home Messages

"NOVITIATE" is a compelling new educational intervention which can help medical students learn history-taking skills.



Doctoral Reports 2

9J1 (0752)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:50

Location of presentation: Rhone 2

Beyond The Struggles: Using social-developmental lenses on the transition to clinical training

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Introduction

Transitions in medical education are inevitable due to the dynamic training ‘continuum’. Often, transition-related stress and anxiety are highlighted; this is concerning as psychological distress hinders learning. Thus far, medical educators and researchers have sought to eliminate transition-related stress by focusing on preparation (e.g. transition courses) with limited success. As a result, authors call for the identification of meaningful transition outcomes and warn of an urgent need to reframe our approaches to the transition ‘problem’ in medicine. We sought to provide new perspectives on the specific transition between pre-clinical and clinical training. We used sensitising concepts from theories not previously applied to this transition— landscapes of practice, social network theory, and organisational socialisation. This thesis aimed to enhance our understanding of how undergraduate medical students navigate the transition from pre-clinical to clinical training using sociocultural lenses.

Methods

The context was the five-year undergraduate medical programme at Western Sydney University in Australia between 2018 and 2020. We conducted a scoping review to map the conceptual gaps existing in the literature and used this to refine our research agenda. We conducted a longitudinal audio-diary and interview study using nine students over nine months. We used research poems in our analysis and to exhibit this longitudinal, emotional data. We used mixed methods social network analysis to explore the social network of eight students at two time points. We explored proactive behaviour during transitions between clerkships using mixed methods; 200 students completed a survey, and we interviewed 18 of these.

Results

We found that researchers primarily approach the transition to clinical training from an educational perspective and less from a social or developmental perspective. This led our research agenda to fill



this conceptual gap. Grounded in landscapes of practice theory, we made explicit identity development as students transitioned and found that they develop by taking charge of learning opportunities (engagement), shaping their self-image through becoming more engaged and identifying role models and (imagination), flexibly adapting to new clerkship norms by managing expectations and adopting a journey mindset (alignment). Social Network Theory offered us discourse and a methodology to describe that students' social networks that impacted their transition. Students' networks were diverse, dynamic, and deliberate; being comprised of persons beyond the clinical environment, and changing as students deliberately created, maintained, or dissolved relationships dependent on whether the relationship served them through emotional and instrumental functions. Lastly, using organisational socialisation concepts, we found that some students found negotiating tasks to be difficult. We found three antecedents for proactive behaviour: setting intention, feeling capable, and a supportive environment where students felt safe to be proactive.

Discussion And Conclusion

Our findings challenge educators' preconceptions of transitions being a 'problem' to eliminate using transition courses. Instead, we recognise that transitions should be lived, reflected on, and supported. It is important to carve out a safe space for students to be reflective about difficult periods in their life. Further, making students' social networks visible helped us to see how networks change over time but also helped our participants to see on whom they can depend during challenging periods. Lastly, clinical team members should be aware of their influence and need to cultivate a psychologically safe environment. Our findings motivate us as educators and researchers, we look forward to the next phase of transition research moving beyond the struggles of transitions toward empowerment and growth as students and trainees move on to another phase in their careers.

The transition to clinical training was both a threat and an opportunity for learning and development of undergraduate medical students, and the social context significantly contributes to whether threat or opportunity is more prominent.

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9J2 (0754)**Date of presentation:** Tuesday 30th August**Time of session:** 11:50 - 12:10**Location of presentation:** Rhone 2

Navigating from Quality Management to Quality Culture

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Introduction

Over the past two decades, the notion of quality culture has gained increased attention. The quality culture concept captures the idea that educational quality management approaches and stakeholder values should become more closely linked, so that they contribute to quality enhancement in synergy.¹ Despite of the importance attributed to the topic, there is a scarcity of research on quality culture(s). As a consequence, a thorough understanding of how a quality culture should be conceptualized and how institutions can stimulate its development is lacking. Two overarching questions were formulated to address the beforementioned gaps: 1) What are the most important features of a quality culture and how do they interrelate? 2) How to promote a culture of continuous educational quality improvement?

Methods

This dissertation reports upon four studies in which a variety of quantitative and qualitative research methods were applied. The studies were conducted sequentially, following a funnel-shaped approach. First, a comprehensive review was conducted to report on relevant previous studies (N=31 articles). Thereafter, a survey-based study, a focus group study, and an individual interview study were carried-out. The latter three studies were conducted in the setting of health professions education. Diverse respondent groups were involved: teaching coordinators (N=89), staff & student members of education quality advisory committees (N=40), and educational leaders working on different hierarchical levels (N=25).

Results

In order to better balance the 'hard' dimension of a quality culture (e.g. quality management systems) with its 'soft' dimension (e.g. staff member preferences), an organizational culture change is needed in many higher education institutions. The respondents in our studies portrayed their institutions as having a strong focus on internal procedures, control, and stability. There is a preference however, to navigate toward emphasizing human relations, continuous development of employees and an increase of staff morale. The main working mechanisms of a quality culture comprise work-related psychological attitudes of staff members: ownership, commitment, and empowerment are key for quality enhancement. Throughout several studies, organisational tensions



were identified which impact the present quality culture: stability vs flexibility, control vs autonomy, intrinsic motivation vs extrinsic motivation, and bottom-up vs top-down improvement orientations. Educational leadership and the organisational communication climate are promising intervention areas, since these can address organisational tensions by interconnecting elements of the 'hard' and 'soft' quality culture dimensions.

Discussion And Conclusion

A narrow focus of quality management approaches on monitoring and control hamper the improvement capacity of higher education institutions. To sail from the status quo to an enhanced quality culture, institutions should invest in strategies which support organisational learning. The connections between quality structures and stakeholder values, the relation between quality, culture and change, and faculty development approaches require investment. In line with other studies, we found change can be reached through 1) embedding recognition & reward systems for educational careers,² 2) establishing communities of practice which catalyze individual and collective learning and nurture peer support,³ and 3) devote attention to shared and collaborative educational leadership.⁴ This dissertation's findings builds on insights gained from different scholarly fields. Our studies were among the first to empirically research quality culture, with the realist review and appreciative inquiry approaches being relatively new to research in health professions education. The findings are relevant on a national policy level (providing input for altering review procedures), institutional level (evoking ideas for reshaping quality management approaches), and study programme level (providing suggestions for community building).

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9J3 (0797)**Date of presentation:** Tuesday 30th August**Time of session:** 12:10 - 12:30**Location of presentation:** Rhone 2

Team learning at work. Getting the best out of interdisciplinary teacher teams and leaders

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Introduction

Interdisciplinary teacher teams, working on integrated health professions education, are important given the complex current work environment. Teacher teams comprise teachers from a variety of backgrounds (e.g. clinical, basic and social sciences). They are expected to share, explain and exchange knowledge between colleagues when working on integrated education. However, difficulties can arise when interdisciplinary teacher teams work on integrated education. We studied teams responsible for integrated education through the lens of team learning.¹ Team learning is about the interaction taking place in a team, and describes the behaviours team members exhibit in their efforts to understand and integrate each other's knowledge and experiences.² The research questions of this PhD dissertation are:

1. How do interdisciplinary teacher teams work on integrated curricula, and how does their teamwork influence the quality of these curricula?
2. How can we promote successful functioning of interdisciplinary teacher teams?

Methods

Our studies had solid conceptual backgrounds that were underpinned by extensive literature from management sciences,¹ organisational psychology,² educational sciences and healthcare. We used various methodologies. First, a mixed-methods study was conducted with an exploratory sequential design; teachers' vignette-guided, semi-structured interviews were followed by a quantitative analysis of student evaluation data. Next, we conducted an explorative interview study. A case study on leadership, using an ethnographic approach, provided more insights for an explanatory design-based research. Finally, a realist review was conducted, providing an extensive literature review on 7 databases. All studies described were conducted at the Faculty of Health, Medicine and Life Sciences of Maastricht University, the Netherlands. In all study programmes, problem-based learning is applied.

Results

We identified three distinct teacher team approaches with varying levels of team learning; the teams that demonstrated high levels of team learning produced the best educational quality as perceived



by students. Our next study revealed a variety of factors influencing team learning at three levels (the individual, team and organisational level). Leadership behaviour appeared to be an important team factor. We then focused on leader inclusiveness behaviour for interdisciplinary teams. Leader inclusiveness behaviour became evident from verbal and non-verbal interactions between the team leader and team members of a successful team. It manifested itself in five actions undertaken by the team leader: coordinating, explicating, inviting, connecting and reflecting. Team members created additional opportunities for the leader to exhibit leader inclusiveness behaviour and reinforced team learning by participating actively, speaking up and mimicking leader inclusiveness behaviour. Next, to support the development of a leader identity, that stimulates inclusiveness and engagement of a diversity of people, we designed a faculty development programme. The programme was underpinned by competency-based, workplace-based, experience-based, small-group and tailor-made learning principles. Lastly, we studied the role of higher education institutions and concluded that institutions can support teacher teams in cultural, structural and functional ways. In addition, attention for the role of leadership in higher education organizations should be emphasised.

Discussion And Conclusion

Our data show that various team approaches exist in practice, and that perceptions of educational quality improve with increasing levels of team learning. Underscoring the fact that social processes are key to interdisciplinary teacher team success, we raise awareness of the implications on the individual, team and organisational level. We call to draw more attention for the role of leadership in both teacher teams and higher education organisations. Future research could include investigating processes whereby teams *develop team learning*, individual team members *meet at boundaries*, and teachers *learn from each other*. It has become clear from this PhD dissertation that by coming together and discussing both commonalities and differences, interdisciplinary teacher teams will work towards high-quality integrated education that the current health professions workforce requires.

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ePosters - Assessment

9K01 (1003)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:35

Location of presentation: Tete d'Or 2

eOSCEs : what are the factors influencing students' scores ?

Donia Bouzid^{1, 2}, Jimmy Mullaet², Tristan Mirault^{1, 3, 4}, Nathan Peiffer-Smadja^{1, 5}, Aiham Ghazali¹, Christian De Tymowski¹, Victoire De Lastours⁴, Université de Paris' OSCE Study group⁴, Cédric Lemogne⁴, Philippe Ruszniewski⁴, Albert Faye⁴, Alexy Tran Dinh⁴

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Background

Due to the COVID-19 pandemic, on-site OSCEs have been replaced by remote OSCEs on the teleconference platform as Zoom™. This study aimed to assess the components of the students' scores variability during remote OSCEs.

Summary Of Work

Methods: We have conducted an observational cohort study at the medical school of Université de Paris after the remote OSCEs of June 29th, 2021, including a three stations' circuit using the video conferencing platform Zoom™. Volunteers evaluators proceeded to the second evaluation of students' performance while watching randomly selected recorded sessions. In order to assess the agreement in our context of multiple raters and multiple students, we fitted a linear mixed model with student and rater as a random effect and the score as an explained variable, allowing us to estimate intraclass correlation coefficients.

Summary Of Results

Results: After quality control, 170 observations corresponding to 85 students and nine raters were analyzed for the first station. We kept 192 and 110 observations for the statistical analysis for the two other stations, corresponding to 96 and 55 students and 15 and 7 raters, respectively. The median score and interquartile range were 60 out of 100 (IQR 50-70), 60 out of 100 (IQR 54-70), and 53 out of 100 (IQR 45-62) for the three stations, respectively. The proportion of score variance explained by the rater (namely ICC rater) was 23.0%, 16.8%, and 32.8%, respectively. Out of the 31 raters, 18 (58%) were males. Scores did not significantly differ according to the sex of the rater ($p=0.96$, 0.10, and 0.26, respectively). According to the two evaluations, there was no systematic difference in scores ($p=0.92$, 0.053, and 0.38, respectively). Some items show a high proportion of



variance explained by the rater (e.g., in the first station, item 5 dealing with medical history has an estimated rater ICC of 0.44).

Discussion And Conclusion

Conclusion: Our study highlights that the proportion of score variance explained by the rater is not insignificant even with remote OSCEs and that there is high variability between items. These data encourage us to improve OSCEs stations conception still.

Take Home Messages

Further efforts are required in remote OSCE stations' conception to guarantee the fairest evaluation.



9K02 (3844)

Date of presentation: Tuesday 30th August

Time of session: 11:35 - 11:40

Location of presentation: Tete d'Or 2

Tutor–Student Partnership in Practice OSCE to Enhance Medical Education

Eva Feigerlova¹, Eve Cosker¹, Valentin Favier¹, Patrice Gallet¹, Francis Raphael¹, Emmanuelle Moussier¹, Louise Tyvaert¹, Marc Braun¹

¹ *Medical Faculty, University of Lorraine, Nancy, France*

Background

Training of examiners is essential to ensure the quality of objective structured clinical examination (OSCE). We aimed to study a perceived effectiveness of tutor–student partnership in a practice OSCE module by novice OSCE tutors and medical students.

Summary Of Work

We implemented a practice OSCE at a medical faculty in France with novice tutors and third year medical students as partners. Each tutor served as a partner for the group of 5 students in the conception of the scenario and as an evaluator of the tutored station. Students were involved in the conception of a case and the roles of a physician, evaluator and a simulated patient. Data were obtained through self-assessment questionnaires. Descriptive statistics were used to analyze items of the questionnaires. Free-form answers were coded and analyzed thematically.

Summary Of Results

A total of 303 students and 44 novice OSCE tutors participated in the practice OSCE module. Sixty-one OSCE stations were developed encompassing 16 clinical situations as chief complaints. All scenarios described a simulated patient encounter with history taking or assessment of clinical skills and evaluation of communication skills.

A total of 36 tutors (82%) and 185 students (61%) responded to the questionnaires. The intervention was well perceived. Thirty-two percent of the tutors reported some difficulties in the assessment of student performance and were disposed to receive further training. Fifty-five percent of the students considered the participation in the OSCE case development appropriate to their level of knowledge, and 70% perceived it as beneficial allowing them to set their learning goals.



Discussion And Conclusion

This initiative provides a relevant method beneficial to OSCE tutors, medical students, and the faculty. Tutors learn how to assess student performance according to expected achievement levels. It allows students to be engaged as partners in co-creation of learning and teaching.

Take Home Messages

Based on the present experience, several activities are being implemented to create a stimulating learning environment respecting the needs of learners, both tutors and students, and to enable the students to be involved actively in teaching activities

Accepted for publication (Medical Science Educator: E Cosker, V Favier, P Gallet, F Raphael, E Moussier, L Tyvaert, M Braun, E Feigerlova. DOI: 10.1007/s40670-021-01421-9)



9K03 (1388)

Date of presentation: Tuesday 30th August

Time of session: 11:40 - 11:45

Location of presentation: Tete d'Or 2

A Model for Determining the Strongest Predictors of PANCE Performance at Individual PA Programs

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Background

Research has shown a positive correlation between Physician Assistant National Certifying Exam (PANCE) performance and didactic year grade point average (GPA), Physician Assistant Clinical Knowledge Rating and Assessment (PACKRAT) exams, and PAEA End of Rotation exams. Their predictive ability was not uniform across PA programs, making the results difficult to generalize. This study was conducted to determine which assessment measures of student knowledge had the strongest correlation to PANCE performance at one PA program.

Summary Of Work

Retrospective analysis of PANCE performance and 13 assessment measures of student knowledge, across five cohorts at one PA program, was conducted. The assessment measures included didactic year GPA, end of didactic year summative exam score, two PACKRAT exams, seven PAEA End of Rotation exams, mean exam scores from a board review course, and a projected PANCE score in Rosh Review. Regression models were used to determine the correlation between each assessment measure and various groupings of the assessment measures to PANCE performance.

Summary Of Results

Positive correlations between PANCE performance and each assessment measure were found (n=305). The variables are listed in order of strongest correlation to PANCE performance, all showed statistical significance: PAEA End of Rotation exams mean, PACKRAT exams mean, didactic year GPA, end of didactic year summative exam score, Rosh Review projected PANCE score, and board review course exams mean. Analyses revealed the grouping of didactic year GPA, PAEA End of Rotation exams mean, and PACKRAT exams mean most accurately predicted PANCE performance.

Discussion And Conclusion

While all assessment measures had positive correlations to PANCE performance, the grouping of three predictors - didactic year GPA, PAEA End of Rotation exams mean, and PACKRAT exams mean provided the most reliable and accurate prediction of PANCE performance. Other PA programs can



analyze their assessment measures using regression models to determine the strongest predictors of PANCE performance in their program. This information will benefit PA programs in developing more meaningful risk stratification of students and better allocation of program remediation resources to improve rates of passing the PANCE on the first attempt.

Take Home Messages

This correlational research study provides a model for determining the strongest predictors of PANCE performance at individual PA programs.



9K04 (3150)

Date of presentation: Tuesday 30th August

Time of session: 11:45 - 11:50

Location of presentation: Tete d'Or 2

Strategies to Integrate Existing Undergraduate Medical Curricula with the Medical Licensing Assessment Content Map using Curriculum Mapping Software and Tailored Learning Outcomes.

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Background

In 2019 the UK General Medical Council released the Medical Licensing Assessment (MLA) Content Map for the upcoming MLA. This content map draws on the existing Outcomes for Graduates (2018) and Generic Professional Capabilities (2017) frameworks and includes a list of patient 'presentations' and 'conditions' that a UK based doctor would typically see during their Foundation training. Both case-based and module-based courses face challenges with mapping the MLA content to existing undergraduate curricula.

Summary Of Work

We have redesigned the architecture of our curriculum mapping software to highlight where MLA content sits within the existing curriculum. Students can navigate MLA presentations and conditions using a structure which mirrors clinical reasoning: from identification and interpretation of clinical data to formulation of a management plan, with reference to applied medical and laboratory sciences. Tagging helps students see the relationships between their own curriculum and MLA content and aids educators in blueprinting for assessments.

Summary Of Results

Key Findings:

- Students are keenly attuned to changes in the curriculum and when presented with the reconfigured map, quickly identify the mismatch between MLA and institutional content maps and seek clarification about how presentations and conditions might be assessed in their final year.
- Although the MLA Presentation list closely mapped to the existing presentations list in Sofia (MLA n=212 vs Sofia n=241), the list of conditions listed in the MLA Content Map was notably shorter (MLA n=311 vs Sofia n=858).



Discussion And Conclusion

In the absence of a national licensing examination, UK medical schools have developed idiosyncratic curricula that potentially reflect regional disease demands, institutional research interests and local clinical expertise within a framework that broadly aligns to the GMC's Outcomes for Graduates. The MLA Content map provides welcome guidance for medical schools, but each school needs to consider how this new content aligns to their existing curriculum and assessment schedule and how this is communicated to students.

Take Home Messages

Adding Intended Learning Outcomes tailored to MLA content and aligning these to the existing curriculum can facilitate tagging, mapping, and thematic review of the learning provision.



9K05 (1169)

Date of presentation: Tuesday 30th August

Time of session: 11:50 - 11:55

Location of presentation: Tete d'Or 2

Feedback during clinical training - a learning activity or an obstacle?

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Background

Feedback in education and clinical training for health professionals has been proposed as an essential part for in-depth and effective learning. It has also been argued from the students that they lack feedback and wishes more confirmation of what they do correct and what they might do different. Feedback is considered to contribute to the development of a student's professional role and clinical skills. The aim of this study was to explore nursing students experiences of giving and receiving feedback during clinical practice.

Summary Of Work

Qualitative interviews, individual and in group, with a total of eight undergraduate nursing students were held after clinical examinations during a period of clinical practice at an emergency hospital in the third and last year of their education. During clinical practice the students received and gave feedback to peers and supervisors. Structured feedback from a peer student was also given and received at the clinical examination. The interviews were recorded, transcribed verbatim and analyzed by content analysis according to Elo and Kyngäs.

Summary Of Results

The main category "Feedback can promote learning but also be an obstacle" expressed the students experiences that feedback was helpful but also connected with difficulties. The three generic categories "Evoking emotions, Significance of relationship and Importance of structure" exemplified that students felt pressure but also a learning progression. The learning environment and the relation between those involved in giving or receiving feedback were of significant importance.

Discussion And Conclusion

Whether feedback during clinical training is helpful and evolving or may hinder the students seems contextual and is an ongoing process. The feelings the feedback evokes, the significance of relationship and the importance of structure appears as key components for the outcome of the feedback.



Take Home Messages

Feedback influences learning but its impact can be either both positive and negative. Awareness of how the unique individual receives given feedback should be illuminated during clinical practice to enable effective learning.



9K06 (3712)

Date of presentation: Tuesday 30th August

Time of session: 11:55 - 12:00

Location of presentation: Tete d'Or 2

Taking a Step Forward in Learner Feedback

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Background

Feedback between students and faculty is effective when it supports learning. There needs to be engagement from students, and validation from faculty, to enable students to use feedback. Our BEME systematic review identified that feedback is rarely defined, with diversity in conceptualisation by students and faculty. There are complex interactions between the student, the nature of the feedback, the supervisor and environmental factors. These determine if and when feedback is used and whether the effect is supportive or inhibitive of learning. Building from the practice points of the review, we aim to explore student and faculty perceptions of feedback to develop and implement a research informed institutional feedback strategy.

Summary Of Work

Six focus groups (2 among staff n=14; four among students n=29) were conducted in a convenience sample among the School of Medicine and the School of Pharmacy and Biomolecular Sciences in the Royal College of Surgeons of Ireland (RCSI), Dublin. The focus group theme sheet addressed practice points to explore participants' perceptions of how these would be operationalised. The audiotaped conversations were transcribed verbatim and thematically analysed using template analysis and NVivo12 Software.

Summary Of Results

Thematic analysis is ongoing. Preliminary findings suggest that student experience of feedback does not consistently match best practice guidelines. Students report that there is insufficient feedback, varying formats, and negative emotions. They identify factors which will support emotions and creation of a supportive feedback environment. Faculty express challenges with managing learner emotions, navigating difficult conversations and meeting student expectations.

Discussion And Conclusion

A model of implementation is in development drawn from the analysis. Initial strategies to implement learner-centred feedback which embody the practice points include including feedback



literacy training within curricula, faculty development with a focus on the social act of feedback and creating a safe learning environment.

Take Home Messages

Student partnership is critical in developing a learner-centred feedback strategy. Theoretical perspectives of feedback need careful alignment with stakeholders' experiences to create a feasible and effective feedback strategy.



9K07 (2626)

Date of presentation: Tuesday 30th August

Time of session: 12:00 - 12:05

Location of presentation: Tete d'Or 2

Is bedside teaching assessment correlated with the academic performance of medical students?

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Background

The bedside teaching assessment form had been used in the Medical Education Center Chiang Rai Prachanukroh Hospital (MECCR) to evaluate attitudes, knowledge and skills of medical students. Modified Essay Questions (MEQs) could assess cognitive skills and Multiple Choice Questions (MCQs) had an ability to test knowledge of the students, these two features has previously been reported in the literature.

Summary Of Work

The aim of this study was to find out the correlation of bedside teaching assessment scores by medical teachers and students' performance in MCQs and MEQs. Population of sample was 51 fifth year medical students of pediatric rotations during 2020- 2022. All data was assessed by correlation test.

Summary Of Results

The correlation between the attitude and MEQs score was 11% (*P value* 0.45). Also, the attitude correlated with MCQs scores was poor, 17% (*P value* 0.22). The bedside skill part correlated with MEQs scores was only 18% (*P value* 0.23) and the knowledge part correlated with MCQs scores was 15%, (*P value* 0.28). They were not different in the part of skills and knowledge which was a weak correlated with MCQs and MEQs scores, respectively.

Discussion And Conclusion

The results revealed that there was a non-significant correlation between the bedside teaching assessment and students' performance in MCQs and MEQs. It is assumed that the old fashion bedside form had not been made appropriately to the medical teachers before they evaluated the student. The other aspect which may be the reason of the negative correlation is that the teachers did not construct and give feedback to the students with low assessment scores before they took the academic examination. Thus, the students did not know their assessment performance and could not improve the cognitive skill and knowledge in time. Further research is recommended that we should



explore the old bedside teaching form and try to modify the proper tool for educators before they assess students.

Take Home Messages

Students' assessment is a difficult task. Review of the summative assessment tools is essential for the best learning achievement of medical students.



9K08 (3567)

Date of presentation: Tuesday 30th August

Time of session: 12:05 - 12:10

Location of presentation: Tete d'Or 2

Receiving feedback isn't easy! Six common pitfalls for feedback receivers

Heleen Pennings^{1,2}, Marije Lesterhuis^{1,3}, Claudia Tielemans¹, Charlotte Eijkelboom¹, Lars de Vreugd¹, Renske de Kleijn¹

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Background

Feedback conversations at the workplace provide great learning opportunities for (future) healthcare professionals (Quigley, 2021). Recently a major paradigm shift has taken place feedback literature: feedback is no longer defined as information, but as a process of seeking, sense making and using feedback information by receivers (Kleijn, 2021). Both feedback providers and receivers have an active role in this process. Palaganas and Edwards (2021) published *six common pitfalls in feedback conversations*, which focuses on pitfalls of *feedback providers*. Yet, providing and receiving feedback are two distinct skills that both require attention to enable effective learning processes (Tielemans et al., 2021; Quigley, 2021). As even perfect provided feedback is not always taken up by its receiver. With this contribution we aim to provide insights in the pitfalls of *feedback receivers*.

Summary Of Work

We used an iterative process to identify pitfalls of feedback receivers. In expert sessions, first we listed examples of pitfalls that feedback receivers may encounter. Second, these pitfalls were clustered into categories. Third, the clusters of pitfalls were sorted in order of the different phases of the feedback process (i.e., before, during, and after receiving feedback). Last, the desired mindsets and recommended behaviors to avoid and overcome these pitfalls were formulated.

Summary Of Results

This process resulted in six categories of pitfalls, desired mindsets, and recommended behaviors: (1) Passively waiting for feedback, (2) seeking feedback only to impress assessors, (3) only seeking feedback from your superiors, (4) being overwhelmed by feedback, (5) not (thoroughly) analyzing feedback, and (6) not acting on feedback.

Discussion And Conclusion

After identifying these pitfalls for feedback receivers, the next steps could be to (1) develop interventions to train feedback receivers to use strategies based on these desired mindsets and



behaviors; and (2) to study the effect of this intervention on the effectiveness of the feedback process for learning. We would like to discuss this further.

Take Home Messages

Together with the pitfalls described by Palaganas and Edwards (2021), we hope these pitfalls can stimulate discussion about the role of the feedback provider and receiver in the feedback process and, thereby, optimize feedback processes.



9K09 (1964)**Date of presentation:** Tuesday 30th August**Time of session:** 12:10 - 12:15**Location of presentation:** Tete d'Or 2

Factors Influencing Self-Entrustment and Supervisor Entrustment of Fellow CVC Placement: The Impact of Feedback

Rachel Poepelman¹, Ben Albert², Alvaro Coronado Munoz³, Kim Derespina⁴, Michael Flaherty², Mykael Garcia⁵, Ryan Good⁶, Michael Green⁷, Grant Hamill⁸, Helen Harvey⁹, Jennifer King¹⁰, Kevin Kuo¹¹, Amanda Levin¹², Katherine Mason¹³, Renuka Mehta¹⁴, Richard Mink¹⁵, Jennifer Munoz Pareja¹⁶, Katie Nielsen¹⁷, Tara Petersen¹⁸, Richard Pierce¹⁹, Samuel Rosenblatt²⁰, Jennifer Schuette¹², Ashley Siems²¹, Katherine Slain⁸, Clyde Smith²², Kristen Smith²³, Sushant Srinivasan²⁴, Claire Stewart²⁵, M. Hossein Tcharmtchi²⁶, Christopher Watson¹⁴, Jesse Wenger¹⁷, Jason Werner²⁷, Allison Whalen²⁸, Taylor Wheaton⁵, Phoebe Yager², Adrian Zurca²⁹, Anjana Radhakrishnan³⁰, Alan Schwartz³¹, Donald Boyer²⁰

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Background

Entrustment-supervision scales (ESS) capture entrustment decisions or the level of supervision a trainee needs to complete a task (ten Cate 2020). Self-entrustment is a trainee's assessment of tasks they can safely perform unsupervised, a more context-specific manifestation of self-efficacy (Sagasser 2017). This assessment often differs from the supervisor's assessment (Stahl 2020; Sterkenburg 2010). Although the factors contributing to supervisor entrustment decisions are well described (Hauer 2015), self-entrustment is not. We examined self-entrustment in placement of central venous catheters (CVCs) by pediatric critical care (PCCM) fellows.



Summary Of Work

Multi-site, observational study of CVC insertion over 6-months (7/21-1/22). With each CVC inserted, supervisors and fellows completed an ESS consisting of 5 levels ranging from 'observe only' to 'able to perform procedure unsupervised'. Supervisors and fellows provided demographic and contextual variables shown to influence entrustment decisions. We used mixed effects ordinal logistic regression to evaluate which variables were associated with higher scores on the ESS. The supervisor ESS model was adjusted for repeated measures for each learner and the fellow ESS model was adjusted for clustering in programs; both models were adjusted for training level.

Summary Of Results

Ninety-six unique fellows from 17 programs completed 189 CVC insertions. Higher supervisor ESS ratings of fellows were associated with number of shifts worked with that fellow (5-10 shifts, $p=0.01$; >15 shifts, $p=0.03$) and the absence of verbal ($p<0.001$) or hands-on ($p<0.001$) feedback during the procedure. Higher fellow self-entrustment ratings were associated with absence of hands-on feedback ($p<0.001$), previous CVC experience with the supervisor ($p=0.013$) and supervisors with a formal educational role ($p=0.016$). Other variables had no association with ESS ratings in either model. Both models had an excellent fit (supervisor Nagelkerke $R^2 = 0.972$, fellow Nagelkerke $R^2 = 0.922$).

Discussion And Conclusion

Variables associated with self-entrustment differed from supervisor entrustment. Hands-on feedback prompted lower entrustment ratings by both supervisors and fellows, whereas verbal feedback was associated with lower ratings only by supervisors.

Take Home Messages

- Hands-on feedback may negatively influence both supervisor and fellow ESS ratings; verbal feedback only affects supervisor ratings
- Supervisor-trainee relationship may influence supervisor entrustment decisions more than fellow self-entrustment
- Supervisors with a formal educational role may increase self-entrustment



9K10 (2058)

Date of presentation: Tuesday 30th August

Time of session: 12:15 - 12:20

Location of presentation: Tete d'Or 2

Contextual factors that influence student competency development and preceptor feedback in the veterinary clinical setting: an explanatory sequential mixed-methods study.

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Background

Veterinary medical education has changed over time. With the shift towards a competency-based framework, veterinary education has mounting pressure to actively monitor student attainment and master entry-level skills. This requires documentation, tracking, and monitoring. To aid real time documentation and monitoring it is important to identify the factors that influence student's willingness and accuracy of documenting competencies and preceptor feedback.

Summary Of Work

WesternU CVM requires students to document competency completion. Students can do this via a mobile device-based application (T-Res from Resilience Software, Inc). The objective of this study is to explore the factors that influence veterinary students' documentation of clinical competencies using a personal mobile device, preceptor assessment, feedback, and confirmation of competencies. Based on survey discussions, items that could influence student and preceptor participation in documenting competencies include the number of students, age, gender, ethnicity, rotation, duration of the rotation, and time of the year. An explanatory sequential mixed-methods study was selected.

Summary Of Results

From June 2021 to February 2022, approximately 2,062 clinical competencies were sent to preceptors to verify. Of those 1,176 (57.03%) were approved or declined. Of the 1,176 clinical competencies confirmation requests, responded 1,165 were confirmed (99.06%), and 11 were rejected (0.94%). The next phase of exploration will include the distribution of a survey for information on the satisfaction of documenting, verifying clinical competencies and the barriers to submission and the verification process. Follow-up interviews will be performed.



Discussion And Conclusion

Researchers expect the items that promote or discourage the documenting and verifying clinical competencies to be multifactorial. This mixed methods research will help identify factors that encourage competency documentation, educator participation and items that foster compliance. The process would be modified to improve compliance, allow assessment and feedback to students. Discussions have determined that documenting competencies are difficult, awkward with fear of failure. Barriers that have been identified by educators include excessive workload and confusion.

Take Home Messages

Students are comfortable using technology. The ease of entering the clinical competencies using the handheld device is suited for ease and comfort of the students. Feedback from the students and learning about their impression of using the mobile device can impact the outcome of documenting clinical competencies.



9K11 (1477)

Date of presentation: Tuesday 30th August

Time of session: 12:30 - 12:35

Location of presentation: Tete d'Or 2

New tool to promote improvement of narrative feedback

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Background

To develop as a professional, students learn how to request, receive and give constructive feedback. A tool for (self-)assessment of the quality of written narrative feedback in order to give insights to students and teachers to improve feedback skills is lacking.

Summary Of Work

We developed a new rubric with seven key items, based on literature and contents of feedback education in our curriculum: usability, context, structure, applicability, answer to the question, language, and spelling and grammar. The rubric had a maximum of 20 points. Scores <11 points were defined as insufficient. Rubric reliability was evaluated using intra-class correlation (ICC). The tool was tested in a group setting where students are regularly asked to voluntarily provide narrative feedback on educational components. In study year 2018-2019, first, second and third year students of bachelor curricula Medicine and Biomedical sciences at the Radboudumc gave feedback on respectively five, six and three courses of their curriculum. In total, 635 cases of narrative feedback were gathered, randomised and analysed with the newly developed rubric by two blinded and independent researchers. Data was tested for normality and total rubric scores were compared between study years using Kruskal-Wallis and Dunn post-hoc testing with Bonferroni correction.

Summary Of Results

Analysis of all feedback answers showed a high rubric reliability (ICC) of 0.894. On average, students of each study year scored sufficiently on the quality of feedback. Study year one had an average score of 11.5 (95% CI 11.0;11.9), study year two 12.4 (95% CI 12.0;12.8) and year three 13.1 (95% CI 12.4;13.9). Post-hoc testing revealed differences between study years one and two ($p=0.012$) and one and three ($p<0.001$). The narrative feedback was of value to the curriculum courses and used for further improvement.



Discussion And Conclusion

The developed rubric is a reliable tool to assess written feedback quality. Feedback education and training narrative feedback skills in real-life setting result in improvement of the quality of feedback over the years. The developed tool will allow students to assess themselves and learn where there is still room for improvement.

Take Home Messages

Our newly developed rubric can be used to (self-)assess the quality of written feedback to further improve feedback skills.



9K12 (4172)

Date of presentation: Monday 29th August

Time of session: 12:25 - 12:30

Location of presentation: Tete d'Or 2

OSCE online assessment in a high-stakes examination at UNAM

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Background

The lockdown during 2021 due to the pandemic of COVID-19 made it necessary to apply an online OSCE 2022 to senior Medical students from UNAM, Faculty of Medicine. We had a previous experience in this type of modality with acceptable outcomes. The objective was to assess the OSCE online 2022 performance and psychometric quality in a high-stakes examination.

Summary Of Work

For this new OSCE we designed cases according to each clinical area. In addition, we used rubrics with four performing levels to grade each of the 1331 candidates, focusing on six different competencies and clinical skills. Finally, we adjusted the ability of the physical examination; also, the medical note was replaced with a verbal clinical summary. This assessment comprised 68 circuits of six-20 minutes stations through the Zoom platform. The total of participants were 176 assessors and 173 patients, we offered them training courses to standardize their knowledge and performance on this platform. We used the psychometric analysis to provide the validity evidence related to the internal structure of the test.

Summary Of Results

The mean of the candidate's performance was 77.25 (7.32). We observed the following outcomes in the clinical areas: Pediatrics 79.7 (14.2), Internal Medicine 79.6 (13.0), Surgery 79.4 (13.4), Family Medicine 77.7 (13.4), Emergency Medicine 77.0 (13.9), and G&O 75.4 (13.2). We examined the 98 items that constitute the six evaluated competencies with a <0.000 discriminant index between the highest and the lowest scores. In addition, we identified eight factors with seven indicators that explain the 68.08% of the variance in this 2022 online OSCE. Finally, we calculated a Chronbach Alpha of 0.94.



Discussion And Conclusion

This research allowed us to identify different performance levels in the clinical areas evaluated. This OSCE showed psychometric quality evidence based on the test's content validity, internal structure, and the response process.

This OSCE online had psychometric quality consistent with our previous experience in 2021; therefore, it constitutes a relevant evaluation tool for undergraduate clinical competencies.

Take Home Messages

The online OSCE is an instrument that provides a comprehensive assessment of clinical competencies based on cases.



9K13 (1447)

Date of presentation: Tuesday 30th August

Time of session: 12:20 - 12:25

Location of presentation: Tete d'Or 2

Unravelling language use that determines the quality of narrative comments in ePortfolios: a text analysis approach

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Background

Narrative comments reported in ePortfolios allow to ground competency assessment and development during workplace learning in healthcare education. However, not all narrative comments are considered effective. The present study is a first step in exploring whether automatic text analysis could support the authors of narrative comments. Therefore, the aim of this study was to determine whether high-quality narrative comments can be characterised by certain language use.

Summary Of Work

A two-stage study was set up. In the first stage, 2,348 narrative comments retrieved from ePortfolios of 149 Flemish (Belgium) healthcare students were manually labelled in the annotation platform INCEpTION according to four quality criteria (performance, judgment, elaboration and improvement). To ensure reliability, the codebook used was tested by three researchers and a subset of the comments (n=100) was double coded by two researchers. In the second stage, these comments were analysed using the Linguistic Inquiry and Word Count (LIWC) tool. This software quantifies language use along multiple lexical dimensions. These dimensions can be summations or percentages of words that match available LIWC dictionary categories.

Summary Of Results

After the first study stage, 29% of the comments were labelled as of low quality (meeting none or one criterion), 56% as of moderate quality (meeting two or three criteria), and 15% as of high quality (meeting all four criteria). The results of the second study stage reveal that word count is the single lexical dimension which can be associated with quality differences. The LIWC dictionary categories did not vary across low-, moderate- or high-quality comments.

Discussion And Conclusion

Our results showed that word count was the only lexical dimension that differed across the quality levels, which does not really offer insights into language use. This suggests potential shortcomings in



the currently available dictionary categories. More specialized dictionary categories might be needed to identify the unique language use of high-quality narrative comments.

Take Home Messages

- Most of the comments analysed were of moderate quality.
 - Word count was the only lexical dimension that could be associated with quality differences.
 - Differences were not present when comparing the currently available LIWC dictionary categories while looking at low-, moderate- or high-quality comments.
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9K14 (3967)

Date of presentation: Tuesday 30th August

Time of session: 12:35 - 12:40

Location of presentation: Tete d'Or 2

Programmatic lens versus a patient-centered lens of entrustment ratings

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Background

Generalizability (G) studies can estimate what contributes to the variation of the workplace-based assessment scores and the reliability of these measurements. G studies, however, take a programmatic perspective looking at the performance across a training program. Our main objective was to determine the possible incidence of errors using this approach when the true performance is known.

Summary Of Work

G and decision (D) studies were performed after 77 faculty scored ten standardized residents obtaining a history from or counseling a patient in rigorously scripted and filmed videos. Videos were scripted to represent a certain level on a 4-point prospective entrustment-supervision scale (1= Learner cannot practice, must be directly observed, 2= learner can practice skill with direct supervision, 3= indirect supervision, 4= unsupervised practice). Mean ratings were compared to the scripted ratings using a two-sided t-test. The incidence of rating a resident correctly or incorrectly was calculated. The rater variance component was recalculated using the scripted mean instead of the population mean.

Summary Of Results

G-studies estimated the variance proportions of the rater and case to be 0.05 and 0.54 (with variance (rater*case, residual) of 0.41) with a generalizability coefficient of 0.80. The population mean was significantly different 2.87 (SD 0.86) from the scripted mean of 2.70 (SD 0.78) with a p-value of <0.001. The raters correctly scored 437 (54%) of the videos. Of the incorrect scores, 253 (32%) and 108 (14%) were scored higher or lower than the scripted score, respectively. Of the 253 higher than scripted scores, 157 (62%) occurred when the scripted entrustment score was 2.



Discussion And Conclusion

From a training program perspective, G and D studies support use of prospective entrustment-supervision scales. However, from the perspective of an individual patient encounter, faculty underestimated residents' need for greater supervision in 1/3 of the cases.

Take Home Messages

Despite encouraging G-study results, the incidence of underestimating a resident's supervision needs may be significant and negatively impact the quality of care a patient receives.



9K15 (2575)

Date of presentation: Tuesday 30th August

Time of session: 12:40 - 12:45

Location of presentation: Tete d'Or 2

Undergraduate medical students' perspective toward expected procedural skills competency of the medical competency assessment criteria: a Delphi study

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Background

Medical students need to acquire certain procedural skills that are essential to delivering adequate patient care. According to the Thai Medical Competency Assessment Criteria, these procedures are divided into 2 levels, namely Level 1.1 (performed independently) and Level 1.2 (performed under supervision). Exploring students' perspectives towards this design would be valuable feedbacks for further curriculum improvement. Therefore, this study aimed to explore the perspective of medical students toward expected procedural skills competency.

Summary Of Work

The inclusion criteria were clinical year medical students with prior experience in 27 procedural skills, divided into 19 procedures in Level 1.1 and 8 procedures in Level 1.2. A Delphi method was applied using three-round questionnaires. The first round was developed to identify whether each procedure should be categorized into the Level 1.1, Level 1.2, or not applicable. The second round prompted respondent to reconsider the level of competency and to rate the importance of each competency via a 5-point Likert scale. The final round was to achieve a final consensus on the categorization of these 27 procedural skills.

Summary Of Results

Thirty-one participants were enrolled and completed the study. Consensus, defined as >80% agreement, was achieved on 27 clinical procedures. Participants defined 14/19 skills in Level 1.1 should remain as is, as opposed to 4/8 procedures in Level 1.2 that should be Level 1.1. No consensus for any procedure should be level 1.2. The perspective toward the importance of procedural skills was assessed with a mean of 4.81 (4.19-5.00).



Discussion And Conclusion

This consensus study provided medical students' perspectives toward 27 clinical procedures. While only 27 out of 62 skills in the Thai Medical Competency Assessment Criteria were included, our findings provide valuable feedback to the educators to make adjustments in ways that would promote student engagement, satisfaction, while ensuring adequate competency. In conclusion, the study delineates a wide range of students' perspectives towards the curriculum design of clinical skill assessment and the importance of each procedure when practicing medicine.

Take Home Messages

Understanding students' perspectives regarding their curriculum design would be beneficial for improving their engagement, satisfaction, while ensuring medical competence.



9K16 (1426)

Date of presentation: Tuesday 30th August

Time of session: 12:45 - 12:50

Location of presentation: Tete d'Or 2

A Tertiary Centre's Experience of using Entrustable Professional Activities (EPAs) in a Virtual Objective Structured Clinical Examination (OSCE) for Third-Year Internal Medicine Residents

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Background

Entrustable Professional Activities (EPAs) are the latest standard of assessment in competency-based medical education. Internationally, there is a shift for residency programs to construct EPAs deemed necessary for the residents to graduate the residency program based on the ACGME competencies. While EPAs are traditionally used longitudinally during residency training using various workplace-based assessments in a portfolio, its use in a single-point formative assessment such as an OSCE is not well-studied.

Summary Of Work

We devised a novel EPA-based marksheets for a Virtual OSCE for Third-Year Internal Medicine residents. For each station, candidates were graded "Outstanding", "Satisfactory" or "Needs Improvement" on sub-competencies, and summatively given a global EPA level for each station (Level 1: not allowed to perform, Level 2: perform under direct supervision, Level 3: perform under indirect supervision with on-demand supervision, Level 4: perform with limited or no supervision). Competence was deemed to be Levels 3 or 4. A calibration session with the examiners was done before the OSCE. During the OSCE, the EPA levels were entered synchronously into an online platform which allowed data to be summated for each resident. The results were shared with the residents and supervisors and used at the Clinical Competency Committee meeting for early intervention prior to their graduation to senior residency.

Summary Of Results

The experience of the residents and examiners for the EPA-based marksheets was a positive one. Residents felt that the summated EPA levels served as good visual feedback to identify areas of weaknesses, supported by actionable written feedback. Examiners felt that the EPA levels were easy to use, and the online platform allowed for more written feedback to be given. The supervisors felt that the EPA levels correlated closely with residents' clinical performance and provided a guide on targeted areas of improvement.



Discussion And Conclusion

EPAs can be used as a single-point formative assessment. Further studies need to be done to explore how well it correlates with objective clinical and exam performance.

Take Home Messages

EPAs can be used as a single-point formative assessment tool and requires calibration amongst examiners. It can also be used for benchmarking at Clinical Competency Committee meetings and shared with residents and supervisors for actionable feedback.



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9L01 (1051)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 11:35

Location of presentation: Salon Tete d'Or

Innovations in Patient-Centred Care: Utilizing Design Thinking as a Toolset for Medical Students

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Background

Design thinking (DT) is an iterative problem-solving methodology centred on using an empathic lens to identify end-user gaps and innovate solutions. With applications to healthcare, design thinking principles enable physicians to engineer patient-centric solutions targeted towards patient safety, quality improvement and optimized care delivery. Because approaches to patient care by medical students are primarily derived from curricular exposure, it is imperative that medical education creates a focus on empathy and patient-centric care.

Summary Of Work

In this study, we analyzed the impact of a longitudinal extracurricular educational intervention engaging 12 medical students at the University of Toronto with the basics of design thinking through monthly educational sessions throughout the academic year. Each session consisted of a 20-minute didactic lecture on DT principles and applications to healthcare, followed by small group sessions where teams of 6 worked directly with design-expert physician mentors on a patient-centred design project. Students practiced the principles of empathizing, defining, ideating, and prototyping viable solutions for their projects.

Summary Of Results

Thematic analysis of program onset and exit surveys identified key lessons. At program onset, most participants were unfamiliar with DT and felt unprepared to tackle care delivery gaps. By completion, all (n=12) students stated that they will apply lessons learned through this program in their careers. Motivations to participate included an interest in innovation, entrepreneurship, and exposure to new perspectives. Participants particularly valued mentors with DT experience, exposure to medical innovators, and collaborating with peers.



Discussion And Conclusion

Students found that by the end of the iterative process, empathizing and seeking to understand end-user needs enabled more robust and simpler solutions. This intervention demonstrates a role for integrating teaching surrounding patient-centered design principles with community-based service learning programs. Suggestions for future years include continued assessment of student values related to programming, a longitudinal cohort assessment of alumni projects, and integration of programming into learner curricula.

Take Home Messages

- Future physicians need tools for addressing quality improvement
 - Students found that having a structured iterative process encouraged robust and simple solutions
 - Design thinking is a valuable resource for learners to develop a patient-centered approach to care interventions
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9L02 (2398)

Date of presentation: Tuesday 30th August

Time of session: 11:35 - 11:40

Location of presentation: Salon Tete d'Or

Differentiated instruction in higher vocational education: (best) practices

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Background

The COVID-19 school closures enlarged achievement gaps between students (Haealermans et al., 2021). Differentiated instruction (DI) – a widespread approach to handle differences between students in the classroom – could be used to address the growing inequality. However, teachers in vocational education have been shown to fail in applying this approach effectively (Inspectie van het Onderwijs, 2021). In other educational settings, five theoretical principles for effective DI were identified: strong goal orientation, continuous monitoring, challenging, adapting instructions and exercises and stimulation self-regulation (e.g. Keuning et al., 2021). We examine 1) whether these principles are believed to also hold in higher vocational education, and 2) how these principles are addressed in practice.

Summary Of Work

We conducted focus group interviews in the Netherlands and Belgium. To mix theoretical and practical insights, four educational scientists with expertise on DI and four teachers in health professions education or the 'green' sector participated in each focus group. To examine DI (best) practices, hypothetical vignettes were discussed which presented situations that higher vocational education teachers might encounter when striving to handle differences between students.

Summary Of Results

Preliminary results indicate that the large differences in student characteristics (e.g. prior education, socioeconomic status, language skills) and the combination of practice and theory typical to vocational education enhance the challenge to apply DI effectively. Respondents agreed with the relevance of the DI principles and shared their practices/advice to address these principles. However, they emphasised that in higher vocational education, is especially important to facilitate learning by coaching and motivating students, by collaborating with them, and by recognising and addressing the needs and talents of students without a primary focus on test achievement.



Discussion And Conclusion

The principles previously identified for effective DI (Keuning et al., 2021) also hold in higher vocational education, but the manner in which these are addressed is strongly influenced by the specific contextual features. These insights should be considered when designing trainings on DI for teachers in health professions education.

Take Home Messages

DI practices of higher vocational education teachers rely on similar underlying principles, but the implementation of these principles differs from the contexts in which these were initially identified.



9L03 (1499)

Date of presentation: Tuesday 30th August

Time of session: 11:40 - 11:45

Location of presentation: Salon Tete d'Or

Looking back to look forward: Paediatricians' critical reflections on the development of a skills-based open online course

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Background

Critical reflection promotes personal development through questioning how we make meaning of our experiences. While clinical teaching allows little time for reflection, critical incidents involving uncertainty may encourage clinicians to interrogate their assumptions about learning and teaching. Several critical incidents during the development of the Paediatric Physical Examination Skills open online course (PPES OOC) prompted this study to explore the paediatricians' on-action and in-action reflections.

Summary Of Work

This qualitative study forms part of a broader design-based research project into developing the course. The paediatricians (n=2) were purposively selected because they are part of the development team. Online semi-structured interviews explored their conceptions of good teaching, motivation for developing the OOC, and reflections during the development process. The interviews were audio-recorded, transcribed verbatim, and analysed thematically. Given the participatory nature of the broader project, the paediatricians contributed to the interpretations of the findings.

Summary Of Results

We identified four areas of reflection. **Teaching requires willingness and passion** encapsulated the paediatricians' conceptions of good teaching, including their *teaching goals* and their *perceptions of the role of the teacher*. **Bridging the gap between theory and practice** captured the paediatricians' motivations for developing the online course in their *reasons for developing the course* and the *purpose of the course*. **Critical reflection is illuminating and uncomfortable** elucidated how *bedside teaching* and *teaching on the online course are different*, the *discomfort of acknowledging knowledge gaps*, and how *peer review promotes reflection*. The final area proposed **Ideas to improve learning in our context**, including *using technology-enhanced learning effectively*.



Discussion And Conclusion

With 44 years of combined teaching experience, the paediatricians offered vastly different in-action and on-action reflections on developing the OOC. One offered holistic ruminations of paediatric teaching within our socio-political context, while the other proffered a more personal perspective acknowledging his teaching abilities and shortcomings. Their combined reflections emphasised the value of continually interrogating what and how we teach to identify what can be done differently and the role of collaboration in facilitating peer review. These critical reflections by the paediatricians, which served to make the implicit explicit, could enhance their future teaching, whether off-line or online.

Take Home Messages

Clinical teaching requires ongoing critical reflection.



9L04 (2814)

Date of presentation: Tuesday 30th August

Time of session: 11:45 - 11:50

Location of presentation: Salon Tete d'Or

Understanding students' and faculty members' use and perceptions of curriculum resources

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Background

Resource overload describes the stressful, inundated feeling medical students experience as they interact with prescribed and suggested curriculum resources. Prior curriculum resource studies examine: (a) use of either formal (prescribed by faculty) or informal resources (recommended by peers) over limited time, (b) perceptions of one stakeholder, (c) impact on licensing exam scores through quantitative analyses, or (d) were completed prior to the COVID-19 pandemic. To reduce stress and integrate the use of curriculum resources in an effective, efficient, and engaging manner, we must better understand how students and faculty use and perceive formal and informal resources over time.

Summary Of Work

The study employed sequential explanatory mixed-methods, in which qualitative (open-ended survey and interview) data was collected to explain quantitative (closed-ended survey) data to compare students' and faculty members' use and perceptions of formal and informal curriculum resources. Teams of 3-5 students per cohort and two faculty members received over 200 survey responses and completed 55 interviews. Learning logs were maintained by the student researchers and an analysis of posted curriculum materials were also completed to triangulate the data.

Summary Of Results

The results indicate that students' perceptions and use of curricular resources change as they progress through undergraduate medical school. The findings suggest that students' motivation to use informal resources increased from years 1-2, and students use of informal resources continued but leveled off while their use of formal resources declined during years 3-4. Students reported overall motivation, and perceived levels of attention, relevance, confidence, and satisfaction also differ significantly from those of faculty. Tables and graphs will facilitate the communication of results during the short communication.

Discussion And Conclusion



Evidently, students access and are motivated to use informal curricular resources greater than formal resources, such as lectures, textbooks, and journal articles (prescribed by faculty). Higher levels of perceived relevance and confidence, along with greater attention and satisfaction with informal resources explain students' use and motivation.

Take Home Messages

Faculty should consider integrating the use of informal resources to increase engagement and reallocate their time to help students interpret and apply scientific content information, rather than convey content.



9L05 (2786)

Date of presentation: Tuesday 30th August

Time of session: 11:50 - 11:55

Location of presentation: Salon Tete d'Or

Threshold Concepts in Medical Education: A Scoping Review

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Background

Although the threshold concept framework (TCF) was first developed 20 years ago, its application in the field of medical education has recently seen a significant growth of interest with a diverse range of literature published on the subject. The transformative nature of threshold concepts (TCs) offers potential for the design of learning experiences and curricula across the medical education continuum. A scoping review was conducted to map the extent of the current literature and provide recommendations for medical education practice.

Summary Of Work

Four databases and two additional websites were searched for articles exploring TCs in medical education. Data were synthesised using quantitative and qualitative thematic approaches. A framework of conceptual change incorporating basic scientific knowledge, ways of thinking, and ways of practising, was used to analyse the TCs identified.

Summary Of Results

Thirty-six papers were included in the final analysis. The papers spanned undergraduate, postgraduate, and continuing medical education. The most frequent application of the TCF was in the identification of TCs. Uncertainty, patient care, clinical reasoning, and professional identify formation were themes that emerged at multiple stages of training. However, TCs developed in complexity throughout training related to stages of conceptual change and changing roles and responsibilities.

Discussion And Conclusion

The review has demonstrated that TCs in medical education go beyond knowledge acquisition and represent ontological transformations that underpin professional thinking and practice. It has also revealed that TCs can recur throughout training requiring a more advanced understanding or embodiment. This is a novel insight which lends support to a holistic approach to curriculum design spanning the medical education continuum. Various iterations of the TCF have emerged to represent professional learning, and there is an urgent need to clarify the TCF in relation to medical education to ensure consistent application.



Take Home Messages

The TCF provides an important lens for viewing how learners develop ways of thinking and practising within medicine. This can guide the development of learning experiences and curricula which help students and trainees develop the necessary knowledge, skills, and attitudes to practice effectively. The recursive nature of TCs also supports the use of the TCF to improve continuity across the undergraduate, postgraduate, and continuing medical education continuum.



9L06 (2331)

Date of presentation: Tuesday 30th August

Time of session: 11:55 - 12:00

Location of presentation: Salon Tete d'Or

Teaching With Wikipedia: An exploration within Health Professions Education

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Background

Wikipedia has increasingly been used as a pedagogical tool in health professions education (HPE). Amidst debates over classroom use in institutions of higher education, there are few studies about Wikipedia's use in HPE.

Summary Of Work

Between 2018-2020, the authors analyzed descriptions of HPE courses that integrated Wikipedia (n=27) and related articles (n=6). The authors also interviewed 17 HPE instructors of these courses to understand their perspectives on teaching with Wikipedia, including benefits and challenges.

Summary Of Results

Of the 12 courses in which the discipline of the students could be determined, HPE courses taught with Wikipedia were offered to medical (n=6), nursing (n=4), and audiology (n=2) students. The courses were delivered via videos, live lectures, and online modules. Courses covered logistics of Wikipedia editing, evidence based medicine (EBM) skills, and health literacy. All courses required students to edit Wikipedia independently or in small groups. Potential benefits of teaching with Wikipedia were identified in the instructor interviews and included benefits to society, development of the learners' information literacy and EBM skills, and supporting learners' careers and professional identity formation. Identified challenges included high effort and time, issues with sourcing references, and difficult interactions with skeptics, editors, and students. Themes related to instructors' advice about teaching with Wikipedia included, 1) find existing courses as models, 2) collaborate with others (e.g., clinicians, librarians, WikiEdu staff), 3) set realistic expectations, 4) utilize WikiEdu resources, and 5) "Be bold!"



Discussion And Conclusion

Improving Wikipedia' medical content as part of an HPE course offers an opportunity to develop EBM and communicating skills. Despite challenges it creates a meaningful experiential learning environment that could organize a community of action as part of a situated learning context, which might shape learners' professional identity formation, enculturating clinicians with a sense of civic professionalism. There is a growing body of readily available resources via published materials and community support of HPE instructors to facilitate faculty development of educators interested in improving their courses through Wikipedia.

Take Home Messages

Considering the enriched learning environment, including engagement of the Wikipedia community, high-quality articles produced for the public, and professional benefit to students, there are grounds for promoting teaching with Wikipedia in HPE.



9L07 (1835)

Date of presentation: Tuesday 30th August

Time of session: 12:00 - 12:05

Location of presentation: Salon Tete d'Or

Teaching reflective practice in psychiatry – online.

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Background

During Covid-19 clinical schools were forced to switch learning from face-to-face to online (Pei & Wu, 2019). Online case-based tutorials in psychiatry were introduced. This paper describes the experiences of Cambridge University teachers and medical students, and their lessons learned. Learning takes place through an iterative process of reflecting on experiences, on- and in-practice (Schon 1987). Reflective practice (RP) is core to professional development, practice, and lies at the heart of psychiatry (Royal College of Psychiatrists., 2010), where it offers unique insight into key concepts like empathy, transference, and counter-transference.

Summary Of Work

We used phenomenology as a framework: qualitative focus groups followed by in-depth individual interviews with students and teachers. The interview guides were developed in a discursive process, guided by the research question and ethnographic interviewing technique. Data, method, and researcher triangulation was ensured throughout. The *data-led analysis* was approached from a phenomenological perspective using the four steps of systematic text condensation (Malterud, 2012).

Summary Of Results

Covid-19 gave teachers new insights into their educational ethos, changed perspectives, and reflections regarding teaching psychiatry. Our results showed that everyone made an effort to 'go beyond the script,' the given meta-structure of the course to ensure learning and RP took place. Collaborative working facilitated learning. Suggestions for future development of teaching RP online, eg role-playing a patient-clinical interaction, videos of psychiatric patients followed by guided reflective process, iPads to join ward rounds or to interview patients.

Discussion And Conclusion

Whilst technology can be used to teach psychiatry online, there is a need to ensure there is greater focus on delivering the iterative process of RP on an online setting. Keeping the patient encounter, even on a virtual format, appeared to be crucial in facilitating the on- and in-practice reflective



process. The importance of experiences of real patients is not unique to undergraduate medical education, but it extends to psychiatry trainees and psychiatrists, whereby through the discussion of patients in clinical supervisions, Balint groups, or portfolios, RP takes place (Launer, 2007).

Take Home Messages

Even though, the course was developed quickly, the results give important indications of the need to teach RP online, which we hope will be explored in further research.

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9L08 (0948)

Date of presentation: Tuesday 30th August

Time of session: 12:05 - 12:10

Location of presentation: Salon Tete d'Or

Distributed medical education in the Dutch context: opportunities and barriers to expanding the training role of non-university hospitals and extramural contexts

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Background

Non-university healthcare contexts provide rich learning environments for physicians in training. Towards a distributed medical education model, the educational role of district teaching hospitals, primary care practices and public health facilities should be expanded to educate a health force answering to the needs of communities and the health system. Establishing learning environments in these efficacy-driven healthcare contexts, and coordinating and sharing educational responsibilities among different healthcare contexts, is complex. To help unravel this complexity, we aim to explore opportunities and barriers to expanding the educational role of non-university hospitals and extramural care contexts.

Summary Of Work

Using a constructivist grounded theory methodology, we explored opportunities and barriers for workplace learning and teaching in non-university healthcare contexts. Qualitative data were obtained through 13 semi-structured interviews with a purposive sample of healthcare professionals and policy makers from different healthcare contexts, involved in graduate medical education. Transcribed data were coded, and constant comparative analysis was applied by a team consisting of three clinicians, an educationalist, and a philosopher to identify key themes.

Summary Of Results

Analysis revealed seven overarching themes that were perceived to promote or inhibit expansion of the educational role of non-university hospitals and extramural care contexts: Responsibility, Relationships, Insecurity, Trust, Agency, Openness, and Beliefs. Definitions of components included in these themes and illustrative quotations are presented, providing a model for workplace learning and teaching in distributed healthcare contexts.



Discussion And Conclusion

Workplace learning and teaching in a variety of non-university training sites goes beyond figuring out the logistics. Our results show important themes to take into account moving towards distributed medical education: we provide a model for this transition and discuss implications for practice.

Take Home Messages

We provide a model for establishing learning environments for workplace learning and teaching in distributed healthcare contexts.



9L9 (3017)

Date of presentation: Tuesday 30th August

Time of session: 12:10 - 12:15

Location of presentation: Salon Tete d'Or

Comparison of Onsite and Online Students' Learning Outcome for the Joint Medical Programme students

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Background

Students of the Joint Medical Programme (JMP) must study the preparatory course at Faculty of Medicine, Srinakharinwirot University (SWU), Bangkok, Thailand before continuing their pre-clinical study at the University of Nottingham (UoN), UK. Basic Science for Medicine (BSM) I and II are part of the preparatory subjects for the first year JMP students. Due to the COVID-19 pandemic, the classes were conducted using an online platform in 2020 and 2021.

Summary Of Work

This study aims to compare the learning outcome (average scores) of BSM I and BSM II of 21 students in 2018 and 17 students in 2019 participating onsite learning and 13 students in 2020 and 21 students in 2021 participating online learning.

Summary Of Results

For BSM I, the maximum scores were 90.05, 73.17, the minimum scores 60.21, 56.15 for onsite group, whereas the online learning showed maximum scores 75.13, 87.15, the minimum scores 60.05, 56.06. For BSM II, the maximum scores were 80.15, 74.21, the minimum scores 60.01, 60.15 for onsite group, whereas the online learning the maximum scores were 83.05, 75.31, the minimum scores 60.05, 60.27.

Discussion And Conclusion

The onsite average scores of BSM I in 2018 and 2019 were 66.19 ± 0.87 and 66.17 ± 0.76 as compared to the online learning in 2020 and 2021 of 66.09 ± 0.81 and 66.07 ± 0.73 . The onsite average scores of BSM II in 2018 and 2019 and the online learning in 2020 and 2021 were 66.24 ± 0.79 and 66.15 ± 0.74 versus 66.17 ± 0.76 and 66.19 ± 0.87 , respectively. As the topic sequences and criterion-referenced grading of BSM I and II are the same for 2018-2021, this may result in no significant difference for the average scores. The results imply that the students may adapt themselves relatively well for both groups.



Take Home Messages

The learning outcome of the students both onsite and online learnings have no significant difference, this may be due to their efficient learning and well adaptation as well as passing the same admission selection criteria.



9L10 (0165)

Date of presentation: Tuesday 30th August

Time of session: 12:15 - 12:20

Location of presentation: Salon Tete d'Or

Distance learning experiences of nurses change their self-regulated learning strategies

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Background

In recent years, distance learning by nursing professionals has increased. Distance learning requires more planning and maintenance of motivation than face-to-face learning, yet little is known about specific changes in self-regulated learning strategies due to distance learning. This study investigated the changes in nurses' self-regulated learning strategies before and after distance learning and analyzed the self-regulated learning strategies cultivated by distance learning.

Summary Of Work

Two hundred forty-three nurses who worked full time in clinical settings and had completed a one-year distance learning course at an academic medical center in Japan participated in this study. The nurses' self-regulated learning strategies were investigated before and upon completion of the distance learning course. Data was gathered using Ishikawa and Kogo's (2017) self-regulated learning strategies scale (5 factors, 23 items, 7-point scale) in pre/post surveys. Wilcoxon's signed-rank test was used for analysis.

Summary Of Results

Seventy-eight students (32.1%) responded to the survey. Of the five factors on Ishikawa and Kogo's scale, three increased significantly after distance learning: I. reflecting on learning methods, II. devising learning methods, and IV. developing learning plans. Eleven of the 23 items of the self-regulated learning strategy increased significantly from baseline: I. reflecting on learning methods (2 of 7), II. devising learning methods (4 of 7), III. asking peers (1 of 3), and IV. developing learning plans (4 of 4).

Discussion And Conclusion

The results of this study made clear that the distance learning experience cultivated the ability to plan to learn. Participants increased their awareness of how the environment and behaviors affected learning outcomes, changes we infer to have been influenced by the requirement for more autonomy in distance learning than in face-to-face learning environments. The results of our study



point to the benefit of considering self-regulated learning strategies in the design of distance education programs.

Take Home Messages

The distance learning experience enables learners to develop a learning plan and create a suitable learning environment, integral to a self-regulating cycle of learning.



9L11 (2123)

Date of presentation: Tuesday 30th August

Time of session: 12:20 - 12:25

Location of presentation: Salon Tete d'Or

Use of deep neural networks in evaluating medical communication

Wojciech Oronowicz-Jaśkowiak¹, Antonina Doroszewska¹

¹ *Medical University of Warsaw, Warsaw, Poland*

Background

Deep neural networks are mathematical and statistical structures, usually consisting of several dozen artificial layers modeled on the physiology of the biological nervous system. The use of the deep neural networks in medical education is a new approach that is beginning to gain importance.

Summary Of Work

The aim of the study was to create a model of a neural network that recognizes estimated quality of simulated patients. The didactic aim was to present the students with information about how good their communication skills were to supplement the feedback giving to them after their practice of communication skills.

Summary Of Results

A pretrained ResNet152 model and fast.ai library were used to train the neural network. The training and validation set consisted of created dataset presenting variables connected with communication skills (for example simulated patient adapts its non-verbal communication to the situation). The test set consisted of a series of data made during a standardized conversation between a clinician and a simulated patient.

The trained model has an approximate error rate of 10%.

Discussion And Conclusion

The trained model has an approximate error rate was low, which suggest it is a reliable tool that can be used for teaching.

Take Home Messages

The English version of the tool is available free of charge for conference participants.



Workshop 9M (1800)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Rhone 3A

Six types of literature reviews explained: Everything you need to know about systematic, scoping, realist, narrative, critical, and meta-ethnographic reviews

Lara Varpio¹, Lauren A. Maggio¹, Rola Ajjawi², Anna MacLeod³, Renate Kahlke⁴

¹ *Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA* ² *Deakin University, Melbourne, Australia* ³ *Dalhousie University, Halifax, NS, Canada* ⁴ *McMaster University, Hamilton, ON, Canada*

Background

A recent bibliometric analysis revealed that medical educators are increasingly relying on literature reviews.¹ The number of reviews published in medical education journals has increased by 2620% over the last two decades; the most prevalent being systematic and scoping reviews.¹ Unfortunately, other kinds of reviews (e.g., narrative) have been maligned as unscientific. Thus, medical educators have held a skewed perspective on *why* literature can be synthesized and *how* syntheses can be conducted. This is problematic because it blinds us to synthesis approaches that can add new knowledge and insights to medical education.

We tend to rely on systematic and scoping reviews since these review types are familiar; medical educators know the kinds of questions they answer, the methods for conducting them, and the markers of rigor to be expected. We contend that medical educators would be open to using other types of literature reviews if they were equally informed about them. In this workshop participants will learn about 6 different types of literature reviews: systematic, scoping, realist, narrative, critical, and meta-ethnographic.

- Maggio LA, Costello JA, Norton C, Driessen EW, Artino AR. Knowledge syntheses in medical education: a bibliometric analysis. *Perspect Med Educ.* 2020;22:1-9.

Who Should Participate

This symposium will be of interest to scholars interested in conducting and disseminating literature reviews. Experts will answer questions from novices through to experts.



Structure Of Workshop

5min: This interactive, world cafe style workshop begins with a brief introduction to knowledge syntheses and the 6 literature review types being addressed.

80min: The session will be divided into table conversations--6 tables with one expert in each type of literature review sitting at each. Participants will choose which tables to visit, rotating four times (4x20min). At each table, the expert will focus on one review type, reviewing the questions it answers, how to execute it, and its markers of rigor. Then participants will be able to ask questions to the expert--including practical how-to guidance or abstract when-should-I-use-this-review questions.

Intended Outcomes

Participants will develop knowledge about 6 different types of literature reviews and will have insights about when to use, the processes for conducting, and the markers of rigor for each type.



Workshop 9N (3476)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Rhone 3B

Just-in-Time Teaching Tools (JiTTT) to enhance faculty development

Alice Fornari, EdD, FAMEE, H-HEC, RDN¹, Julius Kaminski², Anne Franz², Harm Peters²

¹ Donald and Barbara Zucker School of Medicine; Hofstra University, Northwell, USA ² Charité - Universitätsmedizin Berlin, Berlin, Germany

Background

Faculty development (FD) on teaching skills represents a major challenge in medical education. The majority of teaching faculty are physicians who are difficult to reach with the conventional approaches of faculty development. The clinical demands of physicians is high and outside educational courses and workshops are difficult to integrate into clinical workflows.

The concept of Just-in-Time Teaching Tools (JiTTT) has recently emerged as a novel, complementary approach to FD in diverse education environments. JiTTT builds on two main pillars: 1) a low-hurdle access to a free-open access medical (FOAM) education resource as an App via smartphone or desktop computers at any time and place as needed by the teachers; 2) engagement of the user with a set of infographics that easily capture key teaching concepts and resources. Each infographic, a teaching tool with up to 300 words, is graphically visualized with pictograms and photos ("a picture can tell more than thousand words") and is linked to evidenced-based resources and for some elaborating audio files.

Facilitators of this workshop will provide practical insights on establishing and using a JiTTT platform at their institutions for FD. These insights include identification of themes suitable for infographic-based teaching tools, extracting the key information to be included, the iterative process of creating an infographic, including selection of an infographic schema and the infographic elements, refinement, piloting and implementation as well insight on technical aspects to establish, populate and maintain a JiTTT-App via an App store or a web-App.

Who Should Participate

Faculty developers, teachers and students with interest to explore new technologically-assisted FD. Participants share perspectives and experiences and consider adaption to new technologies.

Structure Of Workshop

The workshop will consist of a thematically focused inputs by the facilitators, live demonstrations, small group exchanges focused on infographic development and large group discussions, summary and reflections.



Intended Outcomes

Participants will

- discuss the Just-in-Time concept underlying the JiTTT platforms;
 - identify an overview specific to the workflow of taking a teaching idea to the design of an infographic with clearly focused evidence-based teaching content;
 - insights how a JiTTT App is technically planned, organized, developed and maintained to be current and relevant, with consideration to cultures.
-



Workshop 90 (1168)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Rhone 4

Clinically situated meaningful learning conversations

Sandra Kemp¹, Katharine Boursicot², Trudie Roberts³

¹ Curtin University, Perth, Australia ² HPAC, Singapore, Singapore ³ University of Leeds, Leeds, UK

Background

There are many challenges for health professions supervisors and educators when conducting meaningful learning conversations with trainees and students. It is a complex task to focus on feedback and engage in dialogue that helps trainees and students to develop professional, ethical, and appropriate ways of learning and working in clinical settings. This workshop will focus on understanding the challenges with engaging in meaningful learning conversations and will consider the current evidence-based literature. Participants will have the opportunity to develop some practical strategies to use in their clinically situated meaningful learning conversations, across a range of issues from clinical contexts, and relevant for both face-to-face and online learning conversations.

Who Should Participate

Academic faculty

Programme Leaders

Structure Of Workshop

- Short Presentation: principles related to meaningful learning conversations, feedback and promoting learning
- Hands-on group work: Reviewing and preparing for meaningful learning conversations around ethical issues, professionalism, communication, follow-up from Workplace-based Assessments, etc.
- Whole group discussion & role play: strategies for use in meaningful learning conversations

Intended Outcomes

By the end of the workshop, participants will be able to:

- apply principles of clinically situated conversations that provide feedback to promote learning



- identify hallmarks of meaningful learning conversations relevant to clinical contexts
 - demonstrate key skills for engaging in clinically situated meaningful learning conversations
-



Workshop 9R (2917)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Roseraie 1

Bridging theory and practice using Mixed Method research design in medical education research

Kadambari Dharanipragada¹, Amol Dongre², Zayapragassarazan Zayabalaradjane¹

¹ JIPMER, PUDUCHERRY, India ² Baikaka University, Karamsad, Gujarat, India

Background

The most employed methods in educational research include quantitative and qualitative designs, with a predominance of quantitative methods. The qualitative methods illuminate the context around the quantitative evidence. However, both these methods have limitations. Given the complex nature of educational problems, mixed methods approach seems more appropriate. Mixed methods research combines quantitative and qualitative designs and gives a complete picture of the research problem. The use of mixed methods research in the field of medical education is limited. Educational research and evaluation require methodological rigor for better evidence, hence, there is a need for guidance and training for novice researchers who wish to carry out educational research for educational policy reforms. This workshop is planned to familiarize participants with the principles and practice of mixed methods research designs for educational problems.

Who Should Participate

Health professions education teachers\Masters students\PhD scholars who wish to conduct educational research in their context

Structure Of Workshop

The workshop will begin with an introduction to mixed methods research including a discussion on sampling, writing a research question, common mixed methods designs, data collection methods, analysis and interpretation of results and understanding the strengths and weaknesses of common mixed methods designs. The workshops will be delivered using interactive lectures, individual and group activities.

Intended Outcomes

At the end of the workshop the participants will

- Know when to use mixed methods research in medical education
- Be able to choose the appropriate mixed method design for an educational problem in their context



Workshop 9S (4051)

Date of presentation: Tuesday 30th August

Time of session: 11:30 - 13:00

Location of presentation: Roseraie 2

Taking Charge of Your Own Learning: Incorporating Evidence into how you Learn

Satria Nur Syaban¹, Pradnya Anindya Gharini², Paramastri Cintantya Arindra²

¹ *Lecturio, Leipzig, Germany* ² *CIMSA (Center for Indonesian Medical Students' Activities), South Jakarta, Indonesia*

Background

Medicine is an evidence-based field where scientific rigors and peer-review are indispensable. However, suboptimal techniques for long-term learning are often still part of the medical education process. Evidence, both existing and growing, has shown us what works and what does not work in teaching and learning. It is thus important for a learner to understand principles that underpin evidence-based medical education, use evidence-based techniques in learning, and empower themselves to push for a better approach to be used in their schools. Our obligation to our patients, combined with the rapid growth of medical knowledge, makes the use of effective techniques conducive for long term learning more important than ever, and in order to effect change in their communities, it is important for a student to understand them

Who Should Participate

Medical students and students from health-related fields

Structure Of Workshop

The workshop will be delivered through a presentation combined with interactive elements. Content will be divided into three sections, the first one focusing on the background of learning in medicine, the best evidence medical education approach, and introduction to common popular misconceptions in learning along with evidence that shows they are not the best. The second section will cover key learning science-based strategies, including their neuroscientific and cognitive science basis. Both of these sections will include active learning components, including elaborative, generative, and reflective questions to engage participants. In the third section, participants will be split into breakout rooms where they will be asked to create specific plans on incorporating these strategies (five key goals for the next six months, including one focused on curricular advocacy)



Intended Outcomes

After the workshop, the participants should be able to recognize the urgency of implementing evidence-based learning techniques for their future profession, define what evidence-based learning techniques are, recognize the steps required to implement them in their studies, contrast evidence-based techniques from less effective ones that are commonly used, describe the evidence against common study misconceptions, and critique their own learning techniques to begin constructing an approach that works best for them.



Symposium 10A (0762)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Amphitheatre

Innovative Technology-Assisted Faculty Development

Elisabeth Schlegel¹, Alice Fornari¹, Machelle Linsenmeyer², Ruth Chen³, Teresa M. Chan³

¹ Donald and Barbara Zucker School of Medicine at Hofstra Northwell, Hempstead, USA ² West Virginia School of Osteopathic Medicine, Lewisburg, USA ³ McMaster University, Hamilton, ON, Canada

Background

Traditionally, faculty development has been provided either face-to-face or through online modules. These modalities have limitations such as geographic distances, access limitations of institutional network systems, and time constraints. As a result, faculty must navigate multiple complex requirements, which can be burdensome and limiting. This has been especially true during the COVID pandemic where time constraints and burden in finding content have heightened. However, technology-enhanced faculty development innovations have emerged to mitigate some of these issues. They center around just-in-time modalities and teaching tools that put the resources in the hands of educators and allow access anywhere, any time, and barrier-free.

Topic Importance

This symposium will provide opportunities for audience members to learn about innovations in technology-assisted faculty development (TAFD) and how they aid in providing effective, barrier-free, customized on-demand resources for multiple needs and audiences. Innovations from three schools will be described including Just in Time Training (JiTT) mobile technologies, automated faculty development/CME, and online programming including blogs, podcasts, and YouTube.

Format and Plans

The majority of the time spent in this symposium will be sharing innovative technologies and discussing/analyzing the pros and cons in meeting today's challenges. The audience will have the opportunity to share their experiences.

Symposium Outline for 90 min:

- 0-9 minutes; Example of JiTT App, a mobile technology tool; Dr. Alice Fornari, Moderator
- 9-18 minutes; Example and discussion of automated and targeted TAFD through eMedley; Dr. Linsenmeyer



- 18-27 minutes; Example and discussion of blog *eLearning Bites* (*eBites* - <http://elisabeth-fm-schlegel.weebly.com/elearning-bites>) and YouTube videos; Dr. Elisabeth Schlegel
- 27-36 minutes; Example of the MacPFD Spark podcast; Dr. Ruth Chen
- 36-45 minutes; Example of the QUEST modules within <https://fac.dev>; Dr. Teresa Chan
- 45-85 minutes; Guided discussion around audience experiences, implementation challenges, and further pros/cons of TAFD; Overall question & answer; All Panelists
- 85-90 minutes; Wrap-up & Final Thoughts to bring back TAFD; All Panelists

Take Home Messages

Technology-Assisted Faculty Development offers powerful tools to support, engage and inspire multiple audiences strategically, while also supporting communities of practice.



Symposium 10B (1032)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Auditorium Lumiere

Diversity and Inclusion in publication practices and knowledge generation in Health Professions Education

Rashmi Kusrkar¹, Thirusha Naidu², Kerry Wilbur³, Mohammed Ahmed Rashid⁴

¹ Amsterdam UMC, Research in Education, Faculty of Medicine, Vrije Universiteit, Amsterdam, The Netherlands ² Department of Behavioural Medicine, School of Public Health and Nursing, Faculty of Health Sciences, University of KwaZulu-Natal, Durban, South Africa ³ The University of British Columbia, Faculty of Pharmaceutical Sciences, Vancouver, British Columbia, Canada ⁴ UCL Medical School, University College London, Royal Free Hospital Campus, London, UK

Background

The current Health Professions Education (HPE) literature is dominated by research from the Global North. Knowledge is generated globally, but it does not add to acknowledged knowledge structures in HPE. Currently we face a problem in HPE, that there is a lack of insights into great innovations and practices from the Global South. The presentations in this symposium will try to cover different aspects of this problem – from a lack of submissions from the Global South to the lack of diversity among the Associate Editor pool in HPE.

Topic Importance

We lack representation from the knowledge generated in the Global South. Inclusion and diversity will add to the richness of HPE literature and practice. We hope to generate solutions from the interaction with the audience.

Format and Plans

1. Presentations (40 min)

Presentation 1: Thirusha Naidu (10 min)

A global history of colonization is startlingly mirrored within modern medical education and scholarship. Historically colonizing countries dominate the field, preserving colonially-based epistemologies and knowledge production. Why must Medical Education address coloniality and how can we create decolonial gaps in dominant structures and systems?



Presentation 2: Kerry Wilbur (10 min)

Currently diversity in HPE scholarship, marked by nation of authors' affiliations, remains low. We illustrate under-representation of published research outside Global North regions and how to address this limited and unidirectional flow of experiences and novel ideas.

Presentation 3: Mohammed Ahmed Rashid (10 min)

Although medical education has sought to become a more diverse discipline, we will illustrate how in 2021, the composition of medical education journals' editorial leadership teams remain dominated by researchers from the Global North.

Presentation 4: Rashmi A Kusurkar (10 min)

This presentation will provide an insight into the leaky pipeline of *knowledge generation* in the HPE field.

2. Highly interactive discussion with the audience led by the Moderator (45 min)

3. Summary and key messages by the Moderator (5 min)

We will try to publish the 'Lessons learned' in MedEdPublish.

Take Home Messages

It's time that as a community we take up the lack of representation of the Global South perspectives seriously and urgently. Concrete measures will be presented after discussion with the audience.



Research Papers - From the Regions

10C1 (0889)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:50

Location of presentation: Bellecour 1

Using the Theory of Threshold Concepts As A Framework To Elucidate Development State in Professionalism Among Pediatric Residents.

Audrea Burns¹, Satid Thammasitboon¹, Elaine Fielder¹, Mark Ward¹, Linessa Zuniga¹

¹ *Baylor College of Medicine, Houston, Texas, USA*

Introduction

Despite advances in defining, teaching, and, providing formative and summative assessments for resident trainees within the professionalism domain, numerous studies have extensively demonstrated the high frequency of incidences in unprofessional behavior that compromise patient safety and increase health care costs. The theory of threshold concepts can serve as a paradigm-shifting framework in understanding learner difficulties or otherwise termed troublesome knowledge in continuous modeling of professional behaviors. The purpose of our qualitative research study was to identify a framework for understanding threshold concepts in professionalism.

Methods

We conducted qualitative research using a constructivist approach to grounded theory to identify troublesome knowledge in professionalism. Eleven focus groups were conducted with residents from PGY1-PGY3 years at a university-based pediatric hospital in the United States. To gain reflection from pediatricians who had “crossed” the threshold of learning professionalism skills during residency, we also conducted focus groups with BCM pediatric fellows across subspecialties and resident clinician-educators from across the United States. The methodology was a conceptual synthesis of the codes using threshold concepts as a sensitizing lens and themes and subthemes were generated.

Results

To unpack domains of troublesome knowledge, we first sought to understand where they learned and how they defined professionalism. Five themes emanated of residents’ definition of professionalism. Additionally, when elucidating if the residents observed professional behavior in the clinical environment, residents noted a high degree of lapses in professional behavior in the clinical environment. In identifying what were the difficult areas of professionalism to learn and or



incorporate residents noted five themes of racism, classism, gender bias, the hidden curriculum, and microaggressions.

Discussion And Conclusion

Similar to published literature, pediatric resident trainees have an in-depth understanding of expectations and understanding of professionalism that stemmed from foundational training during medical school and continued to be explicitly taught during residency. However similar to published reports, there was a predominant theme was that there was a strong discrepancy between professionalism expectations and witnessed behavior primarily from supervisory staff within the clinical learning environment. Residents identified complex challenges of difficult or troublesome knowledge in professionalism through highlighting both individual, programmatic, and systems-level stressors that are contextual. Despite these challenges, residents highlighted that continual reflection on exemplar- and lapses in professional behavior allow for refinement of forming their professional identity. Pediatric fellows and clinician-educator senior leaders highlighted the critical importance of role modeling and situational, real-time, learning to overcome the aforementioned domains of troublesome knowledge.

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10C2 (0716)

Date of presentation: Tuesday 30th August

Time of session: 14:50 - 15:10

Location of presentation: Bellecour 1

Understanding new consultants' preparedness for their role and the factors contributing to this.

Maria Bashyam¹, Sharon Markless¹

¹ *King's College London, London, UK*

Introduction

The transition from registrar to consultant is a major step in training¹ which is often described as stressful and has been associated with burnout². Studies persistently show new consultants feeling unprepared, particularly for the non-clinical aspects of their role³. The literature also illustrates that those within the transition do not clearly understand it, which can hamper their ability to effectively prepare for it⁴. The paucity of research surrounding this transition makes it difficult to decide where and how to target improvements. This study aims to understand the factors contributing to successfully navigating this transition with a view to identifying potential support mechanisms to enhance it.

Methods

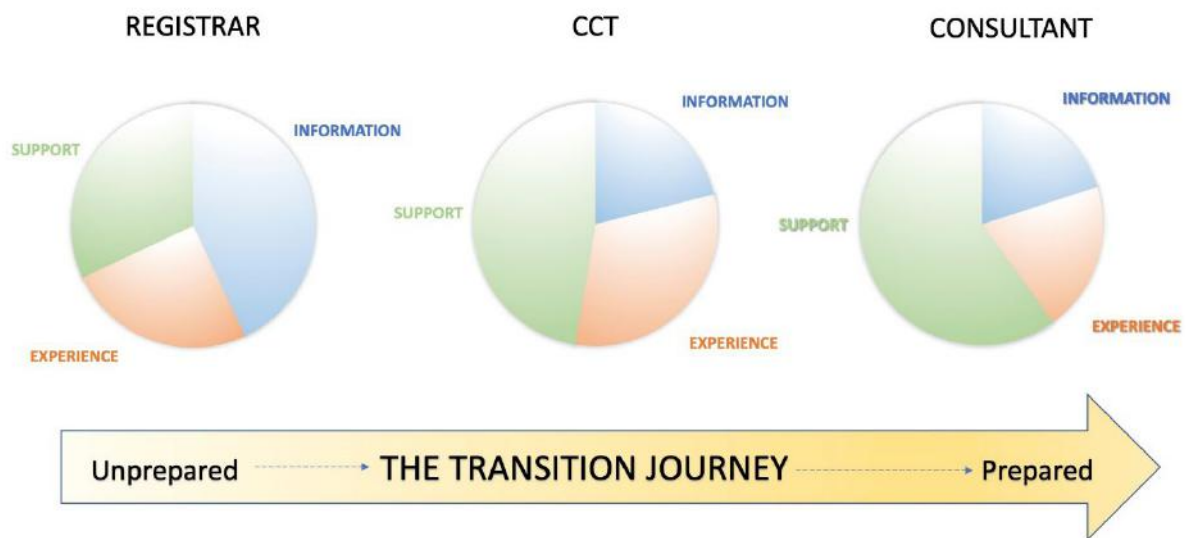
This study used constructivist grounded theory methodology as a systematic way of making sense of the area's consultants were unprepared and why. Data was collected using semi-structured interviews with both new consultants and registrars (SRs) and document analysis e.g., consultant job descriptions. Data was collected and analysed iteratively, using constant comparison until saturation was achieved. 10 participants were interviewed; the sample constructed to provide a range of perspectives on the transition.

Results

The rich data which emerged resulted in 4 themes relating to a successful transition; "seeking information" (counteracting stress from uncertainty); "seeking experience" (of non-clinical areas to gain confidence); "using support" (to facilitate information, experience, and acclimatisation to the consultant role); and "ready, set, go!" (feeling ready).

The data revealed a unique perspective on 3 distinct stages within the transition journey: early "registrar"; middle "completion of training (CCT)"; end "consultant", a concept not previously identified in the literature.





These stages contextualise the different factors contributing to consultant preparedness, revealing how perceptions of the transition and its associated learning needs vary depending on which stage the participant is in. The 1st 3 themes carry different weight depending on where the participant is in their transition journey. Early in transition there is more emphasis on seeking information, in the middle the focus shifts to seeking experience and at the end there is a move towards support.

Discussion And Conclusion

NHS doctors often feel unsupported⁵; but long-term careers need a resilient and supported workforce. This transition journey is stressful and could be transformed by improving preparedness and opportunities for supported learning and experience.

Acknowledging the shifting priorities during the 3 uniquely identified transition stages is vital in understanding how to improve the transition experience and enhance feelings of preparedness at each of these steps. This insight can help target adjustments to learning and support requirements at each stage by guiding the development and access to information and opportunities for experience; formal and informal support such as targeted transition training, mentorship for new consultants, and peer networks. There are areas which aren't possible to fully prepare for, such as increased responsibility as a consultant. However, supporting new consultants in these areas by informing their expectations, and developing their resilience could improve their experience. More research could be helpful to understand how to effectively deliver this support.



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10C3 (0704)

Date of presentation: Tuesday 30th August

Time of session: 15:10 - 15:30

Location of presentation: Bellecour 1

Maximally Affirming Gender/Sex In Clinical Communications (MAGICC) Study

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Introduction

Transgender, non-binary, gender expansive, and intersex (TGE/I) people face significant barriers to health care in the U.S., highlighting the need to train clinicians in inclusive and affirming communication practices. However, research has yet to identify best practices around the inclusion of patient gender and sex information in verbal and written clinical communications. The “one-liner,” a summary of a patient’s age, identity, current condition, medical history, and notable clinical findings, is commonly used in clinical communications and case-based medical school curricula. We aimed to identify best practices for communicating relevant gender and sex information in one-liners for adult patients, grounded in the expertise of TGE/I people and the clinicians who care for them.

Methods

We conducted a cross-sectional survey with closed- and open-ended questions. The survey consisted of four clinical scenarios with corresponding one-liners, which varied by the inclusion of patient pronouns, patient descriptors, and sex information. We developed the survey with input from experts in TGE/I health and two cognitive interviews with potential participants. For each scenario, participants rated one-liners on a five-point Likert-type scale of appropriateness, considering affirmation and clinical utility as criteria. Each scenario included an open-ended question to elicit comments and suggestions for alternative one-liners.

Participants were recruited via snowball sampling in August-October 2021 and completed an eligibility screening survey. To be eligible, individuals were required to self-identify within at least one of two categories: (1) people who are TGE/I; and (2) clinicians who routinely provide care for these patient populations. We defined clinicians as including both medical providers and non-medical providers such as clinical psychologists and clinical social workers.

The survey was administered to eligible participants from September-November 2021. We analyzed the Likert-type data using Mann-Whitney and Friedman tests and conducted a thematic analysis of the open-ended comments.



Results

The 137 survey respondents included 57 clinicians and 80 non-clinicians. Few one-liners (7 out of 87 [8%]) demonstrated statistically significant differences between mean ratings given by clinicians and non-clinicians ($p < 0.05$). Across one-liner options within each scenario, participants preferred one-liners that included patient pronouns and used patient descriptors that either reflected patient gender identity or used non-gendered language altogether ($p < 0.05$). For scenarios in which sex information was not clinically relevant, participants preferred one-liners that included no sex information. For scenarios in which sex information was clinically relevant, participant preferences around the inclusion of sex assigned at birth, organ inventory, and sex chromosome complement were less clear.

Thematic analysis of the open-ended comments revealed five themes: (1) inclusion or exclusion of sex information based on its relevance to the patient's chief concern; (2) controversy around the inclusion and importance of patient gender; (3) the importance of mirroring patient language; (4) sensitivity around the inclusion of genital anatomy in one-liners; and (5) the potential for one-liners to cause harm to patients.

Discussion And Conclusion

In this study, TGE/I individuals and clinicians who care for TGE/I patients expressed similar preferences regarding the most appropriate gender and sex information to include in one-liners, which varied across clinical scenarios. The results provide key principles to guide clinicians and trainees attempting to compose one-liners. Medical educators can use these findings to develop educational frameworks and model clinical practices that equip trainees to provide affirming care to all patients.

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10C4 (0696)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:50

Location of presentation: Bellecour 1

Was medical student voluntary clinical support during Covid-19 an opportunity for serviced-based learning?

Matthew Byrne¹, Laith Alexander², Jonathan Wan², Megan Brown³, Anmol Arora⁴, Anna Harvey⁵, James Ashcroft⁴, Andrew Clelland⁴, Siena Hayes⁶, Florence Kinder⁷, Catherine Dominic⁸, Aqua Asif⁹, Jasper Mogg¹⁰, Soham bandyopadhyay¹, Rosemary Freer¹, Arjun Lakhani¹, Samuel Pace¹, Nicholas Schindler⁴, Cecilia Brassett⁴, Bryan Burford¹¹, Gillian Vance¹¹, Rachel Allan¹, . MedEd Collaborative¹

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Introduction

Providing voluntary clinical support during the Covid-19 pandemic was a unique learning opportunity for medical students. However, early literature exploring the educational benefit of these opportunities during Covid-19 has yielded mixed results.

Volunteering may have benefited students through service-based learning, a method of teaching where students perform roles that intersect with their academic curriculum while also addressing community needs [1]. Within service-based learning, there should be learning objectives and structured opportunities for reflection. Without these, roles may be more akin to community service, in which students volunteer without an expectation of educational benefit [2].

In this study, we aimed to assess whether volunteering was beneficial and why there were differences in educational experiences.

Methods

We describe our methods in detail in our protocol [3]. We conducted an in-depth, mixed-methods, cross-sectional survey of all medical students studying at UK medical schools during the first UK lockdown. The survey was distributed from 21/2/21 for six weeks. The survey was developed after a review of previous literature, focus groups with students and educationalists, and a pilot study, and was independently reviewed by the UK Medical Schools Council. Ethical approval was obtained from the University of Oxford (Reference: R74003/RE001).



This research was conducted within the paradigm of pragmatism. We used a theory-informing inductive data analysis approach. We inductively analysed qualitative responses using Braun and Clarke's approach to thematic analysis [4], later applying our conceptual framework of service-based learning as a 'sensitising concept'. Quantitative analysis was performed in R using the Rstatix package.

Results

1245 medical students from 37 UK medical schools responded. 57% of students provided voluntary clinical support across a variety of roles.

59% of volunteers found the first lockdown beneficial for their medical education in comparison to 24% of non-volunteers ($p < 0.0001$); with volunteers performing significantly more clinical skills than non-volunteers ($p < 0.0001$). 38% of volunteers were provided with opportunities for reflective practice and this was significantly associated with perceived benefit for their medical education ($p = 0.03$).

We identified five themes for how volunteering benefited students education, these were: 'Complementing the curriculum' by improving knowledge and skills relevant to the curriculum; 'Changing approach to patients' through developing a more empathic, holistic approach; 'Transitioning to working as a doctor' through greater autonomy and integration into the team; 'Changing view of how the NHS works' by understanding how systems work; 'Developing personal attributes' such as resilience, adaptability, and responsibility.

However, there were also negative aspects to volunteering, summarised within three themes. These were: 'Relevance of role' for future clinical practice and limited educational opportunities; 'Demands of role' due to time commitments and emotional/physical demands; and 'Consequences of role' that persisted after the experience, such as reduced motivation, and physical/mental health sequelae.

Discussion And Conclusion

There was a benefit for most students who provided voluntary clinical support compared to those who did not. For some volunteers, their roles aligned with service-based learning as the roles complemented the medical school curriculum and provided opportunities for reflective practice. However, for others, the relevance of the role to their education was limited and there were few opportunities for reflection.

Employing service-based learning as a conceptual framework helps explain why volunteers' experiences have been so heterogenous. To transform voluntary clinical support into a real educational opportunity, medical schools should implement learning objectives and opportunities for reflective practice and aim to foster the factors we have identified that students found beneficial for their learning.

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AMEE Fringe 2

10D1 (3612)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:50

Location of presentation: Bellecour 2

A Celebration of Wonderful Women: A much needed process during the pandemic.

Charlene Dewey MD MEd¹, Courtney Tomblinson MD¹, Kristen Scarpato MD¹, Leah Acosta MD¹, Maya Neeley MD¹, Meghan Kapp MD¹, Sarah Williams MD MPH¹

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Women in medicine. What a beautiful thing. Medical schools are accepting more women and evidence supports women physicians are excellent care providers.

As medical educators, women are well represented, however, many of these positions are un-funded and therefore these women incur an additional workload. Medical education is seen as a service and not a paid activity which still struggles for equality. No matter how hard you work and regardless of the awards you win, your skill level, or accolades achieved, most women physicians are devalued when they choose family responsibilities over certain academic activities. The result is an unfair advantage for male counterparts, less women being appointed to prominent committees, and women who are not afforded senior leadership rankings or positions (full professorships and healthcare leadership) in a timely manner.

Women value and benefit greatly from mentoring, sponsorship, and coaching; most often this occurs through women peers and mentors. At our institution, we have developed and implemented a career development, project-based, educator development program that accepts 4-6 physicians who are interested in medical education. In this program, participants engage in career and peer mentoring, collaboration, and coaching to develop the individual career skills and their medical education research projects.

The 2022 EDP cohort is entirely female, and the entire program occurred during the pandemic, which presented challenging and new stressors at both work and home. This diverse female group is comprised of clinicians from a variety of specialties including pediatrics, radiology, urology, neurology, and pathology, with an internal medicine faculty mentor. They engage for no less than 1 hour most weeks for 24 months.

As participants, we have a unique and powerful message to share with each other and other future female leaders in academic medicine. In our 10-minute presentation we highlight the value of programs that support women as educators. We also discuss the shared and unique challenges faced by women in academic medicine, and close with a heartwarming and deep personal message of love



and appreciation to those that have gone ahead of us. Join us in celebrating women in medicine and women in medical education.



10D2 (3810)

Date of presentation: Tuesday 30th August

Time of session: 14:50 - 15:10

Location of presentation: Bellecour 2

Storytime: An Opportunity for Reflection

Gretchen Ferber¹, Jessica Prokup¹, Karen Barr¹

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Storytime: An Opportunity for Reflection is an experiential art based session to provide intentional time to reflect upon the work we do, to share our stories of patient experiences, and to gain new insights from others. We will lead attendees in a *Storytime* session: we will open with a piece of visual art, *The Broken Column*, by Frida Kahlo. We will share the theme: suffering. We will encourage group members to share reactions to visual art and how this connects to patient stories. We encourage all to share, reflect, ask questions, and provide support.

This session is an example of a resident-led initiative at the University of Pittsburgh Medical Center Physical Medicine and Rehabilitation Department. We meet monthly as residents, fellows, and faculty to share our stories. Storytelling is an innate human impulse. It is how we make sense of ourselves, relationships, and environments. *Storytime* is intended to combat burnout and renew purpose in our work in the company of our colleagues.

This session is an example of a growing movement for physicians and other health care professionals to engage in the process of listening to, sharing, and reflecting upon narratives in medicine. Narrative Medicine is a subfield of the Health Humanities and looks to art and literature to connect with stories about medicine. This interactive session will allow participants to experience narrative medicine through storytelling and provides an example of a brief format that is easy to incorporate into training programs or faculty meetings.



10D3 (3811)

Date of presentation: Tuesday 30th August

Time of session: 15:10 - 15:30

Location of presentation: Bellecour 2

Playing the Game: How Does Haemostasis Really Work?

Justin Kreuter¹

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The author have developed a method of teaching coagulation that uses Live Action Role Play (LARP) to make clinically significant concepts visible. By framing the learning session as a game and giving the learners roles, the game master (i.e., medical teacher) is able to guide the learners and modulate for a desirable difficulty in gameplay. Furthermore, the gamemaster is able to selectively emphasize clinical points that are relevant to the professional speciality playing the game. This game has been played with anesthesiologists, haematologists, pathologists, critical care pulmonologists, laboratory technologists, and paramedics.

In this session, using volunteers from the audience, the game master will demonstrate how this LARP game is played. The game master will highlight different ways that gameplay has gone, how common challenges may be managed during play, and how to guide senior learners in taking-on the game master role.

The session will close with an invitation for the audience to use the conference hashtag to post their reflection on when this LARP method may be useful in their practice.



Short Communications – Sustainability & Global Health

10E1 (4139)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:45

Location of presentation: Bellecour 3

Creating a student-led digital health curriculum

Evangelos Papageorgiou¹, Catarina Pais Rodrigues², Aliye Runyan³, Irem Aktar⁴, Tao Le⁵

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Background

Digital health competencies are now considered to be essential for healthcare professionals. In 2020, the European Medical Students' Association (EMSA) published findings from a research among its members that revealed a gap in the medical school curricula. While students are willing to develop their digital health skills, there are not appropriate courses offered in schools. Taking this into consideration, digital health is one of the focus areas in the curricular roadmap of MeSAGE. The Medical Student Alliance for Global Education (MeSAGE) is a consortium of 10 international medical student organizations that creates curricular resources to address educational gaps in medical education.

Summary Of Work

A shared needs assessment among MeSAGE organizations highlighted that digital health is a priority area of work for most of them. Based on the literature, MeSAGE members created a curricular framework that will equip students with the appropriate knowledge about digital health. MeSAGE worked with faculty advisors with expertise on the topic to finalize the framework. Experts from the Digital Health Flagship Initiative of the WHO Regional Officer for Europe also gave input on the resources that MeSAGE created.

Summary Of Results

MeSAGE's curriculum on Digital Health focuses on topics such as mobile health, artificial intelligence, bioinformatics, virtual reality, electronic records as well as laws and regulations about digitalisation of healthcare. Applications of Digital Health in daily practice are also integrated within these resources. MeSAGE follows a rigorous peer-review process, with faculty input and editorial support in all stages, to ensure the quality of the materials.



Discussion And Conclusion

The need to include digital health in the modern day curriculum is growing. The pandemic made this even more apparent. However, appropriate courses have not been developed so far. A reason for this might be the lack of relevant materials and resources. MeSAGE's curriculum can be used as a starting point for schools. Using these, they will be able to build modules that will address the needs of their students.

Take Home Messages

Digital Health is one of the cornerstones of future healthcare. A global, student-led partnership, like MeSAGE, might be able to create the resources that will lead to the integration of digital health in medical schools.



10E2 (4651)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 15:00

Location of presentation: Bellecour 3

One Health, Multiple Backgrounds

Angelo Capodici¹, Giorgia Soldà¹, Giusy La Fauci¹, Zeno Di Valerio¹, Giorgia Gribaudo¹, Maria Pia Fantini²

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Background

One Health (OH) is considered to be a trans-disciplinary topic. Already in 2010, FAO, OIE and WHO recognize that to address health risks strong partnerships among players who may have different perspectives is required. However, in Italy, OH is only taught in a few university courses and excluded from the Medicine and Surgery one. In October 2021, we, as the first-year Public Health (PH) residents of the University of Bologna, decided to organize a winter school on OH open to medical residents, including PH ones, veterinarians, nurses, and biologists students.

Summary Of Work

The course lasted 4 days and each day was dedicated to a different approach: Human Health, Environmental Health, and Animal Health. It was recognized from the beginning the core importance of having an interprofessional environment, both for what concerned the lecturers and the trainees. In particular, morning activities were led by experts of multiple backgrounds, such as PH, Veterinary, Chemistry, Geology, Agriculture, Medical Statistics, Environmental Engineering, Health Economics, Psychiatry, Endocrinology, Microbiology, while the afternoons by the first year PH residents who integrated and implemented the morning topics with soft skills such as leadership and advocacy.

Summary Of Results

Frontal lessons covered different fields of expertise assessed known and neglected problems and highlighted the gap between real-world issues and the academic division of knowledge. The involvement of first-year PH residents was instrumental in implementing a peer-to-peer learning approach, by involving participants in debates and encourage them to express ideas and insights on specific issues in order to view them in a multi-disciplinary framework.



Discussion And Conclusion

At the end of each day, every participant was asked to fill out an evaluation form. Soft-skills training sessions were widely appreciated and participants acknowledged the course's added value of facilitating the intersection between different fields of knowledge. Traditional educational approaches often underestimate the importance of a transdisciplinary approach, even though it appears fundamental in order to effectively assess real-world problems, and professionals are deeply aware of this gap in their education.

Take Home Messages

In a globalized and ever more complex world, it is time to talk about health in every facet.

To assess this need we have to push a One-Health-multiple-backgrounds approach.



10E3 (3337)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:15

Location of presentation: Bellecour 3

Hackathon Challenge as a Pedagogical Tool to Teach Interdisciplinary Problem Solving Skills for Population Health

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Background

Academic medicine curricula often focus on a specific area. And yet, effectively addressing complex challenges involving population health, including global challenges such as the COVID-19 pandemic and climate change, often requires interdisciplinary action. Teaching both the value and the skills to collaborate effectively across disciplines can better equip students to lead and develop solutions to a range of complex challenges.

Summary Of Work

Biosecurity and Pandemic Resilience course deployed Hackathon as a pedagogical tool to teach how interdisciplinary approaches can effectively address population health challenges involving infectious organisms. Stanford's Design Thinking curriculum was utilized to help lead students through the Hackathon challenge. In the winter of 2020, Hackathon challenged students to devise implementable solutions that decrease the transmission of COVID-19. For 5 weeks through February 2020, students split up into teams of 3-4 people to ideate, research, and deliver a written summary and poster presentation. Post Hackathon, students responded to an anonymous survey reflecting on their experience.

Summary Of Results

187 students developed 52 solutions to help manage the COVID-19 outbreak. Solutions ranged from mobile health applications and personal protective equipment to educational public health interventions and disruptive transmission technologies. The majority of students (58%) specifically cited the interdisciplinary approach and diverse group expertise as their most valuable takeaway, and 68% of students indicated that given proper resources they would continue working to implement their project.



Discussion And Conclusion

The Hackathon challenge utilizing Design Thinking curriculum can be a valuable tool in equipping students to address complex population health issues, solutions to which often involve ability to communicate and work across various disciplines and sectors including healthcare, public policy, technology development, and others. Given the increasing technological and administrative complexity not only of healthcare but of the issues around sustainability and global health more broadly, this pedagogical approach can also be valuable in other contexts. The authors plan to further enhance and adapt the Hackathon challenge to explore additional use cases within this context.

Take Home Messages

Design Thinking curriculum (open source at the Design School at Stanford, or other) and Hackathons can be utilized as pedagogical tools to equip students to more effectively address complex population health challenges.



10E4 (3208)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:30

Location of presentation: Bellecour 3

Interdisciplinary Education in Action: A One Health Medical Student Zoo Elective

Mary Montgomery^{1,2}, Amy Sullivan^{1,3}, Richard Mitchell^{1,2}, Eric Baitchman^{1,4}

¹ Harvard Medical School, Boston, USA ² Brigham and Women's Hospital, Boston, USA ³ Beth Israel Deaconess Medical Center, Boston, USA ⁴ Zoo New England, Boston, USA

Background

“One Health” is the understanding that human, animal and ecosystem health are connected and interdependent. As the COVID-19 pandemic has made clear, recognizing this interdependence is critical in optimizing health on local and global levels; however, few medical schools have integrated One Health teaching into the curriculum.

Summary Of Work

In 2015, we developed a novel 4-week elective at Harvard Medical School in Boston, Massachusetts, US where students rotate at a nearby zoo. Students accompany veterinarians in all clinical aspects of zoological medicine. This foundation of comparative medicine provides the basis for broader discussions on One Health and the protective effect of biodiversity on human health.

Summary Of Results

We used a mixed-methods approach to evaluate this elective. All 23 students who completed the elective between 2015-2020 were invited to participate. 82% (19/23) completed the survey and 5 students participated in the focus group. Survey results indicated that 84% (16/19) of students were only “slightly” or “not at all” familiar with One Health prior to the elective. After the elective, 72% felt that human health was impacted by the loss of biodiversity “a great deal” compared to 38.9% before the elective. 95% (18/19) of students felt that aspects of this elective should be part of the required curriculum for all students. Focus group participants reported that the elective increased their understanding of One Health, modeled novel ways to form therapeutic relationships with nonverbal patients, improved their utilization of the literature given the complexity and breadth of zoo medicine, and led to interesting clinical insights and research questions related to comparative medicine.

Discussion And Conclusion

This novel interprofessional elective at the zoo is an effective way to teach students about the interconnectedness of animal, human and ecosystem health as well as the benefits of interdisciplinary collaboration. Not all medical schools will have the ability to form an educational



partnership with a local zoo, but all can strive to integrate One Health and comparative medicine concepts into the curriculum.

Take Home Messages

Education in One Health teaches students about the benefits of a multidisciplinary approach to complex global health issues.



10E5 (4159)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:45

Location of presentation: Bellecour 3

A critical narrative analysis of how clinicians cope with challenges related to social determinants of health in practice

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Background

Increasingly, pre-clinical curricula are attempting to prepare trainees to recognize and address the social determinants of health (SDH). How trainees learn to address SDH however largely occurs when they participate in clinical training. To date, little is known about how physicians and their teams address SDH and the impact it has on them; information that is essential for curriculum developers and clinical teachers.

Summary Of Work

Our approach to analysis was informed by the critical narrative method developed by Rudman and Aldrich (2017). In total, 268 physician-written narrative SDH pieces from four high impact medical journals were screened and 47 met the inclusion criteria and were analysed.

Summary Of Results

We identified 4 storylines that best described the physician experience and their strategies for coping with SDH in practice. In the four *Helplessness stories*, authors described being unable to support their patients and the emotional toil this had on them. In the seven *Shortcoming and transformation stories*, authors had realizations about personal shortcomings or biases and shared how these transformed them. In the nineteen *Doctor-patient relationship stories* authors described how, despite being unable to alter the SDM, relationships matter and can make a difference for both the patient and physician. In the seventeen *System advocacy stories*, authors focused on describing the role of the system and the need for advocacy to change it.

Discussion And Conclusion

Current approaches to teaching the SDH often focus on the role of physicians in recognizing and altering SDH. However, the realities of practice don't easily allow physicians to do so and, for some, may lead to distress and burnout. As also shown, there are other ways to cope and make a difference



by improving ourselves, investing in getting to know and understand the lives of patients, and advocating.

Insights into the realities of practice as they relate to SDH can help curriculum developers and teachers to better prepare trainees for practice.

Take Home Messages

Our results can help support better preparation of trainees for the realities of practice and the strategies that can be used to both cope and make a difference.



10E6 (1504)

Date of presentation: Tuesday 30th August

Time of session: 15:45 - 16:00

Location of presentation: Bellecour 3

Developing undergraduate anaesthesia skills competencies for a global surgery agenda – a self-efficacy study

Sandra Spijkerman¹, Dianne Manning¹, Lionel Green-Thompson²

¹ *University of Pretoria, Pretoria, South Africa* ² *University of Cape Town, Cape Town, South Africa*

Background

The third Sustainable Development Goal (SDG) speaks to global equitable health outcomes, while the Lancet commission calls for global access to safe surgery, including anaesthesia. In South Africa (SA), the anaesthetic-related maternal mortality is mostly avoidable. Newly qualified doctors often perform unsupervised anaesthetic services in SA. All medical schools offer undergraduate anaesthetics training but no national core outcomes are defined and it is unclear what should be taught to align with the Global Surgery agenda. Transformative education is a potential strategy to reduce surgical mortality. This study explored undergraduate medical students' self-perceived competence in anaesthesiology to inform curriculum development.

Summary Of Work

Students at all eight medical schools in SA rated their self-perceived competence at graduation in 54 Likert-scale items in five themes: patient evaluation, patient preparation for anaesthesia, practical skills performance, administration of anaesthesia and the management of intraoperative complications. The medical schools were divided into Cluster A and B, based on duration of training (more or less than 25 days). Descriptive statistics, Fisher's exact test and t-tests were used in data analysis.

Summary Of Results

Of 1689 qualifying students, 1505 participated (89.11%) and 1486 questionnaires were analysed. Students generally felt unprepared to manage emergencies and complications, often relating to causes of anaesthetic-related maternal mortality in SA. Compared to those in Cluster B schools, the self-perceived competence of students at Cluster A schools was statistically significantly higher for all five themes as well as competence across all items ($p < 0.001$). For 96.29% of items, one of the Cluster B schools recorded the lowest self-perceived competence.



Discussion And Conclusion

Although SA internship outcomes are defined, training is not standardised, nor is it formally assessed. Undergraduate training is therefore the final formal training programme prior to independent practice. This study identified areas where undergraduate students felt less competent. In aiding curriculum development for undergraduate Anaesthesiology training, this study contributes towards the SDG and the Lancet Commission's calls for access to safe surgery in the developing world, including South Africa.

Take Home Messages

National standardised core undergraduate Anaesthesiology learning outcomes should be defined. This could aid curriculum development in other developing countries. The duration of anaesthetics training should be prolonged at Cluster B Schools.



Short Communications - Teaching & Learning 1: Students as partners in the learning process

10F1 (1575)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:45

Location of presentation: Gratte Ciel 1

Describing ultrasound skills teaching by near-peer and faculty tutors using Cognitive Apprenticeship

Reto Caprez¹, Roman Hari^{1,2}, Diana Dolmans², Sören Huwendiek³, Renée E Stalmeijer²

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Background

Young doctors are required to perform diagnostic ultrasounds already in early residency but training students in this skill is highly resource-intensive. To overcome shortage of staff, medical schools often deploy near-peer tutors to alleviate teaching burden on faculty in this setting. However, little is known about what methods near-peer and faculty tutors use to teach ultrasound skills.

Using the lens of Cognitive Apprenticeship, this study describes how much time faculty and near-peer tutors spend on different teaching methods in abdominal ultrasound skills training with the overall goal to improve train-the-trainer programs and ultrasound skills teaching.

Summary Of Work

16 near-peer and 16 faculty tutors were assigned to teach one 55-minute practical ultrasound lesson with randomly assigned third-year medical students. Lessons were videotaped and directly coded using Cognitive Apprenticeship teaching methods and activities. Segment durations were summed up and compared quantitatively.

Summary Of Results

All 32 tutors spent most of the time using Coaching (median: 29:14min) and Articulation (12:04min). Modeling was less used (04:50min) and many tutors did not use Exploration at all (00:38min). Overall, the patterns of teaching behaviors were similar between faculty and near-peers. Looking in detail at teaching activities, faculty tutors spent significantly more time on helping students



manually, whereas near-peer tutors spent more time exploring students' learning gaps and establishing a safe learning climate.

Discussion And Conclusion

Near-peer and faculty tutors use similar teaching methods when teaching ultrasound skills through the lens of Cognitive Apprenticeship teaching methods.

Take Home Messages

- When faculty and near-peer tutors teach ultrasound skills, they mainly observe the student and help verbally (Coaching) – or they ask open and stimulating questions (Articulation)
 - Near-peer tutors spend less time on helping manually, more time on exploring students' learning gaps and creating a safe learning environment compared to faculty tutors
 - Cognitive apprenticeship is a helpful framework to describe ultrasound skills teaching and could guide the design of train-the-tutor-programs
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10F2 (2984)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 15:00

Location of presentation: Gratte Ciel 1

Interprofessional peer-assisted learning and tutor training: what's happening in Germany?

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Background

Peer tutorials are common in medical education worldwide yet fairly new in other health professions and in interprofessional education (IPE) in Germany. Little is known about implementation of peer tutorials or tutor preparation. This study aimed to provide an overview on implementation strategies of tutorials and preparation practice of tutors in Germany with a special focus on IPE.

Summary Of Work

A cross-sectional study with a descriptive-explorative design was carried out. German institutions for diverse health professions were contacted. People responsible for peer-assisted learning (PAL), tutor training or with at least educational obligations were asked to participate in an online survey. The survey contained seven domains, incl. questions about the institutions, the general provision of PAL, tutorials, and the design of tutor training. Questions were mostly closed.

Summary Of Results

N=100 completed the questionnaire. Overall, 46 (46 %) of the participants reported offering PAL at their institutions, 32 of them (70 %) reported providing uniprofessional, 2 of them (4 %) interprofessional and 12 of them (26 %) both forms of PAL. Peer tutorials were mentioned as the most popular format of PAL (73 % uniprofessional; 64 % interprofessional PAL) with mostly mandatory interventions to prepare the tutors. These interventions were offered mostly face-to-face as workshops or as meetings between tutors and facilitators from the institution. Social competence was given high relevance and a focus on communication and (self-)reflection as content was reported.

Discussion And Conclusion

There were only minor differences between the implementation strategies for uni- and interprofessional PAL and tutor training. However, training, with no standardized approach was



discernible. Consideration should be given to how tutor preparation for the two contexts might diverge because of the interprofessional setting. This should be done on an empirical basis so that the accompanying decisions can be justified in an evidence-based way.

Take Home Messages

There is little difference between preparing tutors for uni- and interprofessional PAL, despite the differences in these teaching settings. Therefore, tutors' preparation should be based on a well-founded didactic foundation.



10F3 (3439)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:15

Location of presentation: Gratte Ciel 1

Postgraduate Healthcare Students Experiences of Peer Review

Jane Hislop¹, Tim Fawns¹, Kirstin Stuart James¹, Brian Carlin¹, Gill Aitken¹, Janette Jamieson¹

¹ *The University of Edinburgh, Edinburgh, UK*

Background

Despite well-established theoretical arguments for the value of peer review (Nicol, Thomson and Breslin, 2014), few studies have explored postgraduate healthcare students' experiences of this approach. In line with Nicol's work on peer review (2014; 2020), formative assessments for an online Postgraduate Certificate in Clinical Education were redesigned such that each student's work was reviewed and commented on by peers, with tutors providing summary comments. The aim of this study was to explore students' experiences of this approach

Summary Of Work

Interviews with our students, who are a globally and professionally diverse group of qualified healthcare professionals, were conducted at three time points. Eleven interviews were conducted prior to commencing their studies, to explore prior experiences and understandings of peer feedback. A further seven interviews were conducted halfway through the year, after completion of two formative peer review assignments. A final set of interviews will be conducted at the end of the academic year. Using Srivastava's (2009) iterative framework, we used our progressive insights from each round of analysis to shape questions in future rounds.

Summary Of Results

While the final analysis will not be possible until the end of the academic year, initial themes suggests that there are areas students need to reconcile with as part of the peer review process: 1) Tension with multiple and competing understandings about feedback. There were difficulties for both participants and tutors to talk clearly and concisely about the concepts of feedback and peer review 2) Emotional aspects of feedback. Participants talked about the potential for feedback to hurt, and the need for care in feedback practices. 3) Internalisation. There were implicit elements of self-assessment, where participants talked about constantly comparing their performance with others.



Discussion And Conclusion

These themes indicate the importance of looking beyond idealised arguments and simple outcome measures to scaffolding a shared understanding of the rationale and rules of engagement for peer review

Take Home Messages

Peer review offers students a valuable way of engaging with feedback, however there are challenges with shared meanings of what feedback and review entails and as such scaffolding a shared understanding of the rationale and rules of engagement for peer review is needed.



10F4 (4838)

Date of presentation: Tuesday 30th August

Time of session: 15:45 - 16:00

Location of presentation: Gratte Ciel 1

First Steps in Medical Practice

Elene Maisuradze¹, Veriko Revia¹, Nini Jgarkava¹

¹ *Tbilisi State Medical University, Tbilisi, Georgia*

Background

To become a qualified doctor, students must have both - theoretical knowledge and practical experience. Based on our findings at Tbilisi State Medical University, Georgian medical students lack clinical experience, so we decided to create www.medicalpractice.ge, an online platform that connects students with hospitals and doctors, allowing them to work there and improve their clinical skills.

Summary Of Work

To put the project into action, we met with representatives from various clinics, developed a simple online platform tailored to the student and took care of its design and promoted it in the social space.

Summary Of Results

As a result of our efforts, clinics became interested in the existing project and offered us partnerships with various departments. We chose the top 57 students from 86 applicants for a one-month practical course. Students have examined, evaluated, and diagnosed patients performed basic medical manipulations, participated in the planning of medical treatment for patients, written and managed medical documentations, and developed communication skills with patients and medical staff.

Discussion And Conclusion

The problem of Georgian medical students being unable to refine and apply their theoretical medical knowledge was obvious to us. Upon observing the problem, we were inspired to solve it and carried out our project idea. To resolve the issue, we decided to act as a liaison between the clinics and the students. We were able to present new opportunities to motivated participants by establishing communication with the clinics and then disseminating the information to the students.



So far, our project has been able to connect young medical students with various departments of Georgia's leading medical hospitals in order to turn their theoretical knowledge into practical medical skills.

Take Home Messages

We strongly believe that by using our online platform and interacting with professionals, Georgian medical students' clinical skills will improve. And we plan to continue our project in the future as it proved to be productive for its participants.



10F5 (0180)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:45

Location of presentation: Gratte Ciel 1

Effect of Near-Peer Mentoring on Pre-Medical Student Success and Wellbeing

Mark Solinski¹, Yuliya Pomeranets¹, Megan High¹, Peyton Whiston¹, Lindsey Staszewski¹, Geoffrey Chen¹, Gregory Gruener¹

¹ *Loyola University Chicago Stritch School of Medicine, Maywood, USA*

Background

The increasing level of competitiveness of matriculating into medical school has a profound influence on premedical students' mental health and well-being. Recent studies have found that premedical students are more likely to have greater depression severity, burnout, emotional exhaustion, and are more likely to meet the screening criteria for presence of major depressive disorder and exhibit more severe depression than non-premedical students. To combat the rising level of premedical student stress and anxiety, one can leverage the knowledge of near-peers through mentoring.

Summary Of Work

Premedical and medical students were recruited. Mentees and mentors were asked to answer a beginning and end of the year questionnaire asking about their prior experience with mentors, current anxiety level, and future career aspirations. Participants were also given an additional questionnaire asking about how much students enjoyed the program and their perceptions on the relevance of the material.

Summary Of Results

A total of 72 undergraduate mentees, 22 graduate mentees, and 39 medical student mentors participated in the program. Mentors and mentees both reported they valued their time in the program. There was an increase in mentees' College Student Mentoring Scale and a decrease in self-reported anxiety levels. Mentors reported that participation improved their overall medical school experience, mentorship skills, and leadership skills.

Discussion And Conclusion

Having a program that is rewarding to both mentees and mentors appears to help prevent medical student burnout and mentor attrition. This demonstrates that near-peer mentoring can have a profound impact on student well-being. Aside from having the benefits of utilizing a mentor's knowledge base, peer to peer mentoring has also been shown to increase psychosocial well-being in



premedical students. This study shows that near-peer mentoring can be utilized to combat premedical student anxiety and improve their chances of success.

Take Home Messages

Establishing a mentorship program between pre-medical and medical students has a benefit for both the mentee and mentor. With increasing demands on pre-medical and medical students, creating opportunities to increase their wellbeing has the opportunity to increase student success and establish connections that can prevent future burnout.



10F6 (2989)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:30

Location of presentation: Gratte Ciel 1

Role of peer-feedback for improving language proficiency and medical professional skills

Maryam Asoodar¹, [Fatemeh Janesarvatan](#)¹

¹ *Department of Educational Development and Research, School of Health Professions Education (SHE), Maastricht University, Maastricht, The Netherlands*

Background

Medical students benefit from peer-feedback in developing professionalism, teamwork, and interpersonal skills. In medical settings, experts work in teams, therefore, using the correct communication skills to provide constructive feedback is essential. What is challenging is giving and receiving feedback in a second language and in a professional context. At Maastricht University, we designed a medical-Dutch course for our international medical students, where they start their bachelor of medicine in English, but for the master's program and working at the hospital, they need to be fluent Dutch speakers.

Summary Of Work

In this qualitative study, we explore the nature of peer-feedback and the perceptions of our medical students regarding peer-feedback as a means of improving professional communication skills in an online collaborative medical-Dutch course. Fourteen students completed a brief survey and participated in semi-structured individual interviews to provide insight into the perceived value of the process of providing peer-feedback and identifying the potential impact of feedback on second-language communication skills.

Summary Of Results

Analyzed data from the surveys reveal that students' reflections show that peer-feedback is useful (64.2%), informative (78.5%), and valuable for developing medical competency domains (85.7%). All students perceive peer-feedback as a unique way to practice interpersonal and communication skills (100%). The emerging themes from interviews show that students perceived peer-feedback as valuable and informative for their training. The four main identified themes related to peer-feedback are; creating valuable and meaningful feedback, emotional components and potential barriers, the use of peer-feedback for skills development, and the role of training in constructive peer-feedback.



Discussion And Conclusion

Results indicate that peer-feedback is essential for medical professional skills training. However, clearly defined goals and instructions, the presence of native peers, and role of teacher/facilitator in the discussions are essential.

Take Home Messages

Peer-feedback is valuable for improving medical professional skills. The results of this study are important for course coordinators and curriculum designers when considering to implement peer-feedback in their educational programs.



Short Communications - Faculty Development 1: Broadening the scope of practice

10G1 (3533)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:45

Location of presentation: Gratte Ciel 2

Faculty development: open to all?

Gill Aitken¹, Tim Fawns¹, Ian Lee¹, Aleksandra Gulasaryan¹

¹ *University of Edinburgh, Edinburgh, UK*

Background

Clinicians who teach can choose many ways to learn more about teaching, from informal CPD to more structured programmes of faculty development. We ask if there is equitable access and participation in a formal programme of faculty development based in a large medical school in the UK.

Summary Of Work

A link to an online survey discussing experiences of faculty development was sent to all clinicians on a local teaching database. This was followed up with a number of in depth interviews. Interview questions were informed by the survey results and a thematic analysis was undertaken on the interview data. Full ethical permission was obtained.

Summary Of Results

77 responses to the survey were received.

10 interviews were carried-out online and transcribed.

Survey analysis revealed NHS staff were unsure of what opportunities were available to them and reported lacking in confidence to attend.

There was a sense of disconnect between teaching activities and NHS work, with only 36% reporting that they felt supported in their teaching development.

Half those questioned felt training did not adequately prepare them for supporting the learning of under-represented groups.

Preliminary interview analysis suggests a disconnect between teaching and clinical duties that was felt to be exacerbated by the way faculty development was delivered and that such programmes



were not equally accessed by all groups, specifically those from a widening participation background and from those clinicians who trained outside the UK.

Discussion And Conclusion

Faculty development programmes may be provided by medical schools but these programmes are not perceived as being equally available to all clinicians (despite being freely available to all).

The programme under discussion is being reviewed in light of these findings and we offer our results of a means of engaging in a wider discussion of the issues raised.

Faculty development programmes can offer a revealing insight into the structures and values of a medical school, and which voices a privileged within it and how teaching is valued and supported within the institution.

Take Home Messages

Faculty development programmes are not equally accessed by all clinicians

More work needs to be done on how faculty development programmes can better serve the increasingly diverse clinical workforce.



10G2 (2422)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 15:00

Location of presentation: Gratte Ciel 2

Identifying organisational-level barriers and facilitators to a positive education culture: A multi-stage, mixed-methods evaluation in the Bristol Medical School (BMS)

Steve Jennings¹, Lucy Biddle¹, Helen Curtis¹, Annie Noble-Denny¹, Claire Rice¹, Emma Clark¹

¹ *University of Bristol, Bristol, UK*

Background

Developing a positive education culture in medical schools is associated with higher educational quality and improved patient outcomes. Organisational dimensions of culture, focusing on socio-cultural practices incentivising and justifying individual and collective behaviours, practices and decision-making processes are considered central to this enterprise.

Summary Of Work

Anecdotal evidence within Bristol Medical School (BMS) suggests staff perceived their teaching contribution to be undervalued compared with research outputs. Therefore, formal assessment of the education culture was undertaken as a benchmark and to guide a strategy of targeted interventions to facilitate perceived parity between education and research. This action research study utilised quantitative and qualitative methods. Data were collected via an online, anonymous survey which was completed by 114/654 (17%) academic staff. Thematic analysis was conducted on free-text fields.

Summary Of Results

The majority of respondents expressed positive feelings about the existing culture and valued the teaching element of their role. However, <50% valued teaching as highly as research and fewer than half felt sufficiently prepared, trained and supported in their education roles. Qualitative data showed some participants were frustrated that the perceived status of teaching as '*a second class citizen*' hampered them from fully engaging in teaching activities. These data also highlighted organisational-level barriers, including lack of clear incentivisation and reward structures, uncertainty regarding the relevance of the contribution of teaching to promotion and progression, and inequitable teaching allocation and associated workload, with lack of transparency in their distribution.



Discussion And Conclusion

A disconnect exists between the enthusiasm and satisfaction of staff with their education roles and organisational-level support, training, and reward systems. Action strategies arising from this work are presented, including clearer guidelines for the contribution of teaching for progression, transparency in teaching opportunities and evidence-based training and development programmes for new teachers. Future cycles of the action research will evaluate these strategies.

Take Home Messages

Transparent and clear organisational-level support, training and reward structures are crucial to staff and may help in raising the profile of teaching and education leadership roles in research-intensive universities. Implementing and evaluating targeted interventions to improve these factors may promote development of a more positive teaching culture. These influences are likely to translate across higher education contexts.



10G3 (1330)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:15

Location of presentation: Gratte Ciel 2

WITHDRAWN



WITHDRAWN



10G4 (0123)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:30

Location of presentation: Gratte Ciel 2

Competency-based Faculty Development: Using lessons learned from competency-based medical education to guide faculty development

Karen Schultz¹, Cheri Bethune², Klodiana Kolomitro¹, Sudha Koppula³

¹ *Queen's University., Kingston, Canada* ² *Northern Ontario School of Medicine, Thunder Bay, Canada* ³ *University of Alberta, Edmonton, Canada*

Background

Medical education faculty have multiple roles (educational, administrative, research and scholarship and leadership) in addition to their clinical role(s). To date faculty development has generally been delivered as ad hoc events to support learning in those areas instead of as a deliberately sequenced program, informed by assessment data and with bespoke adjustments to meet individual faculty needs.

Summary Of Work

In this session a framework envisioned to enhance the impact of FD, namely the competency-based faculty development (CBFD) framework, will be presented. This step-wise framework embraces lessons learned about the core components of competency-based medical education (CBME), components now well known to many. Just as CBME is felt to be an educational system that ultimately best serves societal needs, so too is CBFD envisioned to best serve faculty's growth and ongoing learning. The core components envisioned in CBFD are: articulated competencies for the varied roles that faculty have; curricula designed to deliberately build, in a planned iterative sequence, the competencies for those roles while simultaneously considering adult learning theories and other theories supporting motivation and behavioural change; and an assessment program and process to support faculty learning and professional growth. The framework has incorporated ideas about where and how CBFD should be delivered including emphasis on work-place based teaching and assessment, the use of coaching to promote reflection and identity formation and the creation of communities of learning. As with CBME, the CBFD framework has included the important considerations of change management, including broad engagement, continuous quality improvement and scholarship. Examples from the literature as well as challenges and considerations for each step will be discussed.

Summary Of Results

Not applicable



Discussion And Conclusion

Please see summary of the work.

Take Home Messages

Just as medical education was re-envisioned using a competency-based framework (CBME) to train medical learners to better meet the needs of society, so too can faculty development be reimagined to better meet the learning needs of faculty to better help them fulfill their various roles. In reimagining faculty development lessons can be incorporated from CBME



10G5 (2661)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:45

Location of presentation: Gratte Ciel 2

Does Multisource Feedback Increase the Motivation for Further Professional Development? – Assessment FOR Learning from a Medical Teacher's Perspective

Nino Shiukashvili¹, Mary Jo Lechowicz², Gordon Churchward², Gvantsa Vardosanidze^{1,3}, Nino Tevzadze³, Eka Ekaladze³

¹ Ken Walker International University, Tbilisi, Georgia ² Emory University School of Medicine, Atlanta, Georgia, USA ³ Tbilisi State Medical University, Tbilisi, Georgia

Background

Although the role and the responsibilities of the medical teacher has changed in the 21st century, there is evidence that students' short- and long-term achievements tightly correlate with the quality of their teachers.

Along with the changed responsibilities of the medical teacher, the creation of a valid and effective method for evaluating the teachers' performance is very important. However, a method, which not only evaluates teaching staff but meanwhile motivates them for further professional development is a real challenge in medical education.

Summary Of Work

A constructivist research approach was used to explore the performance of medical teachers via multisource feedback (MSF) in the Tbilisi State Medical University US MD Program. The eight roles of a medical teacher were used as a framework to create the questionnaires for obtaining MSF.

Feedback regarding the 17 medical teachers involved in the teaching of the course "Becoming A Doctor" was gathered from the students, course coordinators, administrative staff and peers. Each teacher received feedback regarding their performance in different roles: Information Provider, Facilitator, Curriculum Developer, Assessor, Manager, Scholar, Role Model, Professional.

The teachers' perceptions regarding the effectiveness of the tool were gathered by semi-structured interviews after communicating the MSF results.



Summary Of Results

The Manager and the Scholar were the roles assessed with lower scores and Role Model was the role assessed with the highest scores. During the semi-structured interviews while communicating the results, the teachers agreed with the results and further steps were planned to support their professional development.

Discussion And Conclusion

The MSF appears to be a useful tool for implementing a multisource evaluation of faculty teaching performance. This tool not only provides more accurate, reliable and fair information compared to feedback based on just a single source, but also gives clearer feedback to each teacher regarding their strong and weak points and motivates them for further development.

Take Home Messages

The MSF is an effective tool to have the most objective appraisal of the faculty members' teaching and to motivate them for further professional development.



Short Communications - COVID 2: Student & Junior Doctor Wellbeing

10H1 (2584)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:45

Location of presentation: Gratte Ciel 3

Challenges and Opportunities from the COVID-19 pandemic on Residency Training – The Singapore Experience

Ji Quan Samuel Koh¹, Warren Fong^{2,3,4}, Yu Heng Kwan⁵, Swee Han Lim^{6,7}, Jodie Ling Horng Lee⁷, Hak Koon Tan^{3,7,8}

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Background

The Coronavirus Disease 2019 (COVID-19) pandemic has been an unprecedented disruptor to medical training, bringing about both new challenges and opportunities. We aim to determine COVID-19's impact on residents' wellbeing and their training in Singapore.

Summary Of Work

A cross-sectional survey was conducted between July to September 2020. The survey included residents in Residency training programmes in SingHealth.

Summary Of Results

A total of 253 valid responses were retrieved from a target population of 961 residents (26.3%), with the largest proportion of respondents (39.5%) from the Division of Medicine. Among the respondents, 40.7% of residents had their training disrupted, either by being placed in an interim posting not part of their residency requirements (26.9%) or being deployed to care for patients infected with COVID-19 (13.8%). More than half (53.7%) of the residents expressed that they were more stressed during the pandemic. This was not significantly different between gender or specialities ($p > 0.05$). Based on weighted scores, stress was contributed mainly by worry for family's



health and safety, concerns regarding progression in training and examinations. Additionally, 57.3% of residents experienced anxiety caused by the postponement or cancellation of examinations. However, 179 residents (70.8%) also felt that the healthcare crisis provided more meaning in their career. Of those deployed to COVID-19 facilities, many residents felt that they had opportunity to learn about resource management (62.9%), improve interpersonal and communication skills (62.9%), and address ethical and professionalism issues in the care of patients (58.8%). Whilst 81 residents (32.0%) felt that faculty supervision had been reduced during the pandemic, majority of residents felt that there was adequate support from the faculty to ensure there was no delay to training (71.1%) and that the training was still well-supported during the pandemic (67.2%).

Discussion And Conclusion

The COVID-19 pandemic presents both challenges and opportunities to both residents. Future studies could include the evaluation of effectiveness of residents and residency programmes in identifying both personal and systemic stressors and addressing them adequately.

Take Home Messages

The COVID-19 has been an unprecedented disruptor to medical training. This represents both challenges and opportunities to residents and Residency training programmes.



10H2 (4597)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 15:00

Location of presentation: Gratte Ciel 3

Validation of a screening tool for early identification of medical students' anxiety during clinical activity in time of crisis

Milena Abbiati¹, François Severac², Nadia Bajwa¹, Jean Sibilia³, Thierry Pelaccia⁴

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Background

During the COVID-19 pandemic, medical schools faced major critical decisions regarding the employment of medical students to support teams in clinical units. While these activities were and remain an unprecedented opportunity to learn professionalism, such exposure can be anxiety-provoking. We therefore developed a short screening tool that assesses medical students' perceived quality of their clinical activity experience in COVID-19 units to prevent anxiety. The present study assessed the constructive and predictive validity of this tool, called the Crisis Experience Rating Scale (CERS-7).

Summary Of Work

Our sample comprised medical students in their clinical years at two Swiss and one French medical school, all involved in COVID-19 clinical activity during the second wave of the pandemic. Students were surveyed using the CERS-7 and the State Anxiety Inventory (STAI-A). We evaluated internal structure using Confirmatory factor analysis (CFA) and predictive validity using linear regression (LR) and Receiver operating characteristics (ROC) curves with thresholds defined through the Youden index.

Summary Of Results

There were 372 participants (80% return rate). The PCA confirmed the two-factor structure of the CERS-7 scale from a similar first wave dataset. The CERS-7 total scale and subscales demonstrated predictive validity evidence in relationship to the STAI-A scores (Mean difference -1.04 to -0.77). The CERS-7 total scale and subscales also demonstrated predictive validity evidence in relationship to the STAI-A categories (AUC values 0.72 to 0.78 for high and severe anxiety; 0.74 to 0.87 for severe anxiety). A CERS-7 total scale score <.27.5 discriminated 93% of severe anxious students.

Discussion And Conclusion



Our results support the suitability of the CERS-7 as a tool that assesses clinical activity perception and potentially associated anxiety during a health crisis among allocated medical students. The obtained sensitivities and sensibilities of CERS-7 thresholds allows for early detection of high to severe anxious students.

Take Home Messages

The CERS-7 is a valid and easy-to-use short tool that could help academic decision makers to facilitate the secure deployment of students in the clinical setting during a pandemic or other crisis as well as the medical school counselors and psychologists to intervene early in case of problematic clinical activity.



10H3 (4616)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:15

Location of presentation: Gratte Ciel 3

Junior Doctor Wellbeing During the Covid-19 pandemic: a view from across Europe

Ellen McCourt¹, Alvaro Cerame¹, Shruti Sharma¹, Mathias Körner¹

¹ *European Junior Doctors Association, Brussels, Belgium*

Background

Junior Doctor's wellbeing is inextricably linked to postgraduate medical training (PGT). Across Europe burnout in Junior doctors has increased during the Covid-19 pandemic; for example in the 2021 survey from the UK General Medical Council 1/3 of trainees said they felt burnt out to a high or very high degree because of their work, compared to around 1/4 in previous years.

Summary Of Work

The European Junior Doctors Association (EJD) gathered data from member organisations 2020-2022 to establish the factors impacting wellbeing and burnout during the pandemic and to identify similarities and differences in the services available to address these.

Summary Of Results

Workplace safety, the provision of personal protective equipment, the protection of clinically vulnerable doctors and the extension of working hours beyond safety limits were all raised as contributing factors. Loss of control of working time, responsibilities, and environment were reported.

When asked about the provision of services to address burnout delegations reported services aimed at the individual. In 2020 50% of nations reported no services available. Although there were notable exceptions, a year into the pandemic 1/3 of delegations continued to report that there were no services at a national or local level.

Discussion And Conclusion

Burnout is a major concern in terms of both the professional and personal needs of doctors and the care they can provide to patients. Lack of resource, loss of safeguards and overwork are known to impact wellbeing; a lack of workplace autonomy is a driver of burnout.



This data demonstrates how the risk factors for burnout in junior doctors have been exacerbated and yet the solutions, remain focussed on the individual rather than institutions/governments. European junior doctors require a continental shift in the understanding of burnout and a commitment across Europe to solutions at an organisational and governmental level.

Take Home Messages

- The Covid-19 pandemic has exacerbated the risk factors for burnout in European Junior Doctors
 - Although positive interventions for burnout can exist, e.g. those in The Netherlands, provision of services remain inadequate.
 - Solutions for workplace burnout continue to be focussed on the individual and not on the systemic changes required to address the hidden pandemic of burnout.
-



10H4 (1529)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:30

Location of presentation: Gratte Ciel 3

The impact of Covid-19 on Professional Identity Formation: An international qualitative study of medical students' reflective entries in a Global Creative Competition

Zoe Moula¹, Jo Horsburgh¹, Katie Scott¹, Tom Durley¹, Nour Houbby¹, Sonia Kumar¹

¹ *Imperial College London, London, UK*

Background

The Covid-19 pandemic, which affected medical students globally, could be viewed as a disorientating dilemma (Mezirow, 2003) with the potential to offer opportunities for transformative learning. In 2021 the Medical Education Innovation and Research Centre at Imperial College London launched a Global Creative Competition for medical students to creatively reflect on their experiences during the pandemic. Creative pieces with written reflections were submitted. The reflections were used to explore how the pandemic impacted students' professional identity formation (PIF) and their role as a future doctor.

Summary Of Work

648 creative pieces with written reflections were submitted by medical students from 52 countries. 155 students from 28 countries consented for their entries to be included in this study. The written reflections were analysed thematically and independently by three reviewers.

Summary Of Results

The pandemic increased students' awareness of the social and global role of a doctor in addressing health inequities. Students felt part of a wider healthcare community and showed greater appreciation towards person-centred care. Students also became more aware of their personal needs and priorities, and the importance of self-care.

Discussion And Conclusion

In agreement with Mezirow's theory of transformative learning (2003), the pandemic led students to re-examine pre-existing epistemic and sociocultural assumptions concerning the role of doctors, and to explore new perspectives of what it means to be a doctor. Further, in accordance with Cheng's theory of coping flexibility (2021), students developed both emotion-focused coping strategies (e.g., engagement with arts) and problem-solving strategies (e.g., volunteering), suggesting that students were able to adjust psychologically and develop their agency. However, students also expressed a



tension between their sense of duty and sense of wellbeing, highlighting the need for medical educators to facilitate PIF by supporting students with conflicting emotions.

Take Home Messages

Medical educators should provide students opportunities to reflect on their ongoing identity formation while encountering disorientating dilemmas in their clinical training. The inclusion of arts and humanities within the medical curriculum and training is strongly recommended to provide an avenue for students to access and express complex emotions and experiences.



10H5 (0179)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:45

Location of presentation: Gratte Ciel 3

The impact of university distance learning on musculoskeletal health

Konstantina Papageorgiou¹, Vasileios Mitrousias², Alexandros Tsekouras¹, Daniil Tsirelis¹, Georgia Tzika¹, Nikolaos Zygas¹, Aristeidis Zibis²

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Background

Like in many institutions worldwide, educational activities in Greek universities were remodelled for remote delivery, due to the COVID-19 pandemic. Furthermore, during the lockdown, outdoor activities and physical exercise were limited, leading to a sedentary lifestyle for many students.

Summary Of Work

The current study is a student's initiative, designed to assess the effects of the two-year distance learning on the physical activity and musculoskeletal health of university students. An online questionnaire, covering questions on online education routines, participants' musculoskeletal health and physical activity, was distributed through university communication platforms.

Summary Of Results

In total, 1366 students (65% female, 35% male; mean age: 20.6) from 11 universities took part in the survey. The most common sites of reported pain were neck (59.5%), shoulders (22.8%), back (29%) and low back (66.7%). The percentage of female students reporting pain in all the aforementioned sites was statistically significantly larger than male students ($p < 0.05$). Preliminary analysis showed that musculoskeletal pain was significantly increased during the lockdown, according to the VAS pain scale [Before: 2.7 (1.6); During: 5.5 (2.2), $p < 0.001$]. Everyday pain was referred by significantly more students during lockdown (4.5% vs 36.1%, $p < 0.001$), while the percentage of asymptomatic students was significantly decreased (40.5% vs 6.1%, $p < 0.001$). Concerning physical activity, the percentage of students who didn't exercise at all significantly increased during the lockdown (15.1% vs 23.2%, $p < 0.001$). Statistically, significantly more male students reduced their physical activity compared to their female counterparts (51% vs 43%, $p < 0.05$). Distance learning and total screen time were positively correlated with VAS pain scores. On the contrary, an increased frequency of ergonomic position, walking intervals and physical activity was associated with significantly decreased VAS pain scores.



Discussion And Conclusion

Distance learning and limited physical activity led to a significant increase in musculoskeletal pain of university students during the lockdown, raising concern for the effects of virtual education on musculoskeletal health. Interventions to encourage physical activity and healthy studying habits should be developed.

Take Home Messages

Distance learning and total screen time were positively correlated with increased musculoskeletal pain, while physical activity and ergonomic body position were considered as protective factors, highlighting the importance of maintaining an active lifestyle during distance learning.



10H6 (2565)

Date of presentation: Tuesday 30th August

Time of session: 15:45 - 16:00

Location of presentation: Gratte Ciel 3

Mob mentality in an online programme – a case of injustice

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Background

The literature on fully online learning focusses chiefly on the academic or technical challenges (for planned programmes) or emergency online teaching strategies (necessitated by the pandemic). None reflect on the emergence of herd or mob mentality within large online classes. This study explored the evidence of mob mentality within a fully online postgraduate diploma in public health that launched six weeks after the COVID-19 pandemic was announced (n=1000 students).

Summary Of Work

A phenomenological study was conducted. Data were extracted from all personal communication (that could be viewed as complaints) to the programme coordinator, module coordinators, tutors and instructional designer (e-mails); and student posts in both emergency discussion boards and academic discussion boards. Data were printed and Colaizzi's method was used to analyse the data. Codes, categories and themes were generated. A netetiquette video spelled out the consequences of leaving a permanent digital trail of unprofessional communication (available in all modules).

Summary Of Results

Two overarching themes emerged: My Dramatic Emotional Response and My Right to Write. The first theme is a culmination of text that was extremely and deliberately rude, disinterest in any rational discussion and an attempt to try to shame the institution and its staff.

The second theme is a culmination of the various actions that students considered valid in light of their emotional responses: telling the institution what to do, refusing to abide by the netetiquette guidelines, providing disinformation to other students, going 'underground' to perpetuate their discontent and using the cost of the programme as an intended weapon. Texts showed reference to other complainants.

Discussion And Conclusion

The relative anonymity of online learning promotes a sense of impunity as students wrote what they would never have said in person. Students showed skewed judgement and persistent belief in the



misinformation despite clear evidence to the contrary. The complainants showed confidence in the level of support from their fellow students. All of these traits are typical of mob mentality.

Take Home Messages

Mob mentality is a real threat in online programmes and student codes of conduct need to be expanded to protect staff and other students from real intended, or unintended, harm.



PechaKucha 2

1011 (3283)

Date of presentation: Tuesday 30th August

Time of session: 14:50 - 15:00

Location of presentation: Tete d'Or 1

L2 Course design for medical professional skills based on constructive alignment

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At Maastricht University, we designed a medical-Dutch course for our students, based on the constructive alignment (CA) approach. The purpose was to help our learners in the international track of medicine (ITM) to improve their language proficiency and communication skills. These students have to learn Dutch fluent enough to communicate in the hospital. We chose to base our course creation on CA because this educational approach focuses on creating knowledge by building coherence between the intended learning objectives, the assessment plan and the learner activities. Therefore, we integrated authentic tasks in the form of simulated doctor-patient consultation to improve the professional skills of medical students.

The purpose of this project, was to investigating how students perceive the resemblance of the different parts of the course compared to tasks they have to do in the real world. In order to evaluate the course quality and efficiency based on students' reflections and satisfaction, we asked them to filled out surveys about the course and their learning process. We also asked them to participate in semi-structured individual interviews.

We analyzed the data with focus on the main influential factors (teaching/learning activities (TLA), study load, content and materials, tasks and assignments, role of the instructor, and self-evaluation) affecting course quality and students' satisfaction. Results suggested that students perceived the course as valuable for improving professional skills (communication with patients, peers, and colleagues) and language proficiency in terms of having a more fluent and natural dialogue with patients. Students conveyed that the teaching/learning activities and the assignments were aligned with the intended learning objectives. In this course, students actively interacted with peers and instructors; they emphasized on the importance of the guidance received from the instructor, and the constructive feedback they received from peers and simulated patients.



1012 (3279)**Date of presentation:** Tuesday 30th August**Time of session:** 14:40 - 14:50**Location of presentation:** Tete d'Or 1

Training the trainers – a user friendly approach to facilitate the development of formal academic reflection as a part of the Occupational Health Specialist education program in Finland

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In 2022, Entrustable Professional Activities (EPAs) are to be introduced into the education curriculum for Occupational Health Physicians in Finland. In addition, a new web-based platform ELSA (Evaluation and Monitoring of Specialist Training) will become available with the aim of monitoring the professional development of trainees. Although ELSA includes many elements required in previous program it also incorporates and applies the principles of competence-based learning; more of this element will be required of trainees than previous progression documents.

In medical education in Finland, a tradition of critical reflection is not as strongly established as in some other countries. Trainees and trainers alike are not familiar with producing written reflections as a part of formal progress reporting. Academic reflection is a skill that has the potential to cultivate a learning process that with a deep orientation. It is also a metacognitive skill that can be taught and learned in the same way as other skills.

In the training of Occupational Health Physicians in Finland there is a 2.5 year period during which a trainee attends weekly mentoring sessions with an experienced Occupational Health Specialist. At Turku university we plan to 'train the trainers' towards a more profound understanding of the benefits of reflection in medical education. In order to do this we will introduce a collection of support material which will target mentors in the Turku University area in order to reach trainees. In developing the material, we emphasize a practical and user-friendly approach. We plan to use modern communication technologies: workshops in web platforms, short videos and a Moodle based self study course enriched with interactive functions (H5P). This approach is effective at any time, however, it would also not be affected even if restrictions due to the COVID pandemic were to continue.

At AMEE 2022, we will show a PechaKucha presentation that utilizes the same materials as a motivational Finnish video that is to be filmed as a part of the project in spring 2022. The presentation includes a collection of easily adoptable tips that aim to make the first steps towards academic reflection easier – and even exciting.



1013 (3797)**Date of presentation:** Tuesday 30th August**Time of session:** 14:30 - 14:50**Location of presentation:** Tete d'Or 1

Creation of Clinician Educator Milestones (CEM) for the Medical Education Continuum

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The value of Milestones in assessment and development of trainees has been demonstrated across medical specialties and help support delivery of competency-based medical education (CBME). The importance of the Clinician Educator role in delivery of CBME is well-recognized. Accordingly, in 2020 a work group was convened of 16 experienced medical educators, a medical student and resident, representing undergraduate, graduate and continuing professional development to create Clinician Educator Milestones (CEM) to serve as a roadmap for progression in the role of a clinical educator from novice to mastery.

Milestones were generated synchronously over a virtual platform and asynchronously utilizing Google Drive. The workgroup met nine times and performed asynchronous work between each meeting, using a modified Delphi approach to iteratively refine an initial group of 141 education related tasks of a clinician educator to a list of 4 domains of competencies, and 15 unique Milestones (subcompetencies).

The CEM Project workgroup ultimately identified four domains of competence for the clinician educator: 1) Administration, 2) Educational theory and practice, 3) Well Being, and 4) Diversity, Equity, and Inclusion. Each Milestones includes 5 levels of more sophisticated behaviors reaching from novice to mastery.

Three distinct uses for Clinician Educator Milestones have been proposed: 1) To define a developmental plan for clinician educators interested in life-long development of education skills; 2) To assess clinician educator teaching behaviors and performance; and, 3) To assess clinician educator skills and performance in educational leadership activities. Further, these CEM can demonstrate the skills for individuals looking to become a more effective clinician educator, educational leader, or educational scholar.

These CEM should be useful as tools in assessment and development of critical tasks (competencies) of clinician educators as teachers and educational leaders, and are being piloted now in actual clinical settings. Milestone levels for individual educators can be important measures of teaching



performance and competency and should align with outcomes in medical education. As the Clinician Educator role has come into increasing focus over the last few decades, this effort should aid in enhancing teaching effectiveness and developing valued medical educators.



1014 (4483)**Date of presentation:** Tuesday 30th August**Time of session:** 15:10 - 15:20**Location of presentation:** Tete d'Or 1

S.P.I.C.E. BLEND: Fusion of Palliative Care and Medical Ethics in Integrating Professionalism in the Medical Curriculum

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The evolution of the Introduction to the Medical Profession (IMP) course of the St. Luke's College of Medicine, William H Quasha Memorial is presented. The course was borne out from the College's initiative to actively integrate professionalism in the training of future medical professionals by espousing its core values – S.P.I.C.E. that stands for Stewardship, Professionalism, Integrity, Commitment and Excellence through creative discourse and engagement with learners. Experiential sessions were initially designed based on core palliative care competencies that included self-awareness, communication and a team approach to care, utilizing a variety of resources including narratives, videos, movies for discussion, role play and reflective thinking. Thematic progression revolved from the self, to interprofessional and community advocacies including immersion on the spectrum of care from life to death, with the intention to adequately prepare learners to the realities and challenges of the profession. Course evaluation forms provided basis for achievement of learning outcomes and for improvement of content, format and delivery.

The purposeful integration of Medical Ethics provided a grounding framework and elevated the learner engagement and perspectives in analyzing tangible and relevant medical scenarios such as breaking bad news and empathy through the lens of palliative care and bioethical principles. The recent migration to the virtual space likewise provided another dimension for active engagement thru discussion boards that offered learners a unique platform for self reflection to active dissection of polar perspectives and for meaningful exchange of viewpoints regarding relevant issues in medicine together with faculty and fellow learners. Student output from the discussion forums substantiated the learning outcomes of the course which is reflective of the S.P.I.C.E. core values of the College.

The dynamic development of the IMP course relies heavily on the diverse background and expertise of the faculty that involves administrators and leaders, educators with masteral degrees in bioethics and medical education, specialists in major areas of medicine and public health and a deep involvement in advocacies. Ongoing tasks include augmentation of learner engagement and assessment during clinical rotations and further evaluation of the short and long term impact of IMP in training and professional careers.



1015 (4500)

Date of presentation: Tuesday 30th August

Time of session: 15:20 - 15:30

Location of presentation: Tete d'Or 1

Looking at the GMC survey – Quite some Workload!

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The annual General Medical Council (GMC) National Training Survey (NTS) is a mine of interesting information, especially if combined with other sources. Our group has been exploring its output from the last decade.

The NTS is distributed electronically to trainees in the UK, typically with over 75% responding. It features over 80 questions, which are sometimes changed to meet topical issues, such as redeployment. Most have a Likert scale for responses. However, one constant is workload. Trainees are asked "Overall, how would you rate the intensity of your work?". Answers are selected from "Very light | Light | About right | Heavy | Very heavy". Outputs are an arbitrary numeric between 0 and 100, with light scoring higher. Based on the Likert descriptors, trainees feeling their workload was 'about right' would score 50. Actual hours worked or activities within them are not included in the survey, but this represents the perceived experience of trainees.

At first glance, scores are much lower on average for workload than any other domain. In the period 2012-2019, mean score across all UK specialities and trusts was 46.6 (SD 12.2). All other domains in the NTS (eg educational supervision, teamwork, handover) scored between 58 and 95.

Scores for workload have been slowly rising from 45.7 in 2012 to 49.1 in 2019. There was a notable change after 2017, perhaps related to the conclusion of the junior doctors contract dispute in 2016, when there was a 'blip', coinciding with industrial action. Subjective experience of workload is also very different across specialities. Trainees in medical specialities rated their workload most intense, and those in pathology the least.

These findings illuminate, but also raise many questions. They illustrate how publicly available data can give another perspective on the learner experience in medicine, complementing national statistics and focus groups. They prompt further exploration of why, or even if, trainees from different speciality schools should experience such divergent workloads. Triangulating these findings against other measures of work, stress and burnout can lead to better understanding of what an effective training programme is, at a national level.



1016 (4598)**Date of presentation:** Tuesday 30th August**Time of session:** 15:30 - 15:40**Location of presentation:** Tete d'Or 1

Help is only a click away: a Distant Peer-Mentoring Project to face failure in medical studies

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³ *Mohammed Premier University, Oujda, Morocco*

Failure in medical studies is an alarming issue, especially when admission to medical school is based on a highly selective procedure. It is costly both in terms of studies financing and mental health of the failing students. In order to reduce the negative consequences of early failure on Moroccan medical students, we launched "Synapse"; a national distant Peer-mentoring Program. Synapse aimed at offering methodological assistance, and psychological support to junior medical students, who had a history of academic underperformance, in order to enhance their learning and help them pass their future exams.

149 undergraduate medical students from 5 Moroccan Medical Schools, were enrolled in the program and divided into 48 virtual discussion groups on WhatsApp®, each group being animated by a senior student from the same faculty, under the supervision of a local coordinator and a professor. Discussion in the focus groups was regular with closer support during exam periods. Both mentors and mentees completed evaluation questionnaires at the end of each semester. The experience was unique both for the mentors and the mentees, yielding very interesting results with higher rates of success within the mentees in their exams, and numerous acquired skills by the mentors whose satisfaction from the project was very positive.

Through this presentation, we want to report the "Synapse" experience, in Morocco, explain its strengths and positive results that could be generalized to many more students if implemented on a larger scale, but also point out the challenges we had to face to make it happen in a limited resources country where stakeholders mostly prefer old-fashioned approaches to deal with medical education issues. We also argue that this project deserves to be institutionalized in a win-win concept between users (students) and institutions (universities) that could adopt it after adapting it to their educational ecosystem.



1017 (4676)**Date of presentation:** Tuesday 30th August**Time of session:** 15:40 - 15:50**Location of presentation:** Tete d'Or 1

The student-led Planetary Health Card: how can we as Faculty support and engage with?

Susie Schofield¹

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The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” Recognising the key role future health professionals can play, medical students in the US created the Planetary Health Report Card. This medical-student-driven initiative uses discrete metrics in five areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centred on environmental health impacts 5) medical school campus sustainability. Done annually, Schools can both compare themselves with other schools and use the report to develop and evaluate their own sustainability plan.

In 2020 the University of Dundee became involved through two of its medical student becoming Planetary Health Alliance Campus Ambassadors. These ambassadors were tasked with and supported to promote planetary health both in the medical school and the wider university. The result of our first Planetary Health Card has given clear ideas not only on what we're doing well but how we can improve, so that as faculty leaders we can set short, medium and long term goals. It has also been good to raise more general awareness with the student body, faculty and the wider university.

An important part of success in promoting the Planetary Health Card is obvious buy-in from the senior executive group. Developing a supporting the team is another key element to success. The more people that are involved, the less time-consuming it becomes, though we recognise as an institution that the pandemic has been an extraordinary time, and there may be more calls on people's time as the world continues to open up. Two areas highlighted by the ambassadors for future success are raising awareness by encouraging people to get involved and dissemination such as this, and consideration of how to align this work with the curriculum for the students in a meaningful way, e.g. through student selected components or special projects. Evidence so far shows the Planetary Health Card is an excellent initiate for students to feel listened to and their recommendations taken seriously.



Short Communications - Assessment 4: Written

10J1 (2456)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:45

Location of presentation: Rhone 2

Development a portfolio assessment system and its validation experience for Korean medical schools

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Background

Consistent evaluation based on objective and rational criteria is an essential elements medical education using portfolio. Portfolio-based learning has been widely introduced in medical education nowadays. We aimed to develop a portfolio assessment system and to assess the validity and reliability after its implementation.

Summary Of Work

We developed a portfolio assessment system from March to August in 2019 and confirmed the validity of its content by an expert group composed of 2 medical education specialists, 2 professors involved in education at medical school, and a professor of basic medical science. Six trained assessors conducted 2 rounds of evaluation of 7 randomly selected portfolios from the “Self-Development and Portfolio II” course which was held in the spring semester from January to July in 2020. These data used inter-rater reliability and was evaluated using intra-class correlation coefficients (ICCs) in September 2020.

Summary Of Results

The portfolio assessment system is based on the following process; assessor selection, training, analytical/ comprehensive evaluation, and consensus. Appropriately trained assessors evaluated portfolios based on specific assessment criteria using a rubric for assigning points. In the analysis of inter-rater reliability, the first round of evaluation grades was submitted, and all assessment areas except “goal-setting” showed a high ICC of 0.81 or higher. After the first round of assessment, we attempted to standardize objective assessment procedures. As a result, all components of the assessments showed close correlations, with ICCs of 0.81 or higher.



Discussion And Conclusion

We suggested a framework portfolio assessment system that can be used in practice. Through this study, we also confirmed that when assessors with an appropriate training conduct portfolio assessment based on specified standards through a systematic procedure, the results are reliable. The outcomes of this study are significant, as they suggest the applicability of portfolio assessment in medical education based on methods of ensuring the reliability and validity of portfolio assessment procedures.

Take Home Messages

- Developed a portfolio assessment system that consisted of assessor selection, training, evaluation, and consensus.
 - When assessors with an appropriate training conduct portfolio assessment based on specified standards through a systematic procedure, the results are reliable.
-



10J2 (3493)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 15:00

Location of presentation: Rhone 2

Feasibility of a nationwide online Script Concordance Test (SCT)

Jean Paul Fournier¹, Robert Gagnon², Damien Roux³, Louis Sibert⁴, François Geronimi⁵, Marc Braun⁶, Bernard Charlin²

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Background

SCT will be introduced in the new French national ranking examination (EDN) but some concerns persist regarding this format. A nationwide SCT test, taken on a voluntary basis, was used to address them.

Summary Of Work

28 vignettes including 84 questions in 3 common domains (cardiology, pneumology, gastro-enterology) were prepared following current guidelines and were administered online. Vignettes and questions focused on semiology (diagnosis making, diagnosis strategies including use of biological or imaging tests). Some vignettes or questions included pictures (EKG, chest X-rays or chest CT-scan). The test was opened for 2 weeks with a total duration of 75 minutes. The students were in 3rd year and will be concerned by the EDN. Panelists were faculty with 2 groups : 49 organ specialists (*answering only to vignettes-questions related to their specialty*) and 33 "polyvalent" specialists (ie. internists, emergency physicians, general practitioners,... *answering to all vignettes-questions*). Item review was conducted. Test intern coherence was assessed by the Cronbach alpha. Usual statistical tests were used, with significance defined by $p < 0.05$.

Summary Of Results

1866 students from 32 of 33 metropolitan French medical schools took the test. 1661 completed the whole test and were analyzed. All questions had a positive item/total correlation and none was deleted. Mean composition time was 50.03 ± 25.17 minutes. Mean score was 63.59 ± 9.30 . Cronbach alpha was 0.79. The scores were 61.41 ± 9.99 for cardiology, 65.15 ± 10.75 for pneumology and 64.48 ± 10.37 for gastro-enterology ($F = 145.7$, $p < 0.001$). Scores attributed by organ specialists panelists were 64.53 ± 8.54 (Cronbach alpha : 0.78) and 61.94 ± 8.38 by polyvalent panelists (Cronbach alpha : 0.76). Attributed scores were highly correlated : globally (Rho : 0.9320, $p < 0.001$) and for each specialty : cardiology (Rho : 0.8866, $p < 0.001$), pneumology (Rho : 0.9215, $p < 0.001$) and gastro-enterology (Rho : 0.8558, $p < 0.001$).



Discussion And Conclusion

SCT can be used in a nationwide multidisciplinary test even with students at the early beginning of their clinical training. Organ specialists panelists give slightly but significantly superior scores with acceptable intern coherence.

Take Home Messages

SCT is feasible as part of a nationwide multidisciplinary test



10J3 (1704)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:15

Location of presentation: Rhone 2

Use of Protected Characteristics in the Medical Schools Council Single Best Answer (SBA) Question Bank

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Background

There is increasing concern that the use of protected characteristics in clinical vignettes of written tests can result in stereotyping and premature diagnostic closure. The Medical Schools Council sought to evaluate the use of protected characteristics within the Single Best Answer question bank being curated for the forthcoming Medical Schools Applied Knowledge Test (MS AKT) as part of the UK Medical Licencing Assessment. The evaluation aimed to review (1) the number of items which featured protected characteristics, and (2) the how the protected characteristics were represented.

Summary Of Work

A list of protected characteristics was adapted from the UK Equality Act 2010. All protected characteristics were included except age and sex, as these apply to nearly all items, and pregnancy and maternity, as these form an expected subset of women's health items.

One thousand items most recently included in the question bank were reviewed and thematic analysis was performed.

Summary Of Results

Of the 1000 items, 84 featured at least one protected characteristic; 43 items featured ethnicity/nationality, 39 featured partnership, 26 featured sexual orientation/gender reassignment, and 3 featured religion/belief. No items mentioned disability.

Discussion And Conclusion

The majority of items that featured a protected characteristic related to ethnicity/nationality, and the majority of these were in the form of an image of the patient's skin (25 non-white and 7 white



images). Other references including citing the country of residence where relevant to answering the question. Partnership and sexual orientation were most commonly mentioned where a partner provided a collateral history, but also occurred in the context of sexual health questions. All religion/belief items identified were linked to patients requiring blood transfusions who were also Jehovah's Witnesses.

In conclusion, protected characteristics featured infrequently among the items reviewed. Where protected characteristics were referenced, it was in the context of providing information pertinent to the clinical scenario (e.g. a skin image or knowing a patient's relationship status for sexual health questions).

Take Home Messages

- Protected characteristics were only used in SBA questions where necessary to provide key information for the clinical vignette.
-



10J4 (3695)**Date of presentation:** Tuesday 30th August**Time of session:** 15:15 - 15:30**Location of presentation:** Rhone 2

How to design a progress test in health science education: a scoping review

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Background

A progress test (PT) is a written test which covers all content areas of a curriculum, using preferably scenario-based multiple choice items, that is periodically administered to all students. The advantages of a PT in promoting proactive learning of students have been demonstrated in many studies. However, unlike traditional assessment methods, a PT requires the involvement of teachers from multiple disciplines and students of various levels. This scoping review collects evidence from past publications on PT and summarizes the key elements required to develop a PT. It may be used as a reference to assist schools aiming to introduce or improve PT.

Summary Of Work

The PRISMA guidelines for scoping review were followed. The searching terms (Progress testing), OR (Progress test) AND (Education) were used to scan the database PubMed between 1996 and 2020. Articles that met the following criteria were included: 1) published in English; 2) the domain is health science education; 3) participants are students in health science education; 4) contains information on the design or execution of a PT; 5) any type of publication except contributions to conferences and pilot studies. The included studies were systematically analyzed using the meta-narrative approach. Key elements and influencing factors in PT design were identified.

Summary Of Results

The screening based on the inclusion criteria resulted in 11 papers. Analysis revealed four key elements in designing PT, which were shared by all included studies: a central committee, a test blueprint, test content and test score discrimination. The committee is responsible for the design and execution of the PT, the test blueprint determines the fundamental requirements of the PT; the test content refers to how the test is executed and the test score discrimination refers to methods for analyzing test results. However, within each key element, the implementation varies significantly among schools, for example, the committee consists of faculty members in some schools, medical graduates in others.



Discussion And Conclusion

The scoping review revealed four key elements in setting up a PT. Within each key element, different schools implemented in different ways these elements based on their own curricula.

Take Home Messages

Four key elements have to be taken into account when organizing a PT.



10J5 (4210)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:45

Location of presentation: Rhone 2

Understanding cognitive workload during answering multiple-choice questions: an eye-tracking study

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Background

Answering multiple-choice questions (MCQ) with different complexities requires the application of both declarative and procedural knowledge. The extent of integration of both declarative and procedural knowledge when answering questions can be understood by cognitive workload and identified by using eye-tracking. Understanding the thinking process of students during answering MCQ can help educators provide more appropriate feedback. In this study, we investigated the difference between the thinking process in MCQs required either making a diagnosis or providing a treatment plan.

Summary Of Work

Fourteen fourth-year medical students answered a test with 40 multiple-choice questions (MCQ). The MCQ were equally divided into (1) requiring only specific knowledge retrieval and (2) making a diagnosis. Cognitive workload was measured using screen-based eye-tracking, with the number of fixations and revisitations for each area of interest. To compare the difference in the number of fixations and revisitations between the complexity of questions and whether a question was answered correctly and incorrectly, we conducted a linear mixed model.

Summary Of Results

We found a higher cognitive workload for questions that required making a diagnosis, followed by only specific knowledge retrieval. We also found a higher cognitive workload for participants who incorrectly answered questions requiring making a diagnosis and only specific knowledge retrieval.

Discussion And Conclusion

Eye-tracking has the potential to become a useful approach for helping with the identification of the extent to which students can integrate their declarative and procedural knowledge during answering



MCQ-testing. This has the potential to improve assessment methods and provide feedback to inform teaching.

Take Home Messages

This is the first study using eye-tracking to understand the thinking process during answering MCQ with different levels of complexities, demonstrating that it has potential to enhance feedback by identifying learning needs that can be further explored.



10J6 (2717)

Date of presentation: Tuesday 30th August

Time of session: 15:45 - 16:00

Location of presentation: Rhone 2

Developing shared standards in marking parties

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Background

Open-ended type questions can be used to assess clinical *written* communication in medical schools. This raises the challenge of marking many and often complex pieces of work. In marking parties examiners meet to individually mark papers. Although these are sometimes used in practice, they are under-researched.

Summary Of Work

We used a mixed-methods approach to investigate if and how the spontaneous interactions occurring within marking parties contribute to the formation of shared standards. We collected qualitative data using an ethnographic approach at two marking parties for assessments of different forms of written clinical communication. We also tested inter-rater reliability before and after the marking party, using mock answers that were marked by all the examiners present.

Summary Of Results

Although it is clear that developing shared standards is an important part of the work occurring during marking parties, this did not translate to increased inter-rater reliability. Although examiners tended to discuss papers more frequently at the beginning of marking, the process of developing shared standards carried on throughout. In one instance, the shared standards developed diverged significantly from the pre-determined written standards. Two central roles emerged from the analysis: 'holders' and 'influencers' of standards. The former were particularly crucial in marking parties where other examiners came and went, as they moved the development of shared standards forwards by referring to the work done so far. Discussion often served to identify discriminating aspects within student work and calibrate the severity of errors and lower grades were overrepresented among the papers discussed. Post-hoc analysis comparing examiners' marks to a standard 'holder' revealed an increase in inter-rater reliability after one marking party, but not the other, where the shared standards deviated from the written ones.



Discussion And Conclusion

It is possible, and can be appropriate, for new shared standards to supersede the pre-determined written standards. However, the marking party process of developing shared standards should be made explicit, allowing to address issues of fairness if the standards do undergo significant changes during the process.

Take Home Messages

Making explicit the role of standard holder may help to manage the process of developing shared standards. Whether this would lead to greater inter-rater reliability requires further research.



ePosters - Curriculum Content

10K01 (3926)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:35

Location of presentation: Tete d'Or 2

“How do you learn Biochemistry?” Learning styles of Medical Students in Biochemistry

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Background

Although the role of biochemistry in medicine is unequivocally important as it provides fundamental knowledge and a working vocabulary to the understanding of important principles of medicine, it remains a rather challenging discipline for medical students. Integrated and interactive teaching approaches seem to emerge as the most useful approaches for teaching biochemistry to medical students,

Summary Of Work

A questionnaire was prepared and sent out electronically to medical students who have completed at least one semester of biochemistry in the 6-Year undergraduate-entry MD Program (MD6) at the University of Nicosia Medical School regarding their views on what types of sessions and what studying habits and learning styles they find useful for their learning of biochemistry.

Summary Of Results

Preliminary analysis of the first 108 responses have already shown statistically significant results.

1. The student-teacher interactions play a very significant role in the learning of biochemistry and having an easily accessible teacher who delivers interactive sessions who is open to questions was rated as extremely important or important for over 90% of the students.
2. 21% of the students ranked the student-teacher interactions as the most important means for them for understanding biochemistry; 20% of students chose lecture notes; 16% the fact that lectures are recorded and available; 13% Case-based discussions; 11% Youtube videos; 8% flash cards and lab practicals and books ranked last with 3%.



Overall the results indicated that medical students have a plethora of learning styles as expected. In the open ended questions, key points raised was that priority should be given to connect principles of biochemistry to clinical scenarios relevant to medicine.

Discussion And Conclusion

Preliminary results of the study support the need for interactive approaches in the delivery of basic sciences in medical programs with emphasis on clinical correlations and connections of the material to medicine. The plethora of learning styles amongst students highlights the need for learning resources and delivery of the curriculum to address the variable needs with a variety of modalities for delivery.

Take Home Messages

When teaching biochemistry to medical students, one must design interactive sessions, with ample problem solving opportunities that enhance and promote critical thinking and clinical correlations.



10K02 (0791)

Date of presentation: Tuesday 30th August

Time of session: 14:35 - 14:40

Location of presentation: Tete d'Or 2

Medical Student's Knowledge about Ophthalmology

Acácia Maria Azevedo Abreu¹, Isabella Carnio Paulino Habib², Elvira Barbosa Abreu¹, Natália Rodrigues Pierre¹

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Background

Ophthalmology was introduced as an optional discipline in Brazilian's medical curriculum in 1885. Ophthalmologic consultations represent 9% of global medical care and 5% of medical emergencies. It is fundamental that general practitioner knows the initial management of ophthalmologic complaints, even because systemic diseases present with ocular involvement. The lack of knowledge about Ophthalmology by non-specialist physicians has been manifested in emergency situations and in less urgent situations. National literature lacks information of quality of initial ophthalmologic care. It is known, that there are deficiencies that may be associated with an unpreparedness during the medical undergraduate course.

Summary Of Work

This research was based on a descriptive study through a questionnaire, aimed at evaluating medical students' basic ophthalmologic knowledge about Ophthalmology. It was answered by medical students from 1st- to 6th- year. Thus, the performance was evaluated according to the year they were attending and different specialties chosen.

Summary Of Results

Based on the data collected, was found an increase in the level of knowledge about Ophthalmology according to the year of study (5th - 6th year students have greater ownership) and students who opted for Ophthalmology as a future specialization. Another finding was that although the students are aware of important ophthalmologic pathologies, they are not familiar with management of emergencies and ophthalmologic procedures as general practitioners in the Emergency Room.

Discussion And Conclusion

Student performance improves according to the year of study (basic cycle had a lower level than the clinical cycle, students in internship had the highest rate). Students intending to study Ophthalmology as specialization had higher rates. Analysis of right answers showed mastery of specific ophthalmology areas. Literature shows huge gap in ophthalmology knowledge in medical school



curriculum, showing the relevance of modifying the curricular scheme. It is important to introduce theoretical and practical teaching of ophthalmology supervised by an ophthalmologist in medical schools, aiming to teach ophthalmologic emergencies, main ocular pathologies and association to systemic pathologies.

Take Home Messages

It is of main importance to approach the discipline of Ophthalmology in medical curriculum, considering the frequency and correlation between ocular pathologies and systemic diseases in daily medical practice.



10K03 (4481)

Date of presentation: Tuesday 30th August

Time of session: 14:40 - 14:45

Location of presentation: Tete d'Or 2

Implementation and assessment of practical infection measures training for young medical students

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Background

In medical university, prevention infection and control is often taught during lectures. Nevertheless, lectures did not provide neither optimal knowledge acquisition nor skill development. Since 2014, our 2 medical universities implemented a practical training program early during the training of medical students. The objectives of this study was to assess student satisfaction, knowledge retention, and skill acquisition.

Summary Of Work

At the end of the first year of medical studies and before their first traineeship in hospital, 3 1-hour practical training sessions were proposed to the students. Three topics were covered : hand hygiene (HH), infection prevention and control measures (IPC) and skin antisepsis (SA). The assessment of the training session was based on student satisfaction, the assessment of knowledge were based on a pre-test (filled after the training session, but before the first traineeship in hospital) and a post-test questionnaire (filled after the first traineeship in hospital). A practical test to assess the acquisition of the skills was done at their place of traineeship. Data were collected between 2014 and 2017 for student satisfaction and assessment of knowledge. The practical test was realized only during the academic year 2016-2017.

Summary Of Results

The number of students was between 198 and 463. High student satisfaction was observed (mean and standard deviation of the marks were between 8.1 (1.5) and 9.2 (1.6)/10). Theoretic and practical tests showed better results for questions relating to HH (correct answers >75%) compared to questions about IPC or SA. For most of the questions, knowledge retention was long-lasting. Thirty-six students were observed for the practical test. Depending on the training centre, HH was correctly performed in 73.3% of cases, versus 42.9%, $p=0.17$; asepsis was achieved during the SA exercise in 76.2% of cases, versus 73.3%, $p=0.86$.



Discussion And Conclusion

The results of this study are encouraging yet also highlight the possibility for improvement. For example, the creation of highly specialised infection prevention training sessions for interns could be offered in the future

Take Home Messages

Lectures did not provide neither optimal knowledge acquisition nor skill development for infection prevention

Early practical infection prevention training of medical students can them help to acquire good practices



10K04 (3132)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 14:50

Location of presentation: Tete d'Or 2

Teaching methods for clinical reasoning - an overview for clinicians and educators

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Background

Teaching of clinical reasoning plays an important role in the education of health care students. Knowledge of clinical reasoning theories is crucial to be able to teach it, but as this is a practical cognitive task, it is just as necessary to be aware of certain teaching methods and skills to make sure students are given the chance to put the theory into practice and learn how to apply the knowledge in simulated and real-life teaching scenarios.

Summary Of Work

For the development of the clinical reasoning curriculum within the international EU-funded project DID-ACT, we created a repository of teaching (and assessment) methods suitable to teach clinical reasoning. This repository is based on our initial needs assessment [1] and literature and focuses on different methods such as implementing individual and group work, peer feedback, and brainstorming techniques.

Summary Of Results

Based on our initial repository, which provided a useful resource during our development process, we created two videos visualizing and explaining the different teaching methods for clinical reasoning to clinicians and educators. We also provided examples where in our DIDACT curriculum these methods have been applied so that educators get best-practice examples on how these methods can be used and integrated.

Discussion And Conclusion

To foster the explicit teaching of clinical reasoning it is not only important to raise awareness of the teaching content, but also the plethora of teaching methods that can be used by clinicians and educators in different teaching settings.



The provided videos and examples can provide a first step to raise awareness about teaching methods for clinical reasoning. Further steps, such as more tailored faculty development programs are needed to teach clinicians in more detail on how these methods can be applied.

Take Home Messages

Explicit teaching of clinical reasoning requires that educators are aware of the content they should teach their students, but also that they can apply suitable teaching methods.

1 Sudacka M et al. Why is it so difficult to implement a longitudinal clinical reasoning curriculum? A multicenter interview study on the barriers perceived by European health professions educators. BMC Med Educ. 2021;21(1):575.



10K05 (1657)

Date of presentation: Tuesday 30th August

Time of session: 14:50 - 14:55

Location of presentation: Tete d'Or 2

A comprehensive approach to identify challenges for clinical reasoning development in undergraduate dental students and their potential solutions

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Background

Clinical reasoning is a core competence in health professions, involving the ability to obtain an integrated judgment of the patient's context to solve their health problems, promoting safe and quality care. Like any complex skill, it is challenging for students and teachers to ensure its proper integration within curricula. Most research focuses on teaching and learning strategies or on understanding the reasoning process itself. However, there is little evidence on other aspects involved in the development of clinical reasoning. Therefore, this study aimed to implement a comprehensive approach to identify challenges for clinical reasoning development in undergraduate dental students and their potential solutions.

Summary Of Work

A mixed-method approach included: (1) focus groups of students and teachers to identify challenging experiences for clinical reasoning development, using thematic analysis; (2) a literature review to explore potential solutions for the identified challenges, applying framework analysis; (3) a Delphi technique to determine a consensus among teachers on pertinence and feasibility of the potential solutions, using an iterative 1-to-5 -points rating scale.

Summary Of Results

Stage 1 resulted in three main categories of challenges or clinical reasoning and seven subcategories: (I) Factors of the educational context that influence the clinical reasoning process, (II) Role of the teacher in the development of clinical reasoning, and (III) Student-associated factors influencing the clinical reasoning process. In stage 2, 134 publications were identified and finally, 53 were selected to review specific suggestions for addressing clinical reasoning challenges, resulting in 10 potential solutions. In stage 3, two Delphi rounds were conducted (80 teachers), with a response rate of 50% and 41.3%, respectively. Overall, teachers rated the potential solutions very highly in pertinence (4.5-4.9) and feasibility (3.5-4.3), but slightly lower in the latter.



Discussion And Conclusion

This comprehensive approach identified challenges for clinical reasoning in dental students and potential solutions. The suggestions were perceived as pertinent and feasible, requiring further research and prioritization of the measures to be implemented.

Take Home Messages

Clinical reasoning is a complex and central skill in health professions and therefore should be addressed comprehensively, considering teachers and students' educational context and needs.



10K06 (2370)

Date of presentation: Tuesday 30th August

Time of session: 14:55 - 15:00

Location of presentation: Tete d'Or 2

The role of medical simulation curriculum in developing acute care clinical competencies in resource constrained environments

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Background

The challenges within the LMIC environment are complex and multi-factorial, this within the context of severely stretched resources makes it imperative to efficiently use these resources. Implementing simulation, whilst proven in various contexts, could place additional pressure on the resources within these contexts, therefore it becomes crucial to explore the role of simulation within LMIC contexts such as SA.

Summary Of Work

I conducted a modified Delphi study to identify the acute care clinical skills competencies undergraduate medical students need to acquire to prepare them, Phase two explored what acute care clinical competencies would lend themselves to a medical simulation modality within a South African tertiary education environment, as well as exploring the role, the limits and possibilities of medical simulation as an educational modality in developing acute care clinical skills curriculum within a South African tertiary education environment. The data was collected through Focus Group Discussion (FGD) and semi-structured interviews with simulation experts within South Africa.

Summary Of Results

The findings of the modified Delphi study contributed to developing a comprehensive list of undergraduate acute care clinical skills competencies, previously unavailable, for SA.

Having empirically established a comprehensive set of acute care competencies for SA undergraduate medical education, phase 2 sought to identify the simulation modality/modalities that these competencies would lend themselves to. Thereafter, present the SimSMART framework for curriculum developers exploring the possibility of implementing simulation as pedagogy in their context.



Discussion And Conclusion

The findings were significant as they provided curriculum developers with contextually relevant literature to consider which competencies would best be suited to medical simulation as pedagogy, which is particularly important when considering the resource constraints within developing world contexts. The findings provided valuable insights into complex contextual issues such as the effects of the Apartheid legacy on teaching within health sciences, communication, and social inequality.

Take Home Messages

The implications of adopting this view have the potential for an earlier introduction and smoother transition of medical students into the clinical environment, which may lead to them being better prepared for clinical practice with resultant reduced morbidity and improved patient safety.



10K07 (2497)**Date of presentation:** Tuesday 30th August**Time of session:** 15:00 - 15:05**Location of presentation:** Tete d'Or 2

Concordance rates of fetal biometric parameters measurement in prediction of birth weight between 4th year medical student and Obstetrics-Gynecology staff

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Background

Assessing baby weight by ultrasound is the most widely used method today and it is an essential obstetric procedure which medical students should be trained as one of basic Obstetrics and Gynecology learning outcomes. This practice usually provide in the final year of undergraduate medical training. However, some students have less-confidence with their unsatisfied skill because of short period of a training year. Therefore, this study aims to evaluate the accuracy of Obstetrics ultrasound examination by early year medical students and their attitude, does it meaningful if start this practice in early clinical year medical students.

Summary Of Work

A short-term trial basic Obstetrics ultrasound examination training program was conducted for 4th year medical students. After completing the training program and being assessed to meet the basic criteria. The trial was conducted by examining 14 pregnant women with consented. Accuracy of individual fetal biometric parameters evaluated by 4th year medical students were compared with obstetrics and gynecology staff. Moreover, the accuracy of estimated fetal weight with ultrasound measurement by 4th year medical students was evaluated compared with existent neonatal birth weight.

Summary Of Results

From the study, the ultrasound fetal biometric parameters measurement showed positive correlations in three parameters, BPD ($r=0.66$), HC ($r=0.01$) and AC (0.51). However, negative correlations in Ultrasound fetal biometric parameters was FL ($r=-0.14$). In addition, the accuracy of fetal weight estimation by the 4th year medical students was 71.43% and absolute error of estimation less than 10% compared to actual new born weight.



Discussion And Conclusion

This short-term trained 4th year medical students were able to measure the ultrasound fetal biometric parameters measurement in accordance with the obstetrics-gynecology staff. The accuracy of ultrasound estimated fetal weight was within an acceptable level. All medical students were satisfied with this training course.

Take Home Messages

Short term basic Obstetrics ultrasound training was able to improve ultrasound skill in 4th year medical students to accepted level. Start training basic ultrasound in early clinical year medical practice could provide longer time and more chance for medical students to gain their experience and skill improvement. Medical students were satisfied and could achieve more confidence by this curriculum.



10K08 (1858)

Date of presentation: Tuesday 30th August

Time of session: 15:05 - 15:10

Location of presentation: Tete d'Or 2

Improving anatomy learning through peer teaching at French Military Medical School (ESA)

Thibaut MENNECART¹, Clarisse MACHUT¹, Adama FAVEUR¹, Agathe DEROUSSEAU¹, Thomas COLLEONY¹

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Background

Improving first-year *ESA* students' competitive examination scores in anatomy through tutoring sessions and support provided by senior students.

Summary Of Work

The target population was recruited from 2016 to 2020, and comprised first-year students enrolled at Lyon-Est Medical School, Université Claude Bernard. Both first and repeat students were included. Students who repeated their first year twice were excluded. 323 military students and 7575 civilian students made up the study sample.

Launched in 2018, the tutoring program was composed of military students in their 2nd, 3rd and 4th year of medicine. They first received specific anatomy training before producing summary sheets, practice MCQs and past exam papers corrections. They also delivered face-to-face lessons with special emphasis on areas needing strengthening.

Students' scores from 2016 to 2021 were extracted and analysed, and a statistical analysis (*student test*) was conducted. We analysed students' scores from 2016 to 2021, distinguishing between civilian and military students.

Summary Of Results

For the primary criterion the scores obtained in Anatomy showed statistically significant results. Indeed, the progression of the grade point average increased more than twofold (2.24) between cadets (+4.72%) and civilians (+2.12%) over the study period.

If we consider repeaters and first timers separately, the results are also interesting. The increase in the average progression is 2.61% higher for cadets (+2.03%) than for civilians (-0.7%). However, this variation was not found among first-time students (0.47) showing decrease in the average gain for cadets (+4.61%) vs. civilians (+9.74%).



Discussion And Conclusion

Overall, military students achieved better results in anatomy than civilian students. The average score for military students was higher before and after tutoring. (before: 14.49 vs 11.26 and after: 15.17 vs 11.50). Progression was better for military students despite a "glass ceiling" effect observed.

Conclusion:

Anatomy Tutoring should be continued in subsequent years to maintain better success in anatomy among first-year *ESA* students. Military General Practitioners need musculoskeletal expertise. Thus, solid knowledge in anatomy is an essential prerequisite for the practice of military medicine.



10K09 (2657)

Date of presentation: Tuesday 30th August

Time of session: 15:10 - 15:15

Location of presentation: Tete d'Or 2

Research projects conducted in Georgia within the framework of the Discovery Phase course

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Background

The USMD “Discovery Phase” course aims to teach modern approaches and basic principles of different types of medical research. Workshops cover key concepts and acquisition of practical skills in relevant topics, so that students are able to develop research projects and are responsible for their implementation, data analyses and manuscript writing.

Summary Of Work

Students are provided with a list of possible research areas for individual projects. Each student must prepare an individual project proposal for the midterm exam and communicate it to the course instructors. The proposals are evaluated against several criteria, but are mainly selected based on the originality of the idea and the feasibility of the research. Students are then grouped (3-5 students per project) to participate in the selected projects. Each student has their own work package to carry out in the given project during the next semester. Students must submit their completed projects to the review board 2 weeks prior the final exam. The review board consists of the instructors of the course and an external reviewer skilled in the field, if needed. Students must present their projects to the review board at the final exam.

Summary Of Results

13 research projects have been completed under the guidance of course instructors. Project types are either observational studies or retrospective cohort studies. Most observational research is related to Covid-19 pandemic, others are initiated at clinical clerkships. Relevant manuscripts have been produced by students and revised by university professors. These research papers are now accepted for publication in a special issue of a reputable local scientific journal.



Discussion And Conclusion

Students enthusiastically embrace the opportunity to carry out their own research projects, work as a team and produce publishable work. Proposal selection and data validation processes create a competitive background for students and mentors. The extensive review process creates opportunities for national and international collaborations.

Take Home Messages

Conception and implementation of clinically relevant projects help medical students develop critical thinking necessary for life-long learning and acquire them with research skills important for their medical career.



10K10 (4222)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:20

Location of presentation: Tete d'Or 2

Concussion Curriculum in Enhancing Competency

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Background

Research has identified knowledge gaps among medical trainees on the topic of concussion, but it is still unclear whether such activities affect patient outcomes and knowledge transfer. We conducted a systematic review to determine the most effective concussion curriculum for enhancing medical trainees' competency.

Summary Of Work

A study protocol was developed and registered in the National Institute of Health Research PROSPERO registry. The report followed the PRISMA guidelines. The studies' quality was evaluated using the MINORS score, an assessment tool to evaluate non-randomized control trials. We used program evaluation models (Kirkpatrick's and Miller's models) to evaluate concussion programs. A comprehensive search strategy utilized 5 bibliographic databases and 11 medical education journals. To be included, studies were required to report on concussion training received by medical trainees at any point during their medical education or career. Studies examining concussion curriculum or formal training were included.

Summary Of Results

Six studies were included that described different educational approaches with various outcome measures. One undergraduate study indicated repetitive exposure promoting knowledge retention. One study found that a 6-hour workshop had no improvement in knowledge. Four studies examined the effects of workplace learning and found an increase in knowledge after clinic exposures. Two of the studies were retrospective studies in which the results were confounded by overall post-graduate training program effects.

Discussion And Conclusion

There are limited studies to document the effect of concussion medical education interventions among medical trainees. Constructivism, situated learning theory, social learning theory/community of practice were the underpinning theories of successful curricula. The space and repetition learning theory is promising to optimize knowledge retention. Behaviorism theory improves on learners' satisfaction, but not on knowledge. Further prospective, theory and competency based concussion



education with mixed method (quantitative and qualitative) evaluation is needed in the fast-changing field of concussion education to capture curriculum processes and impacts over time.

Take Home Messages

- Constructivism, situated learning theory, social learning theory/community of practice formed the basis of successful concussion curricula. Clinical experience refines clinical reasoning and clinical acumen. The underlying concussion care conundrum among physician trainees could be related to clinical acumen.
-



10K11 (3900)

Date of presentation: Tuesday 30th August

Time of session: 15:20 - 15:25

Location of presentation: Tete d'Or 2

A corpus linguistic approach to examining the effect of utilizing visual art to improve observation and description competencies

Pi-hua Tsai¹

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Background

Observation and description are essential in medical training, such as writing history of present illness (HPI), which records the history of patient's illness.

Summary Of Work

Adopting the pedagogy of arts criticism by Feldman (1992), this course design was to build undergraduate medical student's competences in observation and description and to prepare for their HPI writing in the later medical study years. 17 medical freshmen were involved in this study. An art teacher taught them principles of art appreciation using portraits of figures such as that by Rembrandt Van Rijn. Then they wrote two essays weekly describing one of the 7 figure paintings presented on a website using the four categories proposed by Feldmand: description, analysis, interpretation and judgment. Essay One was their first impression about the painting while Essay Two was their further description about the painting after listening to the art teacher's video tour about it. To make the art appreciation more intriguing, some parts of each painting were animated with Cartoon Animator 4, such as figure's mouth/hand or room curtain. The students' essays were analyzed employing LIWC, a text analysis tool providing a broad range of social and psychological insights.

Summary Of Results

Essays Two, as compared with Essays One, were found to have higher percentage in the use of adjectives (5.17 vs. 4.87), descriptions of affective processes (5.29 vs. 4.84), such as positive/negative emotion, anxiety, anger and sadness, social processes (10.56 vs. 9.55), such as family, and female/male. Essays Two also had higher frequency in descriptions of cognitive processes (11.88 vs. 11.78), such as insight, causes, and discrepancy, those of biological processes (3.67 vs. 2.93), such as body and health, those of drives (5.78 vs. 4.94), such as affiliation, achievement and power, and expressions about personal concerns (0.92 vs. 0.78), such as work, money, religious and death.



Discussion And Conclusion

The visual art training resulted in the students' improvement in descriptive writings. Long-term follow-up studies are necessary to investigate the impact of utilizing visual art on the students' HPI writing later.

Take Home Messages

Visual art instruction can be introduced early for students to both learn humanities and get prepared for medical writing (e.g. HPI).



10K12 (4572)

Date of presentation: Tuesday 30th August

Time of session: 15:30 - 15:35

Location of presentation: Tete d'Or 2

Inclusion of AI in the medical curriculum - Do we stand in the right spot?

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Background

Artificial Intelligence (AI) is developing fast in healthcare, with promising innovations that improve the efficiency and adaptivity of systems. Considering the impact of AI on physicians' daily practice, medical curricula should be adapted to fit these emerging demands.

Summary Of Work

In 2021, EMSA published a Policy Paper on Cybersecurity, sparking a conversation about the problems that AI can cause and using it to critically advocate on the matter. This year, we are conducting a survey, aiming to investigate European medical students' knowledge on AI and its inclusion in their curricula. We have also started developing a booklet on the basics of AI which includes workshops and activities to promote student engagement.

Summary Of Results

With this survey, we intend to collect concrete data about medical students' knowledge on A.I. and its current inclusion in the medical curriculum across Europe. The survey is presently running and will be used to support further advocacy efforts in external settings together with our policy papers. The preliminary results show a sense of confusion about the proper use of AI among students, and displays different teaching approaches across different medical faculties. Final results from this survey will be presented at AMEE 2022. With the comprehensive booklet, we aim to provide students with the necessary tools to deal with the challenges of AI in their future professions as well as advocate for a comprehensive implementation of AI teaching with a standardized approach.

Discussion And Conclusion

One of the major barriers for inclusion of AI technology in healthcare is the lack of formal education on the topic. As EMSA, we want to raise awareness on the lack of educational activities on AI. We have taken a step forward to assess the current situation and create a possible solution for informal training. We hope to provide valuable data for further studies and provide our manual as an empowering guide for students.



Take Home Messages

There is an urgent need for increased medical education on AI, focused on its benefits and demystifying potential risks, preparing medical students for the challenges of the future.



ePosters - Education Management

10L01 (2923)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 14:35

Location of presentation: Salon Tete d'Or

Claiming their stake: stakeholders influence on curriculum review

Sumaiya Adam¹, Martin Brand¹, Werner Cordier¹, Yvette Hlophe¹, Irene Lubbe², Dianne Manning¹, Kgomotso Mathabe¹, Heleen Roos¹, Sandra Spijkerman¹, Astrid Turner¹

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Background

Stakeholder theory suggests that shareholders are one of many groups an organization must serve. Under stakeholder theory, anyone that is affected by the organization or its workings in any way is considered a stakeholder. Stakeholder theory holds that organizations and corporations should strive to do right by all these stakeholders and that in doing so, the organization will achieve true, lasting success. In order for a university to achieve a “living curriculum”, the input of various stakeholders regarding their needs, requirements and vision related to the education process is required. Stakeholders can be professional such as accreditation bodies or curriculum such as management, facilitators, and students.

Summary Of Work

Whilst taking into consideration the specifications of professional stakeholders, we engaged in open dialogue with curriculum stakeholders via interviews, questionnaires, and call for feedback via open forums and follow-up, recommendations and critique were combined to compile an innovative, forward-thinking curriculum design.

Summary Of Results

Relevant curriculum stakeholders were identified and engaged to reveal shortcomings in the curriculum, which provided the rationale for curriculum review. This included the analysis of the environment, the needs of a future medical graduate, and consideration of educational standards. Common themes that emerged were the need for a lean, flexible, student-centered curriculum that prepares graduates for the challenges of the 21st century. The continual engagement of curriculum stakeholders increased the sense of urgency, and developed the vision for the revised curriculum.



Discussion And Conclusion

We propose that a stakeholder-theory-based-approach to curriculum review based on the ADDIE model allows for recognition of stakeholder input and the value it provides in establishing a relevant curriculum. In addition the stakeholder approach fosters the change management process. The analysis phase is crucial for interpreting essential information from stakeholders necessary for innovation and transformation of a curriculum.

Take Home Messages

It is essential to identify key stakeholders whose contribution can be of great importance for the curriculum development and change management process.



10L02 (4463)

Date of presentation: Tuesday 30th August

Time of session: 14:35 - 14:40

Location of presentation: Salon Tete d'Or

Let's Complain, scientifically: The Feedback Project's Experience in Training Medical Students to Be Medical Education Researchers to Generate Evidence For Improvement

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Background

The Feedback Project started as a collaboration between the vice-dean for academic affairs at the Faculty of Medicine, University of Khartoum and the student's association of medical education and research (SAMER) in 2018 in Sudan.

The Project aimed to train medical students on health professions education (HPE) research aiming to start a two-way feedback loop and to generate evidence for effective, feasible interventions. We explored the project's learning sessions effect on the quality of data collection performed by the students.

Summary Of Work

The project identifies students' perspectives about their educational environment in five problematic areas defined by HPE scholars: Teaching and Learning, Clinical learning, Mandatory attendance system, Psychological Wellbeing and Assessment. Each being independent research.

The project was carried out by students and supervised by faculty. Following a short introduction to HPE, the students were trained in over 16 sessions about HPE research methods, qualitative research, data collection, analysis, and Scientific writing.

After thorough simulation training, the students were assigned to collect data for their qualitative researches. Overall-For the 5 researches- 173 students were recruited purposely for data collection through 27 focus group discussions including the pilots. FGDs Evaluation forms were collected from



all 173 participants rating their satisfaction through the 5-Likert scale. Data were descriptively analyzed using SPSS 26.

Summary Of Results

Overall, participants enjoyed the FGDs, they believed they were interesting (mean=4.6/5), informative (mean= 4.7/5) and participation was worth their time (mean= 4.5/5). It also increased their understanding of topics covered in the FGDs (mean=4.5/5).

Participants were satisfied with their fellow student-researchers performance in FGDs, they believed the facilitators were effective (mean=4.6/5) and professional (mean=4.6/5).

Regarding logistics, the convenience of location scored the highest satisfaction (mean=4.9/5), and sufficient discussion time scored (mean=4.5/5).

Discussion And Conclusion

Participants benefited from their FGDs experience, learned more about HPE issues, and perceived their fellow student-researchers as professional and effective. Indicating that the training sessions prepared them well for their research tasks.

Take Home Messages

1. Students can be trained in HPE research and should be encouraged.
 2. Medical Schools can benefit in many ways from HPE student-researchers to improve educational programs.
 3. Medical schools should support HPE students-led initiatives.
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10L03 (0152)

Date of presentation: Tuesday 30th August

Time of session: 14:40 - 14:45

Location of presentation: Salon Tete d'Or

Leadership Development in Athletic Training: How one profession can inform others

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Background

Effective leadership is important in healthcare, especially for the continued growth and promotion of professions. The purpose of this project was to explore how athletic trainers describe their leadership and obtain their advice as to how the profession can assist in developing future leaders.

Summary Of Work

The research team developed a structured interview protocol that was validated for content. The participants were recruited using a criterion sampling procedure: 1) association awards for leadership, and 2) demonstration of leadership within the profession. One-on-one interviews were completed with eight athletic trainers. Interviews were transcribed verbatim and shared with each participant for confirmation on content. Coding followed a general inductive approach and was done by two researchers independently. To establish trustworthiness, researcher triangulation, multiple analyst triangulation, and member checks were completed. The consensus was reached between the authors upon completion of the analyses and data saturation was determined to be achieved as the findings between interviews were consistent.

Summary Of Results

Two higher-order themes emerged from the data analysis: 1) Characteristics of Leaders, and 2) Development of Leaders. The Characteristics of Leaders theme was operationalized as those traits and qualities held by individuals who position themselves to lead others. Subthemes of Characteristics of Leaders were: Interpersonal Skills, Vision, Pride in Others' Success, Being Ethical and Moral, and Self-Reflective. The theme of Development of Leaders was operationalized as development that occurs through formal and informal personal interactions. Subthemes of Development of Leaders were: Role Models both Personal and Professional, Involvement and Networking, and Workshops.



Discussion And Conclusion

Participants report that they communicate well, adopt goals, take pride in the success of others, demonstrate sound decision-making, and recognize their limitations. Future leaders should emulate these attributes. Engaging with role models, volunteering in service to the profession, and participating in leadership activities helps leaders develop their skills.

Future leadership initiatives should focus on developing various interpersonal skills (e.g., communication, goal setting, ethics) and provide opportunities for networking and identification of mentor relationships.

Take Home Messages

Leadership within a profession is vital for continued growth. Professions can learn from one another as leadership qualities transcend a given profession.



10L04 (2184)

Date of presentation: Tuesday 30th August

Time of session: 14:45 - 14:50

Location of presentation: Salon Tete d'Or

Being a Coconut Tree: Viewing Health Professions Education Leadership through a Pacific Lens

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Background

Health Professions Education (HPE) leadership is necessary for success at the individual, team and institutional level. Many leadership theories exist based mainly on Western perspectives, however, Pacific HPE leadership has not been investigated. This research aimed to understand Pacific HPE leaders' perspectives to develop substantive theory. The theory may guide faculty development in this setting and add a fresh perspective to the international HPE leadership discourse.

Summary Of Work

Using an interpretivist methodology, seven HPE leaders were purposefully recruited. Rich Pictures and Zoom interviews were conducted. Participants drew a picture on 'Being an HPE leader' and subsequently explained their picture. Codes and themes were interpreted using Miles and Huberman's approach and further conceptualised into three leadership styles. Member checking was utilised to improve trustworthiness.

Summary Of Results

All participant leaders had the common aim of graduating competent and compassionate graduates, however, their secondary aims, strategies and attributes differed. Metaphors were assigned to each HPE leadership style: The 'Bridge' - helping students from novice to competent; the 'Coconut Tree' - multiple roles and sturdy in the storm; and the 'Drua Canoe' - steering towards the vision.

Discussion And Conclusion

Rich Pictures allowed HPE leaders to reflect on 'Being an HPE Leader' and revealed tacit perspectives. Data interpretation aligned with participants' perspectives allowing HPE leadership to be viewed through a cultural lens. This study suggests there may be different styles of leadership, in the Pacific context, depending on the aims, strategies and attributes of different HPE leaders. Although specific to the Pacific some aspects may resonate in other contexts.



Rich Pictures with interviews assisted in interpreting three HPE leadership styles in the Pacific context. Leadership in HPE needs to be further explored in other cultural contexts to fully understand the different styles of leadership based on their aims, strategies and attributes. This may have implications for career advice and leadership development.

Take Home Messages

Rich pictures with interviews could be considered for future research to understand the nuances of HPE leadership in different cultural contexts. Cultural styles of leadership within HPE should be considered when designing faculty development for HPE leadership in different contexts.



10L05 (3237)

Date of presentation: Tuesday 30th August

Time of session: 14:50 - 14:55

Location of presentation: Salon Tete d'Or

Management for Medical Leaders

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Background

Completing specialist training we noticed a lack of management teaching. Leadership training is widely available, but despite management experience being “Essential” for Consultant posts, there are few opportunities for trainee doctors to learn about management.

Exposure to senior management, while working as Medical Director’s Fellows, highlighted our previous “unknown-unknowns” and we wanted to share our learning with our peers. Our hospital ran a leadership programme but was there appetite for a management course to run in parallel?

Summary Of Work

We surveyed our target audience (doctors in the final 2 years of training/ the first 2 years of consultancy) to assess demand for a management course, and which topics they wanted covered. There was a good response and 100% enthusiasm for the course.

From this we developed a 2-day online course covering a broad range of management topics and invited senior managers across the organisation to speak.

Speakers and topic covered on the course

Chief Operating Officer and Lead for Strategy- how the hospital is run

Company Secretary- structure and role of the Board

Trust Barrister

Chair of the Clinical Ethics Committee

HR and Employee Relations- managing staff difficulties and performance

Chief Financial Officer- Flow of Money through the NHS, inc in a Specialist Centre

Medical Director- the Role of the MD and his career path into management

Complaints and Patient Experience Team- how to respond to complaints

Duty of Candour



Summary Of Results

Verbal and written evaluation from attendees following the course highlighted its value. All were able to describe how they would apply the learning to their own professional practice. Subject matter regarding handling complaints, the legal team and ethics proved to be most favoured, while it was felt the HR session could have been adapted to focus on how they assist leaders in recruitment and employee relations.

Logistically, a few speakers had to be rearranged prior to the course due to work schedules but otherwise both course days ran smoothly with discussion flowing.

Discussion And Conclusion

The course proved to be successful, however there are improvements to be made. A pre-course resource pack containing information will be sent prior. Within it will be a structured approach to the problem-solving task that was implemented on day 2 as an active learning method.

Less valued sessions showed themes of didactic interaction and poor use of IT. We will offer our future speakers a 'crash course' in newer virtual teaching tools and active learning methods to combat this.

Take Home Messages

There is a clear need to teach management and leadership skills to ensure our leaders of the future are capable, compassionate, and effective as well as representative of our diverse workforce.



10L06 (2185)

Date of presentation: Tuesday 30th August

Time of session: 14:55 - 15:00

Location of presentation: Salon Tete d'Or

Flexibility for medical student study - how to find out what students want

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Background

Societal views and expectations of work and study patterns have shifted over time, so they are no longer always considered full-time occupations. Full-time Entry-to-practice medical programs may no longer be the only possibility. As 'part time' has different meanings we use the term 'time-variable' to describe the many options for flexibility for medical school programs, from a student viewpoint. There is evidence that some students would prefer time-variable medical programs, for many reasons; caregiving, financial, health and wellbeing or commitments to other activities. We conducted a scoping review and developed the concepts of *flexibility* and *individualisation* to describe a typology of initiatives or mechanisms. The current redesign of the University of Melbourne (UniMelb) Doctor of Medicine (MD) Program aims to provide flexibility, including the possibility of time-variable paths. It has been claimed in the literature that attempts at this have failed and do not provide improved outcomes in the many areas considered.

Summary Of Work

We have designed a study to explore the views of current UniMelb MD program students and comparable UniMelb graduate program students regarding their interest in flexibility and medical program studies. The study design employs mixed methods with focus groups and interviews, as well as 'love and breakup letters methodology'. A pilot study will be conducted with Melbourne Juris Doctor (a graduate-entry program) students at the same university. The current cohort of MD students are undertaking a process with program advisors. In a preliminary survey 46 of 357 students (12.9%) indicated they were interested or very interested in a time flexible pathway.

Summary Of Results

Ethics applications have been prepared for institutional review. Preliminary data will be presented.

Discussion And Conclusion

Student viewpoints about time-variable medical school programs are needed. This study will elicit important information to help plan flexible Entry-to-practice medical school programs.



Take Home Messages

Students in entry-to-practice medical programs are interested in time-variable programs. It is likely that potential students decide not to apply to study medicine as time-variable or other flexible options are not available. This may counteract efforts to broaden participation in the vocational study of medicine from the point of view of diversity and inclusion.



10L07 (2033)

Date of presentation: Tuesday 30th August

Time of session: 15:00 - 15:05

Location of presentation: Salon Tete d'Or

Defining The Future of Medical School: Process of Vision and Strategies Establishment from Multi-stakeholders' Perspectives

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Background

In the 21st century, health systems have faced challenges due to shifting paradigm from acute care to chronic care or disruption by the pandemic. It is undeniable that medical education also plays a role parallel with the health system as a supply unit that generates health personnel to respond to any health needs. To create a future education system, perspectives about changes in medical school should be explored and develop a comprehensive concept for further development in medical school.

Summary Of Work

We applied a qualitative method by arranging a one-day workshop consisting of 3 key group activities including a knowledge sharing session, brainstorming for common vision establishment, and visualization of each theme. Sixty-seven participants were included in this workshop from various groups of stakeholders: medical students (n=19), residents/fellows (n=13), medical educators (n=15), and school executives (n=19). Lastly, qualitative data analysis was performed by three investigators.

Summary Of Results

During the session, the vision for the next 10 years medical school was synthesized and stated that we want "A medical school that co-designs and delivers high-value personalized education with transdisciplinary research and innovation" with another four majors strategies of medical school: (1) Medical School as Safe Space, (2) Value-based Education, (3) Personalized Education and Multidisciplinary, (4) System-based practice. In the reflection session, participants stated that this workshop well engaged all stakeholders. The participants got the opportunity to share their opinion and co-create common goals. Moreover, this workshop inspired participants to initiate their own educational scholars.



Discussion And Conclusion

In this workshop, knowledge cafe and design thinking were utilized as a core idea of activities. This concept engages all workshop participants and opens space for sharing and brainstorming. From these processes, investigators can explore insights of each participant and collect individual needs for further establishing a common vision and strategies. It is likely to see these processes in the business sector, but rarely implemented in medical school. Therefore, we recommend this set of processes to be integrated in the curriculum and school revision cycle.

Take Home Messages

Shared vision should be formulated from a multi-stakeholders perspective, not only just a group of executives.



10L08 (2188)

Date of presentation: Tuesday 30th August

Time of session: 15:05 - 15:10

Location of presentation: Salon Tete d'Or

The impacts of new-style workshop on evidence-based medicine (EBM) teaching skills.

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Background

Evidence-based medicine (EBM), the use of current best evidence to provide patient care is the core of clinical practice. The efficient implementation of EBM in the regular training of healthcare professionals is thus crucial. We aim to demonstrate the impact of an innovative workshop on teaching skills for EBM in Taiwan.

Summary Of Work

We designed a 2-days workshop and recruited healthcare professionals who had experience in EBM teaching for at least two years. Innovative teaching skills, including slide design, presentation methods, team-based learning, and gamification skills were introduced on the first day. We asked all participants to use what they learned on the first day to design a 10-minute pilot lesson and then gave them immediate feedback (flipped classroom) on the second day. At the end of the workshop, we evaluated their knowledge of EBM, course satisfaction, and self-assessment for teaching skill improvement.

Summary Of Results

A total of 64 experienced healthcare professionals joined our workshop. Among them, 35 (54.7%) were females, 30 (46.9%) had received a master or doctorate degree, 16 (25.0%) were physicians, and 43 (67.18%) were the leaders of their departments. The mean age was 36.51 [standard deviation (SD) 8.2] years old. Their self-assessment for teaching skills improved from 3.37±0.77 to 4.55±0.56 ($p<0.001$) for slide design skills, 2.74±0.79 to 4.51±0.60 for gamification skills, and 3.61±0.80 to 4.52±0.54 ($p<0.001$) for team-based learning skills on a 5-point scale. Notably, the satisfaction of the workshop was 4.73±0.45 on a 5-point scale.



Discussion And Conclusion

The innovative teaching skill workshop has positive impacts on EBM teaching competencies for experienced EBM healthcare professionals. Further studies to examine the generalizability of this workshop to other healthcare professionals are warranted.

Take Home Messages

Innovative teaching skill workshops will help health professionals impart EBM more effectively.



10L09 (3346)

Date of presentation: Tuesday 30th August

Time of session: 15:10 - 15:15

Location of presentation: Salon Tete d'Or

Hub-and-spoke collaborative networks to improve quality of preservice education in Ethiopia

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Background

Evidence from researches and national licensing examination pass rates indicates substantial shortfalls in quality of education of health professionals in Ethiopia. The USAID-funded Health Workforce Improvement Program (HWIP) introduced a low-cost virtual hub-and-spoke collaborative networks among higher education institutions to facilitate experience sharing and peer-to-peer learning on essential pre-service education levers.

Summary Of Work

Initially, rapid capacity assessment of four hubs and 38 spoke institutions was conducted. The institutions were supported in preparing technology infrastructure. The hub and spoke techniques and tools were taught to the teams. A six-month curriculum and experiential cases were developed to address priority gaps. Capacity of the institutions on case writing, virtual facilitation skills and synthesizing evidences was built. Quality proxy indicators were introduced to measure changes longitudinally along with ongoing technical support through training and coaching.

Summary Of Results

Four virtual hub and spoke collaborative networks were established to connect 42 institutions to facilitate case-based learning and experience sharing. The hubs' experienced staff facilitated fifteen learning sessions focusing on experiential cases. The experiential case presented on academic leadership, student assessment, simulation training, digital learning, and quality improvement benefited a total of 673 faculty members. During the sessions, faculty members shared learning tools. Quality indicators are used to track the progress and a pause and reflect session to improve the model.

Discussion And Conclusion

Hub-and-spoke networks improved the quality of preservice education. Institutions implementing competency-based curriculum, for example, increased from 82 percent to 92 percent, while the percentage of HEIs conducting self-assessment in the previous year jumped from 11 percent to 31



percent. Females now hold 12.5 percent of academic leadership positions, up from 11.3 percent previously. The percentage of teachers, learners, and assessors who use e-learning climbed from 18.5 percent to 26.7 percent.

Take Home Messages

Hub and spoke networks are cost-effective, and innovative approach to peer-to-peer learning and exchange of relevant experience. It also improves collaboration and partnership between public-public-private institutions. Both the hub and the spoke, however, must enhance their time management and technology use skills.



10L10 (3572)

Date of presentation: Tuesday 30th August

Time of session: 15:15 - 15:20

Location of presentation: Salon Tete d'Or

Academic Recognition and its impact on IFMSA Professional and Research Exchange Program

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Background

For 70 years The International Federation of Medical Students Associations (IFMSA) has provided students with Professional and Research Exchanges. Today, it boasts the world's largest student-run exchange, facilitating over 23,000 experiences yearly. However, less than half of National Member Organizations (NMOs) report recognition of exchanges by their respective medical institutions.

The IFMSA pursues recognition on two fronts:

- Ensuring Academic Quality on par with formal education via a comprehensive approach, including but not limited to attentive tutor recruitment, capacity building, and comprehensive evaluations;
- Drafting formal accords between medical institutions and itself and/or its NMOs, through external representation.

Although the former is obviously valuable, the latter is beneficial to both students and the global medical community, as the number and quality of exchanges increase with support from hosting institutions.

Summary Of Work

The IFMSA's efforts include several steps targeting stakeholders in the recognition process. For NMOs, an External Representation and Academic Quality Booklet guides efforts on the national level, bolstered by Letters of Endorsement from the World Federation of Medical Education and other such institutions.

Both tutors and Local Officers are provided with manuals on organizing educational exchanges, and mandatory evaluation forms ensure comprehensive feedback. The official certificate of exchange is only released once the student has met specific requirements, including a number of hours and the compilation of a research logbook or clinical handbook.

Summary Of Results

As of August 2021, although a preponderance of NMOs understood the value of recognition and it remained a priority to 77% of respondents, even during a pandemic; less than 1/3rd report recognition of SCOPE exchanges and about half of the SCORE exchanges.



Discussion And Conclusion

The majority of IFMSA exchanges are not recognized by medical institutions and correcting this is one of the objectives of the IFMSA. Therefore, the IFMSA supplies volunteers with guidelines, solicits feedback from participants and tutors, and pursues external representation, particularly with supranational medical education authorities, national curriculum regulators and faculties themselves.

Take Home Messages

Medical faculties should recognize IFMSA Exchanges by providing different means of support and recognition for this program, to sustain its work toward producing globally oriented physicians.



10L11 (4255)

Date of presentation: Tuesday 30th August

Time of session: 15:20 - 15:25

Location of presentation: Salon Tete d'Or

Innovative teaching course on medical leadership to support young professors of medicine: the omega experiment

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Background

French professors of medicine are selected through a long process mixing medical skills, teaching activities and research record. Up to recently, the weight of the research record has been preponderant. Things have evolved for the last few years to reach a better balance. Nevertheless, during the preparation, nearly nothing exists to coach candidates on the other responsibilities they will have to face and on the balance between work and personal life. That's a crucial issue since, most of them, are young, will have to manage a team, build new projects with medical administration, analyze finances, paves the way of their team. This lack of formation and coaching contributes to burn out and loss of career attractiveness.

Summary Of Work

Our hypothesis is that it may be possible to build a multimodal innovative teaching course on medical leadership and recruit a group of young medical professors.

Methods. Initial needs analysis showed that the program should cover the following corpus of knowledge: human resources management, operation and history of the French public hospital service, sociopsychology of generations, leadership, financing of the public hospital, self awareness and happiness. Pedagogy relied on lecture courses, role-playing and simulation, experience sharing and meeting of great witnesses.

Summary Of Results

Results. The experiment started in 2018 and was granted by our both institutions: Hospices Civils de Lyon and Université de Lyon. The formation was part of the twinning between our institutions and the University of Ottawa, Canada. The formation lasted 18 months and included 6 sessions of 2.5 full-days in Lyon and an international two weeks summer camp in Ottawa. Five mentors (2 from Ottawa



University and 3 from Lyon) have supervised the first promotion of 10 young professors of Lyon medical school.

Discussion And Conclusion

The program has encountered a great success. In addition, to strengthen knowledge, it contributed to build a peer network that continues to operate between participants. A second promotion is ongoing.

Take Home Messages

French medical professors need to acquire management and leadership skills to efficiently run their team and the hospital of the future

Interactive small effective medical leadership groups are efficient to fill this gap.



Workshop 10M (1033)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Rhone 3A

What's next for the Core EPAs? Reflection on the AAMC pilot and the future of competency based education in medical school

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Background

The Core EPAs for Entering Residency Pilot project tested the feasibility of implementing 13 entrustable professional activities (EPAs) at 10 U.S. medical schools. Over the course of six years, the forty members of the Core EPA pilot developed curriculum, assessment strategies, and rendered summative entrustment decisions across diverse institutions. The purpose of this session is to reflect on the process of implementation to describe successes and limitations in our ability to meet the objectives of the pilot and goals for next steps.

Who Should Participate

Undergraduate medical educators
Graduate medical educators
Medical students

Structure Of Workshop

- Brief summary of the pilot (10 minutes) - What are the continued practical and theoretical drivers and barriers to adopting the EPA competency based framework?
- Major findings (Recap findings from Amiel et al, Academic Medicine, July 2021: Revisiting the Core Entrustable Professional Activities for Entering Residency; review the harmonized ACGME Milestones 2.0) (20 minutes)
- Small Group activity (30 minutes): Session attendees will break out into small groups with facilitators (presenters and facilitators will each join a group (8-12 people) to discuss the following questions:



- How should we consider the Core EPAs in light of the UGRC recommendations, Milestones 2.0 and other movements to encourage a continuum of competency-based medical education?
- How can the EPA framework adapt to meet the needs of GME?
- What would an ideal UME to GME handoff look like? Think about all stakeholders: students, medical schools, residencies, patients.
- In order for GME to trust this data, what would need to occur?
- What are the barriers that exist? What solutions do you see? What barriers do you see without clear solutions?
- Groups report out their findings, summary of next steps (15 minutes)

Intended Outcomes

Review the lessons learned from the Core EPA pilot.

Reconsider the Core EPAs framework in light of Milestones 2.0, focusing on the harmonized milestones

Reflect on the future of the Core EPAs in assisting the UME transition to GME

Participants will receive a summary of the Core EPA Pilot findings and responses to the discussion questions, collated by workshop presenters and facilitators.



Workshop 10N (4835)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Rhone 3B

Coaching in surgery and in surgical practice

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Background

In professional sport, an athlete's coach is accepted as essential to optimizing performance. Coaching in surgery has recently received considerable attention, however it is still underutilized. In this workshop we will talk about the key features of coaching that distinguish it from other educational interventions. We will explore where it has been used in surgical education and discuss the barriers to implementation. We will describe and practice one framework for coaching.

Who Should Participate

Anyone involved in coaching in Surgery or other specialties.

Structure Of Workshop

15' Introduction: Difference between Teaching, Mentorship and Coaching, and overview on coaching models

20' Small group discussion: Barriers to implement coaching

10' Report

10' Presentation: Framework for coaching

30' Breakout group: Practicing the coaching framework in groups of 3

5' Conclusions

Intended Outcomes

At the end of this workshop, learners will be able to:

1. Describe what coaching is and the differences between coaching, mentoring, and teaching
2. Apply coaching principles and strategies



Workshop 100 (4825)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Rhone 4

Quality Improvement Project Sustainability

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Background

Healthcare institutions embark on various quality improvement and patient safety initiatives to mitigate or prevent patient safety issues and improve the quality of patient care. Although improvement initiatives have demonstrated benefits for patients, staff, and organizations, many of these initiatives initially appear successful; however, the gains made are quickly reversed and not sustained.

A review of the literature shows that around 60-70% of QI projects are not sustained.

How can we reverse this trend? What are some of the important factors to be considered to ensure sustainability? What is the magic behind improvement initiatives that could be woven into day to day work with enduring efforts?

Who Should Participate

Medical educators, patient safety and quality improvement officers, clinical faculty, physicians, nurses, allied health care professionals, administrators, undergraduate and postgraduate students.

Structure Of Workshop

The workshop will be an interactive session using real case examples. It will include virtual Break out rooms with exercises to solve sustainability issues of quality projects, discussions, polling and harvesting chat room questions.

Outline:

- Overview of challenges of sustaining quality improvement project/initiatives
- Hierarchy of reliability systems
- Key learning lessons from successful and not so successful improvement initiatives (examples follow)
 - a. Successful sustainability projects: Time out, Critical lab management, Timely verification of lab tests, falls prevention program



- b. Overcoming non-compliance: MRSA and use of wipes, blood transfusion error and sharing blood warmers
- c. Difficult to sustain projects: Rapid escalation team, MRSA
- Tools and life lessons to ensure sustainability of improvement initiatives

Pre-reading materials and presentation slides will be shared with participants. After the session, participants will receive a tool kit of strategies to further their QI sustainability work.

Intended Outcomes

Upon workshop completion the participant will be able to:

1. Understand the science of improvement, spread and sustainability
 2. Identify and understand the key factors that affect sustainability of improvement
 3. Assess improvement projects, identify gaps and develop action plans to increase the likelihood of sustainability
 4. Implement sustainable change within your own organization
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Workshop 10R (4456)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Roseraie 1

Patients-as-Teachers (PAT): An underutilized instructional tool

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Background

Patients participate in many ways in medical education, as (a) standardized patients, (b) simulated patients, (c) clinic and hospital-based patients, and (d) patients-as-teachers (PAT). The first three serve the purpose to be 'used' for teaching and learning. PAT are purposefully brought into the learning environment with the *intention that learners will not only hear their real-life story and their journey but will also get shaped as future professionals* through this interaction. They advocate and provide their perspective on the disease and they not only enhance the psycho-social learning of our students but also provide a refresher for the physician facilitator present in the learning space. The goal of this workshop is to familiarize participants with the advantages and disadvantages of working with PAT, from a teacher/facilitator's and a patient or caregiver's perspective. We will share details of approaches on how to incorporate PAT in the curricula and work with PATs to improve the learning environment in medical education.

Who Should Participate

1. Facilitators and Teachers in undergraduate and resident medical education who want to gain or improve skills on working with "patients-as teachers"
2. Medical students and residents
3. Academic administrators and deans that may want this modality included in their curricula

Structure Of Workshop

After introductions and covering some theory (10') we will explore who has worked with PAT and what the experiences are '(10') After that the use of a PAT will be demonstrated so our audience is able to experience a PAT-teaching situation (15'). The audiences will then have the opportunity to interview a PAT and a Clinical-Teacher about their experience with this teaching form (15'). Lastly, in break-out rooms, two PAT-teaching scenarios will be discussed, which focus on the do's and don'ts when working with PAT (15'). The session will be closed with take-home messages 10').



Intended Outcomes

At the end of the workshop participants are able to:

- a) summarize the difference between working with real/ clinical patients vs patients-as-teachers.
 - b) identify three didactic do's and don'ts related to a learning environment with a patient-as-teacher
 - c) discuss the opportunities, pitfalls, and take-home messages as discussed from the PAT demonstration and interview
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Workshop 10S (3404)

Date of presentation: Tuesday 30th August

Time of session: 14:30 - 16:00

Location of presentation: Roseraie 2

Situational Judgement Test Approaches for Selection, Development & Assessment – What we know now and what are the remaining issues?

Máire Kerrin¹, Charlotte Lambert¹, Jordan Buxton¹, Fiona Patterson¹

¹ *Work Psychology Group, Derby, UK*

Background

Situational Judgement Tests (SJTs) are a measurement methodology designed to assess non-academic attributes relevant to a target role. SJTs have become popular in healthcare, in both selection and education contexts. Within selection, there is a wealth of validity evidence for their use, not only within medicine but for other healthcare roles (dentistry, pharmacy).

Within the literature, there are a number of ongoing debates regarding the use of SJTs, including issues around differential attainment and cultural sensitivity, what an SJT measures, how the design can mitigate potential issues, the use of multi-media (i.e. video) in comparison to text-based scenarios and how SJTs can be incorporated into the curriculum to support development of non-academic attributes.

Who Should Participate

This workshop is relevant for all interested in the assessment of non-academic attributes, either for selection or assessment purposes and keen to understand more and share their own perspectives regarding the latest research and practical application of SJTs.

Structure Of Workshop

Delegates will be provided with new insights within the literature on much debated topics regarding SJTs, before discussing some of the key principles in SJT design, implementation and evaluation. With a number of ongoing debates within the literature and in practical use of SJTs, we will share our own perspectives on these, in addition to seeking the perspectives from delegates based on their own experiences. These will include differential attainment (i.e. fairness) within SJTs, if context (including cultural context) matters, the impact of designing SJTs in different ways, the use of multi-media and the use of an SJT methodology for both assessment as well as selection. The workshop will be discussion based, with the opportunity to review and critique example SJT questions alongside the issues outlined above.



Intended Outcomes

- Understand the latest insights in the research literature in relation to the use of SJTs for selection and assessment.
 - Understand and discuss the fairness issues around SJTs, including cultural sensitivity within this style of assessment.
 - Understand the different approaches to developing and implementing SJTs and compare and contrast the benefits of each.
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Symposium 11A (0830)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Amphitheatre

The GPS of Medical Knowledge for the 21st Century

Trudie Roberts¹, Sandra Kemp², Katharine Boursicot³, Richard Fuller⁴

¹ University of Leeds, Leeds, UK ² Curtin University, Perth, Australia ³ HPAC, Singapore, Singapore ⁴ University of Manchester, Manchester, UK

Background

This symposium will explore some of the issues raised by the increasing use of technology in the delivery of healthcare and its impact on the training of healthcare professionals. In particular it will examine what it means to 'know something' in the 21st century and where that knowledge might reside. Will this still be beneath skull and skin ie memorised knowledge or will it increasingly reside 'in the cloud', accessible via a smart device? The continuing explosion of medical knowledge and the increasing use of technology in healthcare practice accelerated by the Covid pandemic means that this debate is more important than ever. The implications for how we educate and assess healthcare professions will be discussed.

This symposium will build on the ideas explore by Dylan Wlliam in his AMEE plenary in 2021

Topic Importance

The health knowledge explosion of the next decades is likely to be considerable. In his 1982 book, *Critical Path*, futurist and inventor Richard Buckminster Fuller estimated that up until 1900 human knowledge doubled approximately every century, but by 1945 it was doubling every 25 years, and by 1982 it was doubling every 12-13 months. IBM now estimates that by 2020 human knowledge will be doubling every 12 hours. Individuals who own a smart device have access to all the knowledge gained since civilisation began so it may be that we will need to memorise very little in future.

How do we then decide what knowledge to expect our students to learn?

These are key issues for medical educationalists to consider

Format and Plans

The format will be brief presentations by 3 invited opinion leaders who will pose a series of provocative questions following which an experienced chair will engage the audience in questions and more discussion.



Take Home Messages

There will be three take home messages

1. the way we expect learners to accumulate medical knowledge needs to change
 2. medical educationalist need to be leading the discussion about what types of knowledge and where it will be found will be required in the future
 3. the use of technology in supporting this change will be crucial
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Symposium 11B (1068)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Auditorium Lumiere

Aspiring to excellence in curriculum quality improvement

John Jenkins¹, Peter McCrorie², Martina Crehan¹, Harm Peters³, Davinder Sandhu⁴

¹ *Royal College of Surgeons in Ireland University of Medicine and Health Sciences, Dublin, Ireland* ² *University of Nicosia Medical School. , Nicosia, Cyprus* ³ *Charité – Universitätsmedizin, Berlin, Germany* ⁴ *American University of Antigua, Coolidge, Antigua and Barbuda*

Background

Internationally, medical schools are considering, developing, implementing and reviewing initiatives for curriculum reform and ongoing development appropriate to their patient, health system and societal settings.

Topic Importance

The importance of embedded systems of quality assurance and improvement is increasingly recognised, including as enablers of rapid effective response to major challenges such as the COVID-19 pandemic.

The AMEE ASPIRE curriculum development award scheme exists to stimulate, encourage and inform educators and their medical, dental and veterinary institutions in such developments:

<https://www.aspire-to-excellence.org>

Applications are evaluated using a 6 domain framework:

<https://www.aspire-to-excellence.org/downloads/1490/ASPIRE%20Curriculum%20Development%20Application%20Guidelines%20for%20Submitters%2017.09.19.pdf>

These include “the curriculum must also be subject to a quality assurance process”. Applicants are asked to “summarise any findings from the evaluation and indicate any modifications to your curriculum that have taken place as a result of evaluation”. This provides an opportunity for description of embedded systems for internal and external quality assurance and improvement.

Format and Plans

This symposium will share the experiences of the participating international medical schools. It will provide insights into the underpinning foundations and framework necessary for transformative curriculum development, involving effective quality assurance and improvement as key elements. This will include the importance of a comprehensive approach to integration of stakeholders



(including faculty and students) into the design, planning and implementation process, with specific examples of how this has been and is currently being taken forward in the post-Covid era.

Anyone with an interest in curriculum reform will benefit from this exploration of change drivers, rationale and strategies for implementation, including the change management process required. High level principles which can be used to address desired curricular development in a wide variety of national and local settings will be identified. Participants will have opportunities to share international experience, learn from each other, meet colleagues with experience in this area and make contacts for ongoing communication and collaboration, as envisaged in the AMEE ASPIRE Academy initiative.

Take Home Messages

Learn from and contribute to discussion of international experience in achieving excellence in curriculum development, quality assurance and continuous improvement, including the framework used for evaluation of applications for the AMEE ASPIRE curriculum development award.



Research Papers - Preparation for Practice

11C1 (0311)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:50

Location of presentation: Bellecour 1

Landscape of practice: a lens to examine sociocultural factors influencing transition from student to practitioner.

Janeane Dart¹, Susan Ash², Louise McCall², Claire Palermo², Charlotte Rees^{2,3}

¹ Faculty of Medicine, Nursing & Health Sciences, Monash University, Melbourne, Victoria, Australia ² Monash University, Melbourne, Australia ³ University of Newcastle, Newcastle, Australia

Introduction

A profession's body of knowledge, from a social perspective, has been described as a 'landscape of practice', which refers to the dynamic and complex systems of communities of practice and importantly, the boundaries between them.¹ The metaphor provides a novel perspective on examining professional learning and how learner identities develop. The student-practitioner journey to competence occurs across numerous communities of practice, crossing boundaries, interacting and engaging and developing identities along the way and being socialised into the profession. This study explores sociocultural factors across the landscape of dietetic practice; factors influencing dietetic students' professional transitions across academic and workplace contexts into the profession.

Methods

This research uses a constructionist qualitative inquiry methodology and is situated within an interpretivist paradigm. Semi-structured individual and small group interviews were conducted with three participant groups: 51 academics, 28 practitioners and 21 new graduates. Sampling was guided using information power and maximum variation.² Framework analysis,³ drawing on Wenger-Trayner et al. theory of landscape of practice,¹ was key to the data analysis.

Results

We present a synthesis of findings from 42 interviews with one hundred participants across the novice to expert continuum across 17 Australian and New Zealand universities and diverse workplace settings. We identified 3 over-arching themes of: Cultural norms, Boundaries and Developing professional identities and 12 sub-themes. Sub-themes of competition, bitching and bullying, conformity & homogeneity, conflict aversion, hierarchies and power, boundaries of inclusion and exclusion, navigating blurred boundaries, and identity modulation and identity conflicts are key



sociocultural factors within dietetic education. The cultural norms and boundary practices that exist within learning environments impact and challenge professional identity development, and influence professional learning and the student-practitioner transition. Examples of learning contexts that facilitate boundary crossing and identity development include being welcoming, articulating clear expectations within that part of the landscape, and valuing/investing in relationship building with students and/or newcomers.

Discussion And Conclusion

To the authors' knowledge, this is one of the first times the sociocultural learning theory of landscapes of practice has been applied in health professions education.⁴ Findings from this research indicate that sociocultural factors are powerful influences on the student-professional transition and identities development. Opportunities exist to re-vision learning as a landscape of practice for a profession. Acknowledging the social process of learning and the diversity of the landscape is key, as well as paying increased attention to the boundaries between communities of practice within the landscape. Making boundaries a learning focus and facilitating boundary crossing holds potential to support students' professional transitions.

This research presents interesting insights into sociocultural factors in dietetic education. We encourage educators to think in terms of landscapes of practice when considering curricula approaches to learners' socialisation, identity development and transition into a profession. We invite practitioners and educators to reflect on the approaches they use to help learners navigate through the landscape.

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11C2 (0562)

Date of presentation: Tuesday 30th August

Time of session: 16:50 - 17:10

Location of presentation: Bellecour 1

Burden or Strengthening for Future Practice: How can we help residents prepare to carry the weight of indirect patient care activities over the course of their careers?

Meredith Vanstone¹, Marina Sadik¹, Gabrielle Inglis¹, Justin Weresch¹, Danielle O'Toole¹

¹ *McMaster University, Hamilton, Canada*

Introduction

In family medicine, patient care is not confined to time spent directly interacting with a patient. A typical family physician (in some jurisdictions known as a general practitioner) spends more than 50% of their time on indirect patient care activities (IPCA), or tasks which do not require face-to-face interaction with patients.¹ These tasks include clerical activities (e.g. dictations, billing), medical care (order investigations, renewing prescriptions), reviewing and managing results of investigations, and other activities related to maintenance of competence. The time required for these tasks has increased alongside the widespread adoptions of electronic health records and increased standards for documentation, with evidence showing that the average family physician spends 1-2 hours on IPCAs for every hour of time spent with patients.² The time required by IPCAs affects physician quality of professional life, increasing professional burnout.³ Accordingly, family medicine educators face an education challenge. Both direct and indirect patient care activities are core to the role of the family physician, but these tasks are in tension with each other, other educational opportunities, and a healthy work-life balance. Learning how to manage IPCAs in a manner that balances both quality patient care while maintaining both job satisfaction and work-life balance is an important competency. This research aims to develop understanding of the educational impact of IPCAs in training to make recommendations of how best to help residents obtain this critical skill.

Methods

We used Billett's workplace learning theory⁴ as a sensitizing concept in this work. This theory alerted us to an understanding that in order to capitalize on the educational opportunities offered in a workplace, learners must both identify and choose to engage with those opportunities. Using Constructivist Grounded Theory, we conducted focus groups and individual interviews with 42 clinicians (19 family medicine residents, 16 family physicians in the first five years of practice, and 7 family physician educators). All participants were connected to a single residency program. Interview data were analyzed iteratively, using a staged approach to constant comparative analysis.



Results

Participants in all groups identified IPCA work as a weight they must carry for the duration of their career as family physicians. Groups differed on whether they viewed that weight in residency as a burden preventing them from realizing other learning opportunities (residents) or as a chance to develop the strength needed for a sustainable career in Family Medicine (educators). In these discussions of what made IPCA work feel more like a burden or strength training, participants identified several exacerbating and alleviating factors including: ambiguous expectations, perceptions of workload inequity, structured teaching, and familiarity with patients and systems. They also suggested several recommendations to residency programs about how to optimize the educational value of IPCAs.

Discussion And Conclusion

All participants described IPCAs as a necessary, though often unfulfilling part of family medicine practice. Independent physicians emphasized the need to use residency to develop competency and strategies for managing IPCAs in a sustainable way for long-term practice. IPCAs are a key competency for family medicine residents, but require explicit pedagogical attention. If the educational opportunities are not made explicit, residents may miss the opportunity to develop strategies for practice management, professional boundaries, and administrative efficiencies. While our project focused on educational interventions to this challenge, data underlined the important aspects of the healthcare system in shaping both the requirement and remuneration of IPCAs. In order to develop a strong primary care workforce we need not only to help residents develop core competencies in managing IPCAs, but also reconsider the structures which make this burden so heavy. Increased documentation requirements, remuneration which does not reflect the increased time requirements, and the invisibility of this workload may jeopardize the opportunity to attract medical students and retain family physicians.

References

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11C3 (0602)

Date of presentation: Tuesday 30th August

Time of session: 17:10 - 17:30

Location of presentation: Bellecour 1

The Use of Personal Notes in Medical Practice: Implications for How we Teach Clinical Documentation

Mark Goldszmidt¹, Lara Varpio², Pamela McKenzie³

¹ Centre for Education Research & Innovation, Schulich School of Medicine & Dentistry, London, Canada ² Center for Health Professions Education & Department of Medicine, Bethesda, USA ³ Faculty of Information and Media Studies, University of Western Ontario, London, Canada

Introduction

On a daily basis, most professionals and their trainees use personal notes to support their work. For some, these take on fairly simple forms such as reminder notes or to do lists. For others, they are more elaborate. Regardless of the type used, over time, they can become integral to supporting practice. Despite their ubiquitous nature, in medical practice and training, personal notes have been largely ignored in research and in teaching. As a result, little is known about how and why they are created and used. This lack of attention creates a situation where trainees must each, through trial and error, create their own systems. As part of a series of studies that the authors have been involved in over the past decade, they have begun to understand better how trainees and practitioners in the field use personal notes to support their work. However, for the most part, personal notes and their use were not the focus of these studies or the resulting manuscripts. The purpose of this paper therefore is to share these additional findings and discuss their significance for clinical care, professional training and research.

Methods

A rhetorical analysis was used to re-analyse data from a series of studies that two of the authors (MG and LV) have been involved in over the past decade where personal notes have emerged as a secondary finding but were largely ignored in the manuscripts. This analysis was grounded in rhetorical genre theory. While the clinical contexts for the studies were diverse (pediatrics, internal medicine and intensive care), all of the settings were in academic hospitals where medical students and residents played active roles as part of a clinical team.

Results

Four overarching purposes of personal notes were identified: 1) Structuring tool for organizing daily tasks (i.e. reminder notes and to do lists); 2) Collaborative tool for supporting handover and other shared care tasks; 3) Temporal boundary object for supporting personal remembering over the course of a hospital stay and; 4) Cognitive tool for bundling information and holding the whole story



together (sensemaking). As a broad category, the first three purposes could be considered forms of memory aids. While the fourth could also serve as a memory aid, its broader function was that of sensemaking. Whereas clinicians in practice had well established forms that were highly structured and consistently used, trainees and newer to practice clinicians appeared to continually be working to develop their own strategies. Only in rare instances did we identify teaching or sharing of personal notes strategies.

Discussion And Conclusion

Regardless of the type used, personal notes are created purposively and are integral to safe and effective clinical practice. Despite their ubiquitous nature, in medical practice and training, personal notes have been largely ignored in research and teaching. The types and uses of personal notes in each clinical context should be studied and taught so as to maximize their benefit to learning and to practice.

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11C4 (0872)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:50

Location of presentation: Bellecour 1

The gender biased hidden curriculum of clinical vignettes in undergraduate medical training

Sara Arsever¹, Joanne Wiesner², Bernard Cerutti³, Barbara Broers¹, Melissa Dominice¹

¹ *Hôpitaux Universitaire de Genève, Geneva, Switzerland* ² *Centre Interprofessionnel de Simulation, Geneva, Switzerland* ³ *Faculté de Médecine - Université de Genève, Geneva, Switzerland*

Introduction

Clinical vignettes used in medical education are known to shape the hidden curriculum.¹ Prior studies have suggested that elements of the hidden curriculum might transmit gender stereotypes.² Our research aims at investigating whether representations of men and women in the clinical vignettes used in the primary care specialties in the master years transmit a gendered hidden curriculum

Methods

We conducted a mixed quantitative and qualitative analysis of the clinical vignettes found in the teaching and evaluation material of the master years in the field of internal general medicine, paediatrics and psychiatry of the Faculty of Medicine of the University of Geneva. Descriptive quantitative analyses were done and chi-squared tests were held to investigate the association between categorical variables. The whole dataset was analysed qualitatively with a thematic analysis framework, with a consensus code list based on a mixed inductive and deductive method.

Results

2359 vignettes were found, of which 955 met inclusion criteria for analysis. Both quantitative and qualitative analyses indicate that the clinical vignettes transmit a gendered hidden curriculum, articulating around three main themes:

Stereotyped gender role: men are more represented in managerial position or in trade work, women more as students, house-wives or in administrative jobs. Part-times are only attributed to women. Significant others in charge of the child in paediatric vignettes are in the vast majority mothers. The vocabulary used strongly assigns women to the caregiver role. Physicians are mostly men and paramedics mainly women.

Stereotyped gender expression: women are often presented as gentle and caring, men as dominant, even violent. Women who deviate from these stereotyped gender expressions often have psychiatric diagnosis.



Neutral and stereotype free examples: representation which does not transmit gender stereotypes exists. Gender neutral formulations, such as “the parents” or “the family” avoid gendering an activity. Making the parents invisible in paediatric vignettes allows to focus on the child’s symptoms. Offering explicit alternative representations creates space for alternative models.

Discussion And Conclusion

The way men and women are portrayed in clinical vignettes used in primary care specialties in master years transmit gender stereotypes, which is problematic at several levels.

Medical faculties have a responsibility in offering equal opportunity for men and women. Traditional gender roles still impact negatively women medical career.³ Repetitively representing women in the domestic area and men in the professional world dismisses alternative choices. It might create an “identity dissonance” among female medical students, a concept that has been theorized as an explanation for underachievement in women and minority students. The internalisation of traditional gender roles might influence career “choice” and mentoring process.⁴ It is of utmost importance as women represent the increasing majority of medical students in Europe and the gender gap in medical leadership prevails.

Presenting repetitively stereotyped gender roles or expressions in a binary way tend to naturalise them. This might impact negatively the care of men and women who do not fit the typical roles and expressions, by introducing bias or even discrimination. It also dismisses the existence of transgender, non-binary or gender queer individuals or alternative family models.

Our analysis of these 955 case vignettes identified strong gender stereotypes in the representation of patients, their significant others and healthcare providers. These gender stereotypes can negatively impact the care of the patients, and hamper equal opportunity efforts. Our study advocates for a revision of clinical vignettes in medical education and provides guidelines for more neutral formulations.

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Short Communications - Technology Enhanced Learning 2

11D1 (1436)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Bellecour 2

The challenges of training sleep physicians; polysomnograph-e, an e-learning tool to teach sleep scoring

Martin Boulais¹, Jean-Christophe Comte², Emeric Stauffer³, Frédéric Gormand³, Isabelle Lambert⁴, Nadège Limousin⁵, Régis Lopez⁶, Antoine Léotard⁷, Aurore Guyon⁸, Aude Raoux⁸, Marie-Joséphine Challamel⁸, Patricia Franco⁸, Laure Peter-Derex³

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Background

The increase in sleep disorders prevalence and the recognition of their consequences on public health has led to the huge development of sleep medicine. In France, a somnology training is now offered to residents and many physicians enrol in postgraduate education. However, few sleep centers are accredited to deliver training on sleep investigations and clinical practice. Our objective was to develop a polysomnography scoring e-learning tool and to assess its impact on the internships of sleep medicine students.

Summary Of Work

The www.polysomnograph-e.fr website offers video resources about polysomnography, tutorials explaining the sleep scoring rules, quizzes (Release 1) and a complete overnight scoring module (Release 2). Students can enable online timekeeping and export their performances. As part of the Lyon University Certification in sleep physiology and pathophysiology, students were asked to spend at least 2h on the website and obtain scoring performance at training over 80%. We evaluated student satisfaction, collected feedback from internship supervisors, and compared scoring performance using a standardized evaluation (10 points) between a promotion without e-learning (2017-2018, 46 students), with e-learning Release 1 (2018-2019, 58 students) and with e-learning Release 2 (2020-2021, 52 students) (Kruskall-Wallis test).



Summary Of Results

Feedback from the students was very positive, with 90% of them considering the e-learning useful to very useful (90%). The majority (60%) saw it as a complement to internships and 44% planned to use it in their future practice as continuing medical education. Supervisors estimated that polysomnograph-e had enabled to devote 20% more time to clinical practice with patients during the internship. Performances were significantly better for promotion 2020-2021 (median[IQR]=8.75[7.5-9.7]) than for promotion 2017-2018 (7[5.9-8.7], $p=0.0007$) and 2018-2019 (7.5[6.5-8.1], $p=0.0003$).

Discussion And Conclusion

The training of an increasing number of students may reduce time for peer-to-peer education and contact with patients during internships. In the field of sleep medicine, the identification of knowledge that could be targeted by e-learning tools allows to improve the performance of students in this specific skill while refocusing the internship on clinical practice.

Take Home Messages

8. Online training is effective for acquisition of sleep scoring technical skills.
 9. Targeted e-learnings allow teachers to reallocate time to clinical training.
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11D2 (1593)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Bellecour 2

Popularizing the COVID-19 vaccine to the general public through one-minute cartoons made by medical students

Tasnim Fareh¹, Amaya Lehingue¹, Louis Haffreingue¹, Julie Bigay^{2,3,4}, Marlène Chemarin¹, Nathanaël Marrié⁵, Thomas Peix¹, Gilles Rode^{1,6}, Florence Ader^{1,6}

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Background

The project started in March 2020, in the middle of the first lockdown in France. With the support of the Lyon Est Faculty of Medicine and Professor Ader (Infectiologist, Head of the study DISCOVERY), a team of 7 medicine and science students from Lyon and Paris worked remotely to make a series of popularization videos : COVIDO ERGO SUM. The goal was to use social networks to convey, in real time, accurate and accessible information on sanitary measures, and later, the vaccine.

Summary Of Work

For each video, we wrote a script to answer a mainstream question circulating around us, on social and traditional media. We worked with graphic design students for animation, and a musician for sound and music arrangements. Our videos were carefully proofread by our professors and scientific network.

Summary Of Results

We posted as COVIDO ERGO SUM on Youtube, Facebook, Twitter, Instagram, TikTok, in collaboration with the Civil Hospices of Lyon as well as on the faculty website. On the subject of vaccination, we managed to make three 1 minute-long videos to fit the time restrictions of Instagram and Twitter.

The two introducing videos about the pandemic, sanitary measures and clinical research, reached 70k views in 2020. The videos about vaccination made successively 20k, 10k and 2,75k views in 2021.

We received positive comments rewarding the clarity of information. There was a minority of negative comments that were mainly discussing the legitimacy of the vaccine itself rather than the quality of our videos.



Discussion And Conclusion

The comments are very encouraging and show that our videos are well fitted for people who are not familiar with evidence based medicine. The decrease in the number of views might be due to a reduced interest in COVID and vaccination as people are getting vaccinated.

Take Home Messages

The promotion of vaccination against COVID19 by medical students has been a success, thanks to a creative and original pedagogical approach and a wide use of social networks.



11D3 (2179)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Bellecour 2

Impact of remote surgical observation on the study of anatomy in medical students: A systematic review

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Background

As a result of globalization and the global health context due to the Covid-19 pandemic, the study of anatomy in medical students has had to reinvent itself by incorporating new means and techniques to enhance learning, among which the observation of surgery videos stands out.

Summary Of Work

Aim: To determine whether remote observation of surgeries has a positive impact on anatomy learning in medical students.

Material and Methods: A systematic review of the existing literature in the WOS and SCOPUS databases was carried out using the PRISMA protocol. Studies published in English and Spanish were considered. Three authors reviewed the full texts and selected data related to the visualization of surgical videos and their impact on anatomy learning. Subsequently, the information obtained was synthesized and reviewed according to the PRISMA protocol.

Summary Of Results

Four studies met the inclusion criteria. In all the selected studies, the students' perception of this new methodology was evaluated, and they stated that it was useful and a positive experience. Two of the studies carried out an objective evaluation of the knowledge acquired through the visualization of surgical videos, where in both there were better results in the group that applied this methodology. In addition, all the studies recommended using video visualization as a complement to the methodologies used today. It should be noted that two of the studies allow students to generate an early approach to other subjects in the curriculum, such as surgery.

Discussion And Conclusion

Observing surgeries remotely could have a positive impact on the training of future physicians, since it would be beneficial throughout their professional life to increase their knowledge of human anatomy. It is necessary to continue investigating the possible effects of this new methodology in



order to determine whether its implementation is efficient, since the literature on this subject is limited.

Take Home Messages

From emergency remote teaching comes remote observation of surgeries, an innovative tool that could be a great complement and could have a significant impact, both in terms of knowledge and satisfaction, in the learning of anatomy in medical students.



11D4 (2495)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:30

Location of presentation: Bellecour 2

Educating future physicians in the COVID era: A scoping review of online medical education

Anna MacLeod¹, Paula Cameron¹, Victoria Luong¹, Robin Parker¹, Cora-Lynn Munroe-Lynds¹, Vinson Li¹, Brad Wuetherick²

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Background

The COVID-19 pandemic, and the rapid move to online education, has significantly changed the delivery of Undergraduate Medical Education (UGME). However, we lacked knowledge regarding the implications of online learning for education quality and its influence on social issues like inclusion and burnout. Our scoping review was designed to respond to an urgent need to ensure online UGME is effective, inclusive, and fosters the well-being of teachers and learners.

Summary Of Work

We conducted a time-limited scoping review of literature about online UGME published between January 2020 and March 2021. We searched six databases and 130 grey literature sources. Using an expedited process, screening at the title/abstract level was done by single reviewers and then full-text review and extraction were completed in duplicate. Included studies were classified by study design, objectives, setting, populations, education level, and type of online delivery.

Summary Of Results

Our search yielded 3018 studies for title/abstract screening, completed by one of seven reviewers. Full-text review was completed on 709 studies and final data extraction was completed on 453 studies by paired reviewers. We extracted 246 research studies that used quantitative (218), qualitative (15), and mixed (13) methods. Only 41 articles identified a specific theoretical orientation. Online learning modalities included virtual lectures, learning apps, patient simulations, tutorials, serious games, academic panels, and e-learning modules. Most articles focused on Effectiveness (68%), with fewer examining Well-being (17%) and Inclusion (14%). Our qualitative analysis identified strengths, including flexibility of learning pace; greater access to virtual programs including electives for underserved students; and new attention to psychological safety. Challenges included fair and accurate online assessment; uneven access to appropriate devices and resources to support online learning; and increased isolation.



Discussion And Conclusion

High-quality UGME requires attention to contextual and relational elements such as social cohesion and support for mental and emotional wellbeing. This need is particularly urgent for medical students from Historically Excluded (HE) communities and low-resource countries, who faced disproportionate mental health burdens prior to COVID-19.

Take Home Messages

More rigorous, theoretically informed research is required to better understand the social implications of online medical education. In light of these knowledge gaps, we encourage research informed by Critical, Sociomaterial, and Realist Theoretical Perspectives.



11D5 (0177)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:45

Location of presentation: Bellecour 2

Charting Pediatrics: Leveraging English and Spanish podcasts to release COVID-19 pandemic clinical updates for pediatric providers

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Background

It is crucial for pediatric providers to have access to current, evidence-based education specific to pediatric patients during the evolving COVID-19 pandemic. Leveraging podcasts in both English (“Charting Pediatrics”) and Spanish (“Pediатras En Linea”) promotes global real time dissemination.

Summary Of Work

During the global pandemic physician hosts from both podcasts pivoted to provide unique COVID-19 episodes. Hosts interviewed faculty experts on COVID-19 topics including epidemiology, women’s issues, vaccines, MIS-C, virtual learning, pediatric mental health and return to sport cardiac screenings yielding more than 50 unique episodes. The pandemic content was released in real time to address critical clinical information. The 30-minute episodes are free and can be downloaded on a myriad of convenient platforms. A webpage provides an overview of the podcast topics, bios of the hosts and links to episode library.

Summary Of Results

“Charting Pediatrics” released 45 COVID-19 episodes with 240K total downloads in 183 countries. As the pandemic surged in Latin America, “Pediатras En Linea” released 5 COVID-19 episodes with 1.5K downloads reaching 27 countries. One pediatrician listener commented, “I have loved the podcasts that allowed me to get quality COVID-19 information regularly, especially as the information about the pandemic shifted.”

Discussion And Conclusion

The combination of English and Spanish podcasts provides an optimal platform for the real time delivery of high-quality clinical education cross-culturally. Throughout the COVID-19 pandemic, we were able to leverage the accessibility of the podcast to deliver crucial information to local and global learners who may have limited access to continuing pediatric medical education.



Take Home Messages

Podcasts provide a scalable educational outreach platform to uniquely meet the learning needs of local and global students and providers, especially during a worldwide pandemic.



Short Communications - Simulation

11E1 (4628)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Bellecour 3

Overcoming the barriers to successful implementation of a novel virtual patient platform called Isabel-EPIFFANY into a longitudinal clinical reasoning curriculum

Elizabeth McLennan¹, Georgina Walsh¹, John Devlin¹, Ross Alexander¹, Robert Jay², Nicola Cooper³, Rakesh Patel³, John Sandars⁴, James G Boyle¹, Martin Hughes¹, John Paul Leach⁵

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Background

Implementing virtual patients (VP) for clinical reasoning into the curriculum can be a major challenge.

Summary Of Work

We describe the barriers, and how they were overcome, when implementing a novel VP platform called Isabel-EPIFFANY in the longitudinal clinical reasoning curriculum at the University of Glasgow medical school.

Summary Of Results

Almost 400 students have now individually accessed the VP cases on the platform.

The main barriers and how they were overcome were:

1. Rapid creation and editing of VP cases. An editorial group was formed comprising of two clinical reasoning theme leads and four clinical teaching fellows (CTFs). Case-writing was conducted by a wider team of CTFs working within our network of teaching hospitals. 31 initial cases were written and reviewed with input by subject experts. Editorial capacity and sign off by subject experts were rate-limiting steps to releasing cases.
2. Curriculum integration. In the first pre-clinical phase of implementation, cases were released to students in conjunction with other content in that subject area. As the platform was still in development, participation was encouraged but not mandatory. In the second clinical phase of implementation 12 additional cases were then embedded into clinical attachments in Medicine and Surgery. In this phase, students had to complete cases individually and then



attend a face to face small group case discussion developed by the editorial group with an explicit focus on clinical reasoning and then facilitated by local CTFs.

3. User-acceptance of the VP platform. An iterative process of real-time feedback from students and wider faculty was used to refine the VP cases and platform.

Discussion And Conclusion

As the first medical school to implement the Isabel-EPIFFANY platform, a key to implementing this project was constant communication between all stakeholders, including the case writers and the platform developers. This was particularly important as we were releasing cases to students whilst continuing to fine tune our platform and processes.

Take Home Messages

We demonstrated that it is possible to overcome barriers to successful curriculum implementation. The implementation of a VP platform has proved a highly valued addition to our undergraduate medical curriculum. Our findings will be of interest to other medical schools planning to implement VP into their clinical reasoning curriculum.



11E2 (2853)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Bellecour 3

First, do no harm: A simulated patient journey for prescribing in undergraduate medical education

Sarah Adams¹, Hannah Walrond¹

¹ *Frimley Health NHS Foundation Trust, Camberley, UK*

Background

Prescribing errors are a leading cause of avoidable harm in healthcare, with Foundation Year (FY) doctors being the most likely to make mistakes. Despite the introduction of the Prescribing Safety Assessment in 2016, ongoing trainee data demonstrates need for improvement in preparation for prescribing during medical school.

Summary Of Work

A constructive alignment process was utilised to design a 4-week prescribing course for final year medical students to improve confidence and knowledge in undertaking common FY1 prescribing tasks. The course covered 15 domains informed by current FY1 survey data. A simulation-based approach allowed students to link theory to practice by following the simulated patient journey of 'Carole Smith' throughout hospital admission. Students reviewed clinical notes and relevant investigations to carry out over 20 prescribing tasks which were each debriefed with a summary of relevant medical literature. Each week, prescriptions were reviewed by the 'pharmacist' and drug charts redistributed between students to learn from common mistakes.

Students were asked to self-evaluate confidence and knowledge across all 15 prescribing domains before and after sessions. Thematic analysis was performed to determine which aspects of learning students most valued.

Summary Of Results

A pilot study launched in November 2021 found 86% (n=8-10) rated the sessions 5/5 on a Likert scale of usefulness. A significant reduction in prescription errors was noted across the course. Student confidence increased by 79% as a whole course average, and knowledge increased across all 15 prescribing domains. Of note, there was a 147% average increase in confidence and knowledge regarding insulin prescribing. Thematic analysis of qualitative data revealed initial student preference for undertaking tasks, but latter preference for task debriefing by the end of the course.

Discussion And Conclusion



Simulated prescribing with a blend of informal and formal structured feedback is an effective means of increasing confidence and knowledge in undertaking common FY1 prescribing tasks. Further levels of analysis are being undertaken on subsequent student cohorts. We look forward to presenting our full set of findings at AMEE 2022.

Take Home Messages

1. Final year medical students feel ill-prepared for prescribing as FY1 doctors.
 2. Simulation is an effective means of delivering prescribing teaching through experiential learning.
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11E3 (1629)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Bellecour 3

Co-design, delivery and evaluation of a patient-centric medical education resource for virtual platforms.

Neethu Billy Graham Mariam¹, Lubna Bhatt¹, Daniel Anderson¹

¹ *The Christie NHS Foundation Trust, Manchester, UK*

Background

Medical education has undergone a digital transformation in recent times. Though large numbers of educational organisations have designed and implemented virtual educational resources, the efficacy of these resources is debatable. Undertaken at the largest single-site cancer centre in Europe, this pilot project aimed to design, deliver and evaluate a virtual patient-centric medical education resource in oncology for virtual platforms. This resource had to be suitable for remote delivery across multiple sites.

Summary Of Work

Interviews were recorded with real patients to explore aspects of the treatment journey including diagnosis, management and involvement of allied health professionals. The interview questions were constructed using a novel inter-disciplinary approach involving mental health clinicians and oncologists. Live online sessions, facilitated by a tutor, were then built around these interviews. Mixed-methods action research was used to assess students' perceptions of these sessions. Interpretive phenomenological analysis of the content of these interviews enabled a co-design approach to remodelling the session in line with students' learning needs. Following remodelling, re-evaluation was undertaken.

Summary Of Results

Evaluation of the sessions noted a student-reported appreciation for a real-world patient perspective, an understanding of difficult communication skills and recognition of the importance of non-medical professionals in patient care. Re-evaluation of the remodelled format was noted to be more conducive to engagement on a virtual platform.

Discussion And Conclusion

We piloted a novel educational resource, a live virtual teaching session built around a patient-centric interview. A co-design approach allowed creation of a resource that was well received by students. In



order to further assess the utility of this resource, evaluation should be undertaken with larger cohorts of students over longer periods of time.

Take Home Messages

Given the vast improvement in and investment into virtual education, there is likely to be some degree of continued use of virtual education technologies. Virtual resources such as that described here may provide both supplementation to and replacement of lost clinical opportunities



11E4 (3562)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:30

Location of presentation: Bellecour 3

Assessing competence in emergency medicine using interactive virtual-reality scenarios

Marie Knudsen¹, Niklas Breindahl², Tor-Salve Dalsgaard³, Dan Isbye⁴, Anne Grethe Mølbak⁵, Morten Svendsen², Joanna Bergström³, Lars Konge², Tobias Todsén¹

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Background

Many junior doctors are not prepared for the stressful environment and the complex patient cases in an acute medical unit. Evaluating and treating acute patients is a difficult skill to practice and test, but the skill is vital to avoid misdiagnosis and ensure proper treatment. Simulation methods improve skills and are among WHO's strong recommendations. Virtual reality (VR) offers a realistic view into the emergency room and can create a high sense of presence in the simulated learning scenario with a VR head-mounted display. This study explored if using 360-degree videos of simulation scenarios in VR can assess emergency medicine skills.

Summary Of Work

Five emergency medicine scenarios were recorded with a 360-degree video camera, and multiple-choice questions were embedded into the scenarios in VR. To validate the study, the following three groups of 20 medical students in each were enrolled: first-year students (novice), sixth-year students before attending the course Acute Patient (intermediate), and sixth-year students after attending the course Acute Patient (competent). All participants were assessed in each of the five scenarios in VR. Afterward, the participants rated their experienced presence in the scenarios with the Igroup Presence Questionnaire and workload with the NASA-TLX questionnaire.

Summary Of Results

Inter-scenario reliability in the assessment scores was 0,8, and internal consistency reliability was high (Cronbach's alpha 0,82). The score of the intermediate group was significantly higher than the novice group, $p < 0.001$. The score of the competent group was significantly higher than the intermediate group, $p = 0,038$. The contrasting groups' method established a pass/fail score of 68%. The participants experienced a high degree of presence with an average general presence



rating of 5.83 (scale of 1-7). The task was experienced mentally demanding (NASA-TLX score of 12.85), which is promising for using VR to induce the demanding simulation training of emergency scenarios.

Discussion And Conclusion

This study provides evidence for the use of 360-degree VR scenarios to assess the skills of medical students and be used to induce demanding simulation training with a high degree of presence.

Take Home Messages

Improve the preparation of junior doctors with scenario training in virtual reality.



11E5 (1093)**Date of presentation:** Tuesday 30th August**Time of session:** 17:30 - 17:45**Location of presentation:** Bellecour 3

The Take Treasure Hunt - improving preparedness for practice using a simulated UK on-call 'Take' shift

Georgina Phillips¹, Philippa Mallon¹

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Background

Clerking 'take' shifts are commonplace for Foundation Year 1 doctors in the United Kingdom, yet final year medical students report feeling under-prepared and lack knowledge about this common element of practice. There are no replicable, scalable blueprints of take simulations in the literature. This project presents a playful-learning, socio-materialistic blueprint for an innovative take simulation, delivered either face-to-face or virtually.

Summary Of Work

Fifteen medical students at a teaching hospital participated in a simulated take shift. They completed eight tasks in a realistically evolving timeframe. Tasks included: 1) clerking history, 2) clerking examination, 3) interpreting investigations, 4) deteriorating patient review, 5) updating family, 6) post-take ward round/job prioritisation, 7) ceiling-of-care discussions, and 8) speciality referral. All students contemporaneously documented, prescribed, and formulated management plans. If students completed stations to a defined standard, they received clues for a treasure hunt puzzle. A questionnaire asked students to rank their pre- and post-activity confidence across nine domains, using Likert scale rankings. A remote, online version of this simulation using the format has also been piloted with four students.

Summary Of Results

The simulated take shift significantly improved student perceived preparedness for practice, improving from a mean score of 4.67 ± 1.4 to 6.57 ± 1.3 ($p < 0.005$). Students' confidence significantly improved in the following: history taking ($p < 0.0001$), ordering investigations ($p < 0.0001$), diagnosis and management plans ($p < 0.0001$), clerking documentation ($p < 0.0001$), medicines reconciliation ($p < 0.0001$), medication prescribing ($p < 0.0001$), formulating and prioritising jobs ($p < 0.0001$) and documenting post-take ward rounds ($p < 0.005$). Preliminary analysis shows the pilot online session has had similar results. Data collection is ongoing.



Discussion And Conclusion

This session introduced students to the practical aspects of a full clerking shift and has prepared them for future clinical take shifts. We present a feasible simulation blueprint to be delivered at multiple sites, both face-to-face and remote. Full quantitative results and thematic analysis are underway and will be presented at the conference.

Take Home Messages

We recommend take simulations are integrated into future medical curricula to better prepare medical students for clinical practice.



11E6 (0364)

Date of presentation: Tuesday 30th August

Time of session: 17:45 - 18:00

Location of presentation: Gratte Ciel 1

The Efficacy of Multi-Sensory Simulation on Mass Casualty Triage (MCT) Performance, Self-Efficacy and Satisfaction

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¹ *Singapore Armed Forces Medical Training Institute, Singapore, Singapore*

Background

Triage is one of the most crucial steps of Mass Casualty Incident response. Research in disaster medicine states that no training can completely replace real events; however, simulation can provide practical opportunities for novice trainees to familiarize themselves with triage process and master clinical abilities in a safe and controlled environment. Given that live mass-casualty simulations are resource-intensive, requiring substantial logistical coordination of personnel as well as are costly to replicate, the development of cost-effective and reproducible MCT training is warranted. In the rapid development of immersive technology, virtual reality simulation has been shown as a valid, economical training method that achieves a reasonable degree of realism to replicate dangerous mass-casualty contexts.

Summary Of Work

The Singapore Armed Forces Medical Training Institute (SMTI) proposed a novel extended virtual reality (XR) simulation system that integrated a physical manikin into virtual MCT simulation to bring advantages of multi-sensory interaction to enhance traditional training. In the designated XR system, participants could directly interact with physical embodiments and implement life-saving interventions in an immersive mass casualty situation. It was hypothesized that incorporating multi-sensory interaction can enhance the perceived immersion and realism of MCT training, thereby improving triage performance and self-efficacy, compared to the VR and traditional MCT training.

A between-subject mix-method pilot study to measure the effectiveness of three training methods (i.e., VR, XR and conventional) with enlisted male soldiers (NSF) in Mass Casualty Triage (MCT).



Summary Of Results

Upon completion of the pilot study, it was noted that there were significant improvements in both self-efficacy and stress levels after using the XR simulation training, indicating that XR simulation could induce more stress thus contributing to overall realism of the training.

Discussion And Conclusion

Immersive technology such as XR provides significant benefits to medical education. In the areas of mass casualty simulation, high fidelity training allows participants interaction with physical embodiments and perform life-saving interventions improving triage performance and self-efficacy.

Take Home Messages

The main contribution of the study are as follows: (1) Integrating the physical interaction into VR simulation to create a hyper-realism extended reality environment for mass casualty triage. (2) Provide practical implication and design recommendations on further simulation system in various training contexts.



Short Communications - Education Management

11F1 (3534)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 1

How to be(come) a cross-border collaborator? Evaluation of a workshop for cross-border healthcare in a European border region.

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¹ *School of Health Professions Education (SHE), Faculty of Health Medicine and Life Sciences (FHML), Maastricht University, Maastricht, The Netherlands., Maastricht, The Netherlands*

Background

Cross-border healthcare in border regions offers both opportunities and challenges for patients and professionals. Although patients in border regions may for example get quick and/or specialized healthcare in hospitals just across the border (Footman et al., 2014), patients and professionals in cross-border care will also deal with differences in language, organization and culture (Bouwman et al., 2021). Previous research shows that professionals are unprepared for cross-border healthcare collaboration (Beuken et al., 2020). We investigated how a workshop can contribute to awareness for the challenges and opportunities of cross-border healthcare.

Summary Of Work

We designed a workshop for doctors in training to become specialists at the Maastricht University Medical Center (MUMC+), in the center of the Meuse-Rhine Euroregion. The workshop had characteristics of contextual, collaborative and reflective learning. The four-hour workshop consisted of a preparatory assignment, an interactive session and a reflection assignment. We gave the workshop three times, to doctors in training at MUMC+. Afterwards, we asked the participants about their experiences in a focus group (N=16) and a survey (N=13).

Summary Of Results

The survey data indicated that contextual and collaborative learning contributed to awareness strongest. In our analysis of the focus group data, we identified the following 4 themes: 1) Attention to cross-border healthcare fostered awareness of its complexity; 2) Real-life examples stimulated recognition of challenges and opportunities; 3) Discussions in interdisciplinary and international groups helped to see different perspectives; and 4) Reflection made trainees think about their own role and perspective.



Discussion And Conclusion

According to participations, our workshop with elements of contextual, collaborative and reflective learning did improve awareness of cross-border healthcare. Participants with limited experience with cross-border healthcare found it hard to translate knowledge to their own practice (reflective learning), but were still able to learn from other participants' experiences (contextual and collaborative learning). According to participants, an international approach, with participants from other countries, could further stimulate awareness of this topic.

Take Home Messages

In interdisciplinary groups, supported by learning activities with contextual, collaborative and reflective learning principles, doctors in training can become aware of cross-border healthcare challenges and opportunities. Theoretical insights into learning can and should inform the design and evaluation of workshops.



11F2 (1257)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 1

The Impact of International Medical Students on Clinical Services

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Background

Much has been written about the impact of US medical student experiences abroad, particularly those conducted in under-resourced countries. Some US medical schools offer clinical rotations for international medical students (IMS), but few studies have examined that exchange. We wanted to get information on what IMS add to US clinical services and negative aspects of hosting them.

Summary Of Work

We are reporting on the first of a two-phase study. Phase 1 consists of focus groups (FG) at the University of Pittsburgh. These were conducted remotely by non-physician facilitators. Transcripts were analyzed with thematic content analysis informing the questions posed in each subsequent FG. Phase 2 will be an online survey based on the FG results.

Summary Of Results

Seven faculty members participated in each of the 2 FGs. Three main themes arose from the FG. Main theme 1 is that formal institutional affiliations are required to host IMS and that constructing such affiliations requires extensive coordination and resources. Subthemes of theme 1 are a) concern about already saturated faculty workload, b) altruism is an inadequate motivation, c) establishing pipelines for resident recruitment is a motivation. Main theme 2 is that IMS are perceived as ambassadors of their home institution and nation. Subthemes are that the visiting students' communication skills and behaviors can impact a) the bedside educational experience for the faculty, patient and other trainees, b) the clinical department's educational mission, and c) the institution's local and global reputation. Main theme 3 is the importance of identifying risks and corresponding mitigating strategies in the development and maintenance of visiting experiences.

Discussion And Conclusion

Clinical faculty members identified that hosting international medical students is a complex endeavor requiring significant institutional commitment. Positive aspects include new perspectives, institutional reputation enhancement and potential recruitment. Possible negatives include



impacting learner experiences, the bedside patient experience, the reputation of the institution and physician overwork. Potential risks and mitigating strategies were identified.

Take Home Messages

Hosting IMS has potential benefits as well as negatives. Being aware of both allows a medical school to prepare for these exchanges and minimize the negatives.



11F3 (3775)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 1

Methodological innovations in an update systematic review of the effects of interprofessional education (IPE)

Simon Kitto¹, Andreas Xyrichis², Nigel Davies³, Angus McFadyen⁴, Arone Fantaye⁵, Josette Rivera⁶, Ivan Birch⁷, Hugh Barr⁸, Simon Fletcher⁹, Karine Fournier¹⁰

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Background

IPE is becoming a key feature of competency-based health and social care education, and of continuing professional education. It remains a relatively young field with a rapidly growing evidence base. In recent years, there have been key advancements in systematic review methodology. Given the continued interest and investment in IPE by health stakeholders, a rigorous systematic review that employs cutting-edge methodological advances is timely.

Summary Of Work

Two previous systematic reviews identified and synthesized the evidence, up to June 2014, of the effects of IPE. We have put together a diverse, and highly experienced project team from multiple institutions to examine how the IPE evidence base evolved in the last 7 years. We are employing a range of methodological changes to this update review, including to the reporting, search, inclusion criteria, critical appraisal and abstraction.

Summary Of Results

The first methodological change is the use of the 2020 PRISMA statement as a reporting guideline. We have also expanded our databases to include EMBASE, ERIC and Education source, which provide a broad range of international resources on education research. This review also includes comprehensive search strategies that increase the sensitivity of our search, and refers to the PRESS guideline to improve their quality. Screening and abstraction will be independently completed by at



least two reviewers online using COVIDENCE. As our intention is to be more inclusive in this update, we are not excluding papers based on language of publication. This update will also employ the validated Mixed Methods Appraisal Tool (2018) for quality appraisal. The ability to concurrently appraise the various study designs with this tool will improve the transparency, efficiency and consistency of our process.

Discussion And Conclusion

Adapting recent methodological innovations of systematic reviews will improve the rigor and efficiency of this update review, and allow for seamless updates in the future. This increase in rigor will be crucial to synthesizing high-quality evidence to inform future IPE developments, delivery and evaluation across education and clinical settings.

Take Home Messages

This study applies the latest methodological advancements of systematic reviews to provide up-to-date evidence of the effectiveness of IPE on collaborative competence and the delivery of health and social care.



11F4 (2496)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 1

Mapping the state of accreditation of undergraduate medical education (UME) in Africa

Marta van Zanten¹, Faith Nawagi¹, Rashmi Vyas¹, Phionah Kinwa¹, Jeanette Mladenovic¹

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Background

Accreditation systems aim to ensure the quality of education programs and encourage improvement. Although some information is available on the state of undergraduate medical education (UME) accreditation globally, there is a lack of unified, detailed data on current systems in Africa. To help address this gap and strengthen systems, the Foundation for Advancement of International Medical Education and Research (FAIMER), together with partners in Africa, aim to map the current state of accreditation in Africa by classifying the various approaches, detecting potential differences, identifying commonalities, and supporting best practices.

Summary Of Work

Twelve countries (Botswana, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, South Africa, Tanzania, Uganda, Zambia, Zimbabwe) were selected for phase 1 of this study. For each country, we identified the organizations responsible for quality assurance of medical education, analyzed the organizations' relationships and roles within countries and regionally, gathered the standards used in accreditation reviews, and verified this information with in-country experts. To date we have initiated mapping the standards to each other and to the 2020 World Federation for Medical Education (WFME) Global Standards for Quality Improvement: Basic Medical Education.

Summary Of Results

Accreditation systems were identified in all 12 countries. In most countries (N=9), a professional body such as a medical council works together with a quality assurance committee under the Ministry of Education to conduct accreditation of UME. Accreditation standards vary in terms of length, organization, focus, and content. In addition to national processes, Kenya, Tanzania, and Uganda utilize regional guidelines developed as part of the East African Community. Cross-border associations of medical regulators play an advocacy role.



Discussion And Conclusion

Efforts focused on strengthening accreditation of UME in Africa are increasing, but there is a lack of data describing the current state of systems across the continent. There are variations in the systems used and the operational standards. While some accreditation bodies may have limited resources to enable effective quality assurance, our work strives to identify commonalities and support best practices.

Take Home Messages

While detailed information on accreditation of UME in Africa is limited, FAIMER and its partners in Africa are working together to map current practices in all countries across the continent and strengthen systems.



11F5 (3206)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 1

Collaborative Quality Improvement Education: Partnering business students with healthcare professionals

Joan Binnendyk¹, Alan Gob¹, Mayur Brahmania¹

¹ *Centre for Quality, Innovation & Safety, Schulich School of Medicine & Dentistry, Western University, London, Canada*

Background

A growing emphasis on quality improvement (QI) in medical education frameworks and accreditation standards requires training postgraduate medical residents and faculty in QI methodology. While the healthcare system struggles to meet the population's quality of care needs, it simultaneously struggles to maintain financial viability. QI methodology is positioned to address both when viewed through a business lens.

Summary Of Work

A ground-breaking partnership between two campus faculties, our 24-week course brings together two distinct groups in a co-learning environment: a) medical residents and faculty from our academic teaching hospital; and b) honours business administration students from the university's business school. Led by two clinician teachers with expertise in QI, the course combines asynchronous micro-teaching videos with synchronous lectures focusing on the application of QI methodology within the context of quality health systems, economic constraints, and sustainable operations. Teams jointly investigate clinical care gaps, exploring how they can be optimized from both financial and clinical perspectives through the completion of a QI project.

Summary Of Results

Over four academic cycles, 76 business students and 20 healthcare professionals have completed the course. In early iterations, rates of successful QI project execution were quite low (20%). After the third iteration, an educationalist with expertise in curriculum design joined and integrated alignment between learning objectives and teaching methodology, formal assessment processes, and a programmatic evaluation strategy. Two business students, former participants in the course, were also added to incorporate a student voice and provide administrative support. In this fourth year of the course, we are on track to accomplish 100% of the QI projects that address clinical systems problems.



Discussion And Conclusion

A cross-disciplinary course that combines business principles with QI methodology can be a successful and effective approach to tackling current healthcare problems. Business students and healthcare professionals each contribute unique perspectives, resulting in a combined approach that neither discipline could craft on its own. These partnerships are exploring root causes, prioritizing options, and implementing sustainable, economical solutions. Educational and administrative support are needed to ensure academic rigor and engagement.

Take Home Messages

Innovative models of education are needed to promote quality care in a challenging healthcare landscape.



Short Communications - Postgraduate Education 5: Trainee Wellbeing

11G1 (3143)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 2

Promoting Wellbeing through Reflective Discussion at FY1 Teaching Days - "Crumbles and Grumbles"

Hayley Boal¹, Joe Gleeson¹, Rebecca Morris¹, Eleanor Dodd¹, Thomas Sharp¹, Ashley Wragg¹

¹ *The Mid Yorkshire Hospitals NHS Trust, Wakefield, UK*

Background

The 2021 GMC's national training survey revealed concerns regarding the trainee wellbeing; a third of respondents identified that they felt burnt out to a high or very high degree. It is evident that the wellbeing of junior doctors must be a priority when designing teaching programmes.

Summary Of Work

We recognised that the transition from medical student to FY1 doctor can be stressful and impact wellbeing. Therefore, we aimed to develop a safe space whereby new FY1 doctors could voice concerns, share their experiences and reflect as a group.

Three "Crumbles and Grumbles" sessions were held within the FY1 teaching programme, each lasting one hour in total. Facilitated by near-peer post-foundation doctors, FY1s were encouraged to discuss difficulties at work, offering peer support. Themes for the sessions were as follows:

- "A time you felt uncomfortable at work"
- Starting new jobs and administration
- FY2 and careers

We invited the trust's matron for medical education to attend part of the sessions, allowing concerns to be escalated via appropriate routes and changes made.

Summary Of Results

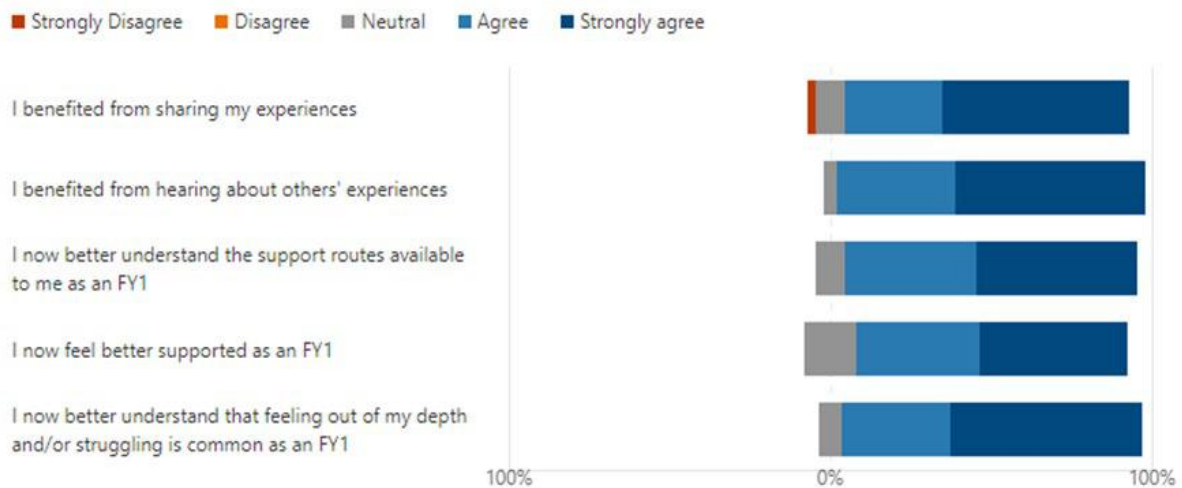
The sessions were very well received. Over 85% of FY1s agreed or strongly agreed that they benefitted from sharing their experiences or hearing those of their peers, felt more supported and have a better understanding of the support routes available (Figure 1).



Comments from the sessions included;

- “Very good to debrief – feel a lot better about difficult scenarios”
- “Have been bottling up a lot of these situations so it was really good to be able to express and talk in a safe environment”
- “Good to hear other people’s experiences because there aren't many F1s in my department”

Please rate your agreement with the following statements regarding today's "Grumbles and crumble" session:



Discussion And Conclusion

Near-peer reflective discussion was found to be highly beneficial in providing support and alleviating stress in the transition to FY1. Themes identified from feedback include individuals recognising they are not alone in experiencing difficulties, the utility of a forum to raise issues which are actioned, the importance of reflection, and the benefits of peer-to-peer support.

The results evidence the utility of near-peer reflective discussion and that it should be used in future teaching programmes.

Take Home Messages

Reflective discussion facilitated by near-peers can help promote wellbeing and resilience.



11G2 (2698)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 2

The Development of a National, Standardised Remediation Programme for Intern Doctors in Ireland

Oisin Friel¹, Gerard Curley¹, Gozie Offiah¹

¹ *Royal College of Surgeons in Ireland, St Stephens Green, Ireland*

Background

Internship is a formative period for junior doctors commencing their careers as working professionals, but one which can pose numerous challenges. While many individuals cope well with such challenges, a small minority require periods of enhanced supervision and training as part of a formal remediation programme. Such programmes are resource-intensive for trainers and can have negative impacts on the confidence and mental wellbeing of interns. It is therefore imperative that a well-structured and supported remediation programme, founded on research and evidence-based practice, exists in Ireland to ensure optimal outcomes for those engaging with it.

Summary Of Work

This project was completed over a twelve-month period, during which time the authors completed a literature review of current practice regarding remediation of junior doctors, while also interviewing colleagues and educators in Ireland, the United Kingdom and Australia to best understand current practice around remediation in the clinical setting. A remediation policy was then developed following input from the Irish Medical Council, Medical Intern Unit and Intern Network Executive, thus ensuring the creation of a holistic and comprehensive remediation protocol founded on evidence-based best practice.

Summary Of Results

This project resulted in the development of a national, standardised policy for the remediation of intern doctors in Ireland, as well as the establishment of a national Intern Remediation Panel, aimed at advising on and supporting such processes. The policy includes the remediation protocol, along with an accompanying educational logbook, training plans, support services and feedback mechanisms for supervisors.

Discussion And Conclusion

This project incorporated the collective experience of clinicians and educators from Ireland and abroad to devise a national, evidence-based policy for the remediation of post-graduate intern



doctors. Such individuals are vulnerable and require a resource-intensive, holistic management strategy, with input from supervisors, lecturers and occupational medicine, to name but a few. The development of a standardised programme also supports supervisors, who can be placed in challenging situations should an intern fail to meet the criteria for sign-off at the end of the remediation period.

Take Home Messages

The adoption of a collaborative approach is paramount in devising effective programmes that offer support to both trainers and trainees.



11G3 (2874)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 2

What works to reduce fatigue in Obstetrics and Gynecology (OBGYN) residents? Implications for the COVID-19 Pandemic and Beyond

Aliya Kassam¹, Benedicta Antepim¹, Kimberley Thornton², Jason Kumagai², Drew Dawson³, Sarah Glaze¹

¹ Cumming School of Medicine, University of Calgary, Calgary, Canada ² Alberta Health Services, Calgary, Canada ³ Central Queensland University, Adelaide, Australia

Background

Fatigue Risk Management Plans (FRMPs) that encompass strategies used by the resident, the residency program, and the systems in which they learn and work could assist with managing fatigue in residents, support enhanced resident wellbeing and patient care. We carried out a realist evaluation to understand the experience of residents with a FRMP put in place by their program that included educational sessions, a nap model and regular snack delivery to labour and delivery unit call rooms.

Summary Of Work

A realist evaluation by virtue of realist inquiry helps to explain *what works, for whom, in what circumstances, and why?* as opposed to *does it work?* Through realist inquiry, we explored whether a comprehensive FRMP enhanced resident wellbeing because residents made particular decisions in response to the FRMP. We used a mixed methods sequential explanatory design. Residents completed sleep/work diaries and a fatigue, burnout, nutrition survey at three data collection points over a 10-month period.

Summary Of Results

Nineteen residents (59% response rate) participated in the study. There was an average of 30% attrition with each data collection point. Data analysis showed no significant changes to fatigue, burnout, or sleep from baseline to endpoint. Residents did report an association between the increased access to food and feelings of hunger. Six residents participated in a semi-structured interview at the end of the study. Themes included the emotional and cognitive impact of fatigue, the positive and negative impact of COVID-19 on fatigue, and managing time and expectations as a mechanism for coping with fatigue.



Discussion And Conclusion

Fatigue is inherent to residency education, in particular the OBGYN specialty with respect to the context of call and labour and delivery units. While residents had individual-level strategies, program supports such as the nap model and access to nutrition were effective mechanisms to manage fatigue leading to better resident outcomes.

Take Home Messages

1. Fatigue is a multi-faceted construct that can manifest differently for individuals.
 2. Program and system level supports are needed to recognize and manage fatigue.
 3. Fatigue risk management plans must reduce the stigma of disclosing fatigue in the workplace so as to mitigate threats to resident wellbeing and patient safety.
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11G4 (1807)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 2

GP Residents' self-confidence definition: their own words

Adèle Macé¹, Lucie Porro¹, Justine Richoux¹, Eric Dionne^{2,3,4}, Marc Chanelière^{1,2,5,6}, Juliette Macabrey^{1,2,3,5,6}

¹ Faculty of Medicine Lyon Est, Claude Bernard Lyon 1 University, Lyon, France ² Research Chair in Medical Education, University of Ottawa-Institut du Savoir Montfort, Ottawa, Canada ³ Faculty of Education, University of Ottawa, Ottawa, Canada ⁴ Faculty of Medicine, University of Ottawa, Ottawa, Canada ⁵ INSERM U1290 RESHAPE, Lyon, France ⁶ Collège Universitaire de Médecine Générale, Claude Bernard Lyon 1 University, Lyon, France

Background

French medical residents are affected by different health issues. One of which is that fifty percent of them would suffer from burnout syndrome. Furthermore, France is confronting medical demographic crisis. Indeed, young general practitioners (GP) do not seem to be ready to settle their practice at the end of their residency. Residents' self-confidence appears to influence both issues. This study will use the CeSMed model definition of self-confidence and its aim is to define GP residents' self-confidence by their own words.

Summary Of Work

Volunteered GP residents participated to one-to-one interviews between summer 2021 to winter 2022. We secured an ethical approval for this research project from a local committee. Every interview is anonymously transcribed and then coded using a thematic approach. The transcripts are secondary coded by two other researchers.

Summary Of Results

First results highlight different dimensions of self-confidence and their links amongst each other. These include experience, autonomy, relationships (mostly with GP teachers) and self-awareness (own limitations and sense of legitimacy). Dialogue and feedback were brought up to be a means of action on self-confidence.

Discussion And Conclusion

For residents, self-confidence appears to be built and strengthened throughout the residency. To "be self-confident" could be an objective of the GP residency. GP residents feel their own self-confidence through fluency medical practice, ability to contextualize issues and their sense of legitimacy.



Conversely, fear, medical malpractice and uncertainty management have a negative impact on it. A concern occurs as GP residents may feel they have to build their self-confidence alone, without specific help from their teachers, who nevertheless, have a massive impact on it.

Take Home Messages

According to GP residents, self-confidence would be a gradual construction to get close to an « ideal of doctor ». Medical practice, including responsibilities and managing risk taking, requires some level of self-confidence. It could be discussed being a competency to build during residency.



11G5 (2919)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 2

The effect of emotion-focused art therapy on resilience and self-image of emergency physicians

Kyung Hye Park¹, Soo Kyung Eo², Chanwoong Kim³, Eun Kyung Eo⁴

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Background

This study aimed to investigate whether Emotion Focused Art Therapy (EFAT) can change resilience and self-image for emergency physicians (EPs). In addition, we will suggest that art therapy can be tool for emotional recovery for EPs.

Summary Of Work

Between December 2021 and January 2022, EPs at three university hospital-level training hospitals in Korea were targeted. Art therapist conducted EFAT, a two-hour face-to-face workshop. Connor-Davidson Resilience Scale 25 items (CD-RISC 25) were compared before and after the workshop. The tree drawing test was compared before and after to assess change in the self-image. Finally, satisfaction and narrative responses were collected.

Summary Of Results

A total of 17 residents and 6 specialists participated. RISC before and after art therapy increased significantly (60.61 ± 8.97 vs 68.48 ± 10.25 , $p < 0.001$). To summarize the results of analyzing the shape of the tree drawing, after art therapy, the strength of the inner self of the participants was strengthened, psychological stability, energy level and self-confidence were improved. In addition, the sense of purpose was activated, and communication with oneself and the environment was improved. There were also positive changes. The mean satisfaction score was 4.52 ± 0.51 . What the participants liked in art therapy were as follows. (1) Recognize and express my feelings. (2) Understand my colleagues better and exchanged comfort with each other. (3) Mind becomes lighter (4) Art therapy itself was good



Discussion And Conclusion

With one-time EFAT, the resilience and the tree drawing reflecting self-image of the participants improved. Art therapy is usually performed periodically over several weeks, but it is difficult to make time for it periodically due to the EPs' shift. Although there is a limitation in not being able to measure how long the effect of one-time art therapy lasts, even temporarily, it helped the participants to manage their emotions and recover.

Take Home Messages

Art therapy aimed at EPs is rare. In addition to the COVID-19 pandemic, EPs have a high rate of burnout. Art therapy had a positive effect on the resilience and self-image of EPs even if it was a one-time, and this could be applied to other health professionals as well.



11G6 (1065)**Date of presentation:** Tuesday 30th August**Time of session:** 17:45 - 18:00**Location of presentation:** Gratte Ciel 2

Doctors In Difficulty And Difficult Doctors: An Educational Initiative To Support Doctors' Wellbeing

Raya Shpilberg¹, Thuvaraga Arulampalam², Nicholas White², Kem Ifeanyi Onubogu², Fiona MacAuslan², Orhan Orhan²

¹ *North Middlesex University Hospital NHS Trust, London, UK* ² *Chelsea and Westminster Hospital NHS Foundation Trust, London, UK*

Background

Supporting healthcare staff is crucial for patient safety and the experience, productivity and retention of doctors^{1,2}. Our postgraduate education department focuses on doctors' wellbeing and support. Our role also extends to supporting the trainers, many of whom have experience managing trainees in difficulty. We piloted an in-house Doctors in Difficulty and Difficult Doctors Course to provide guidance in managing these challenging cases.

Summary Of Work

We piloted a virtual course for hospital consultants in April and October 2021, covering recognition of a doctor in difficulty and a difficult doctor, psychological frameworks for behaviour in the workplace, practical strategies for managing performance and training issues, and support resources. Sessions included presentations and small group discussions. We invited delegates to complete pre- and post-course surveys.

Summary Of Results

There were 23/27 pre- and post-course survey responses in April 2021, and 20/24 pre- and 17/19 post-course responses in October 2021. After the session, 100% replied they felt confident to manage and support a doctor in difficulty or difficult doctor, as compared to 61% and 60% in the two pre-course surveys.

Confidence and self-reported knowledge scores improved across all learning objectives, particularly for training solutions and support. Pre-course responses suggested trainers already had some understanding about signs of burnout and resources for support, with improvement in recognition and support demonstrated in their post-course qualitative responses.

Feedback highlighted that the course was useful and relevant. Candidates at course 1 suggested adding in-depth case studies in moderated small groups, which received positive feedback in course 2.



Discussion And Conclusion

This pilot demonstrates that a bespoke in-house course for trainers can improve knowledge and understanding in managing a doctor in difficulty. This is particularly important when the current health climate and COVID-19 pressures are considered, with increasing levels of burnout³. Future iterations of the course will continue to evolve in response to feedback and research into doctors' wellbeing.

Take Home Messages

A Doctors in Difficulty and Difficult Doctors course is an important addition to the postgraduate education department's work in improving wellbeing for doctors and supporting educational supervisors in their role.



Short Communications - Teaching & Learning 2: General

11H1 (3866)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Gratte Ciel 3

The value of self-regulated learning on the wards in early clinical years

Jennifer Shone¹, Naomi Staples¹, James Collett¹, Matti Gild¹, Jonathan Hong¹, Fawzia Huq¹, Karen Scott¹

¹ *The University of Sydney, Sydney, Australia*

Background

Traditionally in early, clinical years of medical programs, ward-based learning (WBL) is structured; students primarily observe and undertake short history-taking and physical examinations. In 2021, Sydney Medical Program introduced two second year WBL terms that were self-directed and immersive, yet guided and scaffolded. A clinical supervisor was assigned to student pairs to help them improve clinical confidence, understand interprofessional roles and guide learning based on a broad set of tasks. These were anchored in the patient journey and developed based on self-regulated learning theory to enhance skills and agency in seeking out learning and self-reflection. We explored the student experience of WBL through the lens of self-regulated learning.

Summary Of Work

This study was conducted using a qualitative approach. In April 2021 data were collected through five student focus groups, which were recorded and transcribed. Data were analysed using theoretical thematic analysis, based on self-regulated learning theory. Through line-by-line coding and the constant comparison process, individual researchers analysed one transcript, then compared analyses to create a coding framework. This was applied to remaining data by researchers working individually before comparing analyses in pairs.

Summary Of Results

Students varied in their WBL experience and extent to which they took a self-regulated learning approach. Some established goals for their first WBL term; all engaged in forward planning for the second. Those engaging in more self-regulated learning identified more learning opportunities, even when barriers were present (e.g., uncommitted supervisors or peers). These students tended to devise learning and communication strategies when facing challenges in the learning environment, were adaptable and managed their motivation. Students' capacity for self-reflection and self-evaluation differed, affecting their ability to identify and address causal attributions, impacting learning, self-confidence and professional identity.



Discussion And Conclusion

Self-regulated learning plays a key role in learning on the wards in early clinical years. Students engaging in self-regulated learning gain more, even when faced with challenges, in terms of clinical learning and confidence and comfort in learning as a student in a busy hospital environment.

Take Home Messages

Preparatory workshops in self-regulated learning focusing on goal-setting, learning strategies, adaptability and self-reflection could enhance students' capabilities and agency, and through this their learning, in all clinical years.



11H2 (2869)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Gratte Ciel 3

Can deliberate reflection on clinical cases help medical students to activate and elaborate on their prior knowledge?

Ligia Maria Cayres Ribeiro¹, Silvia Mamede^{2,3}, Eliza Maria de Brito¹, Alexandre Sampaio Moura^{1,4}, Rosa Malena Delbone de Faria^{4,5}, Camila Bicalho Murta¹, Henk Schmidt^{2,3}

¹ UNIFENAS-BH, Belo Horizonte, Brazil ² Institute of Medical Education Research Rotterdam, Erasmus MC University Medical Center, Rotterdam, The Netherlands ³ Erasmus School of Social and Behavioural Sciences, Erasmus University, Rotterdam, The Netherlands ⁴ Education and Research Center, Santa Casa BH, Belo Horizonte, Brazil ⁵ Department of Popaedeutics, Federal University of Minas Gerais (UFMG), Belo Horizonte, Brazil

Background

Deliberate reflection upon clinical cases has been shown to enhance medical students' learning from subsequent study of scientific texts relevant to those cases, probably operating through cognitive mechanisms that are yet to be understood.¹ Clarifying these mechanisms helps guiding teachers to apply reflection in practice and opens the door to adjustments that may increase its benefits.

Summary Of Work

An experiment with two consecutive tasks is being conducted with 4th-year medical students at Unifenas Medical School, Brazil, to test if activation of/elaboration on prior knowledge is one of such mechanisms. 1)Diagnostic task: Participants are randomly assigned to diagnose three written clinical cases either by following a deliberate reflection procedure of systematically comparing/contrasting patient's findings to alternative diagnoses² (DR) or by making differential diagnosis (DD). A third group does not work on clinical cases (control). No information on the correct diagnoses is available to students during the experiment. 2)Prior-knowledge recall task: All participants are asked to write down the typical clinical picture² of each one of the clinical cases' diseases. For the control group, this is the only task. The number of idea-units¹ in participants' recall task is the measure of activation of/elaboration on participants' prior knowledge.

Summary Of Results

A priori analysis estimated 90 participants to be sufficient to achieve a power of 0,80. So far, data from 32 participants show that DR scored higher on the prior knowledge test relative to those in the DD and control groups, but the differences did not reach significance [respectively 21.6(7.9), 17(9.31), 16.27(9.8); $F(2,29)=1.045$, $p=0.365$]. New volunteers are expected until April 2022, allowing to check if results will hold.



Discussion And Conclusion

DR seems to activate/facilitate elaboration of students' prior knowledge about diseases to a further extent than DD.

Take Home Messages

If results are confirmed, medical teachers could use DR to help students to activate their prior knowledge before instructional activities, such as classes and tutorial groups, thereby facilitating learning about diseases.

References

1. Ribeiro *et al.* Exploring mechanisms underlying learning from deliberate reflection: An experimental study. *Med Educ.*2021;55:404-12
 2. Custers *et al.* The role of illness scripts in the development of medical diagnostic expertise: results from an interview study. *Cogn Inst.*1998;16(4): 367-398.
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11H3 (1563)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Gratte Ciel 3

Questions open the world: Question Storming Experience Among Health Professionals in Brazil

Suely Grossman¹, Mitsue Fujimaki², Roberto Esteves^{2,3}, Ana Claudia Camargo Goncalves Germani⁴, Stewart Mennin⁵, Maria Helena Sampaio Favarato^{6,7}

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Background

Health professions practitioners and educators require skills to handle daily complex challenges that are multidimensional, have many interdependent interactions and are bounded yet open to the outside world. These situations named “wicked issues” lead to uncertainty and ambiguity. “Questions Open the World” (QOW) facilitates the reflection and action necessary to shift patterns of wicked issues and complex phenomena when there is no clear or right answer.

Summary Of Work

This report is based on 55 weekly, 30-minute sessions each of four parts. First, a five-minute presentation of the constraints, purpose, and rules for the session. Second, someone shares a “wicked question” followed by 15 minutes of open-ended questions from the group during which time the person who presented the issue listens and remains silent. Third, the person who presented the wicked question shares their reflections, what the session meant to them, and possible actions; Finally, a ten-minute open discussion takes place among all participants.

Summary Of Results

Three categories of wicked issues were observed: “management issues”, which included sustainability, research, innovation, teamwork, education, personal development, change, and ethical conflicts; “power issues” in regard to its concept, how to work with it, and how it happens; and “QOW issues”, which included how to disseminate it and its effects on participants. Participants valued their experience as it broadened their horizons and opened new possibilities for actions in the face of uncertainty. QOW is an easy and practical way to open up space and shift the pattern of complex situations and contexts that occur during practice and education of health professionals.



Discussion And Conclusion

Questions Open the World is a dynamical approach that enables the holder of a wicked issue to rapidly develop new possibilities. It bypasses the usual situation of feeling “stuck” in a seemingly intractable situation. It creates new space that expands the conceptualization of the original wicked issue.

Take Home Messages

The QOW provides a simple way to open new possibilities and to shift the pattern of uncertainty in complex, wicked issues in only 30 minutes.



11H4 (0946)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:30

Location of presentation: Gratte Ciel 3

A classification structure for teaching methods and their use in health education: A scoping review

Sharon Mitchell¹, Carolin Sehlbach², Janusz Janczukowicz³, Sissel Guttormsen¹

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Background

A teaching method is described as a set of principles used by teachers to deliver knowledge and skills to learners. Finding a comprehensive glossary of teaching methods offering descriptions presented within a relevant classification structure to medical education is challenging. This scoping review seeks out definitions and their use within and outside medical education. To our knowledge, this investigation is the first to propose a classification structure of teaching methods using a methodological search approach. A second phase will incorporate expert consensus to agree on descriptions, grouping of methods and a classification structure.

Summary Of Work

Following the PRISMA ScR flowchart and JBI methodology, relevant electronic databases including PubMed, ERIC and Web of Science, as well as grey literature published in English 2011 - 2021 are included. The search for MeSh terms (PubMed) and browsing thesaurus (ERIC) identified additional teaching methods through an iterative process guided by the research librarian to refine eligibility criteria. The data extraction sheet was developed, aligned to the research questions and data synthesis plan with expected outputs.

Summary Of Results

From an extensive literature review, 65 methods and terms fitting to a selected definition of teaching methods were identified. 10,408 relevant articles were found in a third round search informing the iterative process to refine search terms and update eligibility criteria. A search matrix has been organised into three distinct blocks; 1. teaching 2. listed methods and 3. education settings. Results of title and abstract screening (soon underway) and data extraction can be presented within the congress presentation.



Discussion And Conclusion

This research emerged from our research team's discussions and conclusions that a concise classification of teaching methods is difficult to find. We expect results to show multiple classification structures and a number of similarities and contrasts in presented descriptions. This is a first attempt to systematically present, describe and organise teaching methods across disciplines, devised from a systematic search of literature (phase 1) and validated through a consensus process (phase 2).

Take Home Messages

Our results will organise and re-present teaching methods in new light, and offer a useful structure for educators and researchers alike.



11H5 (1453)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:45

Location of presentation: Gratte Ciel 3

Clinical placement models for undergraduate health professions education: What is known?

Champion Nyoni¹, Lizemari Hugo-van Dyk¹, Yvonne Botma ¹

¹ *University of the Free State, Bloemfontein, South Africa*

Background

Undergraduate health professions programmes must align their clinical placement approaches with the ever-changing and dynamic clinical environment. Healthcare staff shortages, emerging health crises, and dwindling healthcare resources require innovative student placements that enhance optimal learning. The literature reports different clinical placement models for undergraduate health professions, and we sought to illuminate these clinical placement models' various characteristics and outcomes through a scoping review.

Summary Of Work

This study applied a scoping review methodology. We used a search string generated from the title to search online databases to identify research published between January 2000 and March 2020.

Summary Of Results

Forty-eight articles reporting on ten clinical placement models were included in this review. Most of these articles originated from Australia and predominantly reported on nursing. The aims of these articles aligned with the evaluation of the implementation of a clinical placement model. Seven categories of outcomes of the clinical placement models are reported: relationships, influence, environment, facilitation, inputs, knowledge scores, and student perceptions.

Discussion And Conclusion

Clinical learning is fundamental to undergraduate health professions education; clinical placement models should prioritise competence development among undergraduate students. Insights into the report outcomes of the clinical placement models would be fundamental in supporting undergraduate programmes that align with the complex healthcare environment to enhance optimal learning.



Take Home Messages

No single clinical placement model exists as a panacea for undergraduate health professions



11H6 (4213)

Date of presentation: Tuesday 30th August

Time of session: 17:45 - 18:00

Location of presentation: Gratte Ciel 3

WITHDRAWN



Symposium 11I (4842)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Tete d'Or 1

Pearls from the Surgery Track

[Ajit Sachdeva](#)¹, [James Garden](#)², [Julian Smith](#)³, [Susan Moffatt-Bruce](#)⁴, [Monica Ghidinelli](#)⁵

¹ American College of Surgeons, Chicago, USA ² University of Edinburgh, Edinburgh, UK ³ Monash University, Clayton, Australia ⁴ Royal College of Physicians & Surgeons of Canada, Ottawa, Canada ⁵ AO Foundation, Zurich, Switzerland

Background

Members of the Surgery Track Committee will highlight the key messages from the Surgery Track sessions



Short Communications - Assessment 5: Feedback

11J1 (2041)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:45

Location of presentation: Rhone 2

Multisource feedback in medical students' workplace learning in primary health care

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Background

Feedback is important for effective learning regarding communication and clinical skills during medical students' workplace learning. The provision of multisource feedback (MSF) in clinical practice with focus on the patient's perspective is rarely addressed in the literature. The overall objective was to explore the use of MSF for provision of written feedback to medical students in primary healthcare (PHC) with focus on patient perspectives during a student-led encounter.

Summary Of Work

In the study, patients provided feedback by use of the Patient Feedback in Clinical Practice (PFCP) questionnaire. Using adapted PFCP versions peers, clinical supervisors provided feedback and students performed a self-evaluation. The MSF-setting was evaluated using surveys (4-point Likert scale/open-ended), (students (n = 26), peers (n = 9) and clinical supervisors (n = 7)). Data were analysed using descriptive and qualitative content analysis.

Summary Of Results

Results from participants evaluation of the MSF-setting visualises the value of feedback in terms of patient-centered communication (students 3.50, peers 2.44 and clinical supervisors 3.57), guidance for further training (students 3.14, peers 2.89 and clinical supervisors 3.00), and clarification of pedagogical assignment (students 3.14, peers 2.89 and clinical supervisors 3.00). Thematic analysis of participants' free-text answers in the evaluation surveys resulted in three themes: (1) *applicability of the MSF*, (2) *MSF – collaborative learning process* and (3) *MSF as a facilitator in students' clinical skills development*. The participants experienced that the written MSF provided multi-faceted perspectives, contributing to students' and peers' clinical and communication learning. MSF experience also enhanced clinical supervisors' communication skills feedback, targeting the supervisors pedagogical assignment.



Discussion And Conclusion

Our findings indicate that MSF provided directly after a patient encounter, using the PFCP questionnaire as feedback provider, could be an adequate learning activity for medical students' workplace learning. The MSF was also experienced to neutralise and operationalise feedback, facilitating peers' learning and clinical supervisors' tuition. The results indicate that the patients' subjective experience of care visualized the importance of including patients as a valuable resource in students' workplace learning.

Take Home Messages

Inclusion of the patient's perspective in a MSF learning activity can facility both learning and pedagogic development in clinical education in PHC.



11J2 (1981)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 17:00

Location of presentation: Rhone 2

Emotion as reflexive practice: the role of emotions in feedback

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Background

Feedback practices are imbued with emotions. Yet messages around how to attend to emotions during feedback are mixed. Some feedback models encourage an equal balance of positive and negative comments to reduce the likelihood of defensive learner reactions. Others suggest waiting until emotions pass, or even ignoring them. Whilst some feedback models encourage involving the learner in feedback attending to emotions as they arise. Clearly the role of emotions in feedback and their influence on learning is contested. In this critical review, we ask: What are the discourses of emotion in the feedback literature and what 'work' do they do?

Summary Of Work

We conducted a critical literature review of emotion and feedback in the three top journals in the field: *Academic Medicine*, *Medical Education* and *Advances in Health Sciences Education*. Analysis was informed by a Foucauldian critical discourse approach and involved identifying discourses of emotion and interpreting how they shape feedback practices.

Summary Of Results

32 papers were included in the review and four key and overlapping discourses of emotion were identified. Emotion as physiological (n=16) casts emotion as internal, biological, ever-present, and often problematic reactions to feedback. Emotion as skill (n=3) positions emotion as internal, mainly cognitive, and amenable to regulation. A discourse of emotion as reflexive practice (n=4) infers a social and interpersonal understanding of emotions which can act as a powerful learning tool, whereas emotion as socio-cultural discourse (n=9) extends the reflexive practice discourse seeing emotion as circulating within learning environments as a political force that shapes practices and identities.



Discussion And Conclusion

Health professions education scholars should shift dialogue in this space away from simplistic understandings of positive emotions as good for feedback and negative emotions as bad for feedback. Rather than problems to ignore or manage, emotions are resources to excavate and use reflexively. For future feedback research, we suggest drawing from reflexive and socio-cultural discourses of emotion.

Take Home Messages

Emotions are not noise in the background to be ignored as conceptualised in the majority of papers; they are not merely internal but between and around us. Effective feedback can be open to emotions, gauging how to leverage them for learning and practice.



11J3 (2523)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:15

Location of presentation: Rhone 2

Exploring Clerkship Students' Perceptions of Feedback: A Behavioral Sampling Study

Anna Cianciolo¹, Heeyoung Han¹, Lydia Howes², Debra Klamen¹, Cathy Schwind¹, Aysha Rafaquat¹, Sophia Matos¹

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Background

At our medical school, clinical preceptors are required to complete weekly “on the fly” feedback forms documenting their impressions of clerkship student performance. These forms are intended to provide written performance assessment to clerkship administrators and facilitate student learning. However, preceptors typically provide sparse, untimely documentation, and students discount its learning value. On this basis--reinforced by the literature--one might assume that our students receive inadequate feedback. Yet, our students report commonly receiving useful feedback on rotation. We investigated the interactions on rotation that our clerkship students view as feedback. We sought to better understand this informal feedback to improve the effectiveness of preceptors' written commentary.

Summary Of Work

From July 2021 to February 2022, 11 clerkship students (64% female, 27% Underrepresented in Medicine, 73% in the middle quartiles of academic performance) received a weekly online survey administered on a random weekday and time between 8am and 5pm. The survey asked participants to specify their rotation and describe the Who, What, When, Where, and Why of their most recent feedback experience. A 6-member interprofessional team coded the survey responses using content analysis.

Summary Of Results

The survey has been administered 28 of 30 times. The first 167 survey responses-- ~67% of the data anticipated --have been analyzed. Average participation rate is 88%. Feedback source (Who), topic (What), and delivery (When, Where) reflected the particular nature of preceptor-student interaction on a given rotation. For instance, feedback on surgical rotation primarily came from residents in the operating room and addressed students' suturing technique. By contrast, feedback on internal medicine rotations primarily came from faculty and addressed students' oral case reports. Students



extrapolated learning value (Why) beyond feedback topic, including calibrated self-assessment and deepened understanding of their profession.

Discussion And Conclusion

Learning from feedback occurs within specialty-specific learning ecologies, where clinical work shapes what students do, with whom, and how feedback is delivered. “On the fly” written commentary introduces a non-naturalistic practice into these ecologies.

Take Home Messages

Written commentary may best be reserved for rotation’s end; prompting preceptors’ reflection on students’ performance within the learning ecology may improve its value.



11J4 (2643)**Date of presentation:** Tuesday 30th August**Time of session:** 17:15 - 17:30**Location of presentation:** Rhone 2

Feedback orientation of undergraduate health profession students

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Background

Feedback orientation is a specific variable defined as an individual's overall receptivity to feedback. Strong-feedback-oriented students are likely to generate valuable feedback and be more apt to use and act on the received feedback. Understanding an individual's feedback orientation would provide insight into the coaching-specific strategies and additional support in responding to feedback. The Feedback Orientation Scale (FOS) is a validated twenty-item questionnaire that comprises five dimensions: utility, accountability, social awareness, feedback self-efficacy, and feedback orientation. This study explored the differences in feedback orientation in undergraduate health profession students using the FOS.

Summary Of Work

Twelve Chilean universities were invited to the study. The target population was clerkship students' of nine health professions education programmes. In a preceding study, the FOS was validated for the clinical workplace using confirmatory factor analysis, and shown to have a good factor structure in the Chilean context. The FOS was applied in an online platform. Descriptive statistics analysis was conducted.

Summary Of Results

Two public and four private universities participated in this study. In total, 510 students responded to the survey [70% (392) female, average age 24.1 years, average response rate 30%]. Students' responses were from Medicine (25%), Physiotherapy (25%), Nursing (13%), Dentistry (10%), and other five disciplines. The highest-rated items were "Feedback from supervisors can help me advance in my rotation" and "Feedback contributes to my success at clinical work," with 95.5% and 94.1% of "agree" or "strongly agree" responses, respectively. The worst-evaluated items were "I feel self-assured when dealing with feedback" and "Compared to others, I am more competent at handling feedback," with 15.5% and 10.6% of "disagree" or "strongly disagree" responses, respectively. The



low-rated dimension was "Feedback Self-Efficacy," with 43.9% of the "disagree" and "strongly disagree" responses.

Discussion And Conclusion

The present study describes the application of the FOS to undergraduate students of nine health profession disciplines in Chile. The lower results obtained in the self-efficacy dimension suggest support is needed for learners that transit to a new learning environment of the clinical workplace.

Take Home Messages

Acting and responding to feedback is a multivariable and individual process. Understanding individual differences may shape feedback processes in the clinical workplace.



11J5 (2534)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:45

Location of presentation: Rhone 2

Feedback Orientation in Medical Learners

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Background

Feedback is crucial for learners' development yet rife with challenges. Most work on feedback in HPE focuses on effective delivery, with less discussion of specific learner factors that influence their ability to receive and uptake feedback. In this study, we explored the construct of feedback orientation, a quasi-trait encompassing learners' individual approaches to feedback, primarily studied in management science, now in medical learners. We aimed to characterize learners' overall feedback orientation and how it differed across training levels.

Summary Of Work

This was a single-institution cohort-comparison study. We invited all current medical students and Internal Medicine residents to participate. We used the Feedback Orientation Scale (Linderbaum and Levy, *Journ Manage* 2010), consisting of 20 Likert-scale items where participants rate their agreement with statements from 1=low to 5=high. The scale, when used with management science participants, identified 4 factors: utility, accountability, social awareness, and feedback self-efficacy.

Summary Of Results

Response rate was n=352 (50%). Our factor analysis supported the same 4 factors. Across levels, participants scored lowest in the self-efficacy domain (mean 3.65, SD 0.93) and highest in utility (mean 4.43, SD 0.79). Comparing the cohorts of students and residents, responses were not significantly different except for "Feedback is critical for improving performance" (utility domain; student mean 4.63, resident mean 4.45, p=0.005) and "I feel obligated to make changes based on feedback" (accountability domain; student mean 3.93, resident mean 3.54, p=0.003).

Discussion And Conclusion

Our data indicate this instrument translates well into the HPE setting. We saw little difference in feedback orientation across learner levels. This implies that, even as learners gain more clinical experience and more experience with feedback and their professional identities, their feedback orientation does not change, which contradicts suppositions from the initial descriptions of feedback



orientation (London, *Hum Resour Manag Rev* 2002). The reason for this consistency may relate to unique features of the culture of feedback in HPE. These findings suggest that tailoring feedback approaches may be better achieved by leveraging individual feedback orientation domains (e.g., bolstering self-efficacy) rather than modifying approaches based on level.

Take Home Messages

Feedback orientation is a useful concept to study in medical learners and may not change over the course of training.



11J6 (3956)**Date of presentation:** Tuesday 30th August**Time of session:** 17:45 - 18:00**Location of presentation:** Rhone 2

From curious learners to feedback disengaged “zombies”: Qualitative study on medical students’ expectations and needs in feedback on reflective journals

Lior Rozental¹, Orit Karnieli-Miller¹

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Background

Feedback is an essential tool in medical education. Effective feedback requires the learner’s willingness and openness to engage and learn from the feedback. This requires feedback literacy, as well as educator’s ability to provide feedback that is tailored to learner’s emotional and cognitive needs. This is challenging especially in written feedback on reflective journals, where students share personal and professional dilemmas and challenges. This presentation focuses on mapping learners’ expectations and needs from feedback and its implications on learning from the feedback and future engagement in the learning process.

Summary Of Work

We interviewed 15 medical students using semi-structured in-depth interviews and 60 reflective journals feedbacks. We analyzed these using the qualitative Immersion/Crystallization method. Interviews were analyzed to learn about students' expectations and experiences from the feedback, and from its components that were identified in the analysis of the feedbacks.

Summary Of Results

Initially, students expected that feedback will focus on their concerns, acknowledge, and accept their feelings, and provide tools for future action. When expectations were met, students felt seen, embraced the feedback, and invested in their future reflective journals. In contrast, when the was experienced as generic, short and critical/judgmental, with limited empathy, students had a negative experience that led to un-willingness to read and learn from the feedback. Furthermore, it led to disengagement and writing inauthentic journals.

Discussion And Conclusion

When students' needs for empathy and wish for help in addressing their personal-professional challenges are unmet, they might become feedback “zombies.” As such they are disengaged with the



opportunity to learn from the current feedback, and to share true dilemmas and vulnerability in future journals.

Take Home Messages

- Writing feedback on sensitive reflective journals is challenging.
- Students expect empathic, personal feedback.
- Generic, critical feedback might have negative consequences, both on students' opportunity to learn from the current feedback, and on their willingness to share vulnerability and authentic writing in future tasks.



11J7 (4646)**Date of presentation:** Tuesday 30th August**Time of session:** 18:00 - 18:15**Location of presentation:** Rhone 2

Exploring tutors' emotional responses when providing feedback in undergraduate medical education

Seth Allen¹, [Susie Schofield](#)¹¹ *School of Medicine, University of Dundee, DUNDEE, UK*

Background

Feedback plays an essential role in bridging the gap between desired and actual performance. Emotions play a crucial role within feedback, with emotional experiences influencing decision making and driving attention. Several studies have considered the implications of learners' emotions when receiving feedback. However, there is a lack of literature exploring the impact of tutors' emotions. This study employed narrative interviewing techniques to explore the emotional responses of tutors providing feedback in undergraduate medical education.

Summary Of Work

This study adopted a qualitative design, conducting five semi-structured individual interviews with tutors at the University of Dundee School of Medicine. Narrative questioning was used to allow participants to reveal their lived experiences when providing feedback. Thematic analysis of narratives was carried out to organise the data into themes and sub-themes.

Summary Of Results

Tutors conceptualised feedback as a dialogue with the aim of improving student performance, and found anonymous feedback frustrating. They recognised that providing feedback invoked emotions and these emotions in turn impacted the feedback given, both positively and negatively. They identified four main factors influencing their own emotional response when providing feedback: relationship, student reaction, feedback context and timing. They found negative feedback harder to deliver in simulation, group and online contexts. Time pressure (due to clinical work and other factors) caused frustration and anger when giving feedback.

Discussion And Conclusion

Providing feedback can be an emotional experience for tutors, eliciting both positive and negative emotional responses. These emotions can negatively impact the feedback given, from shying away from 'breaking bad news' to anger. Schools need to encourage longitudinal learning opportunities to maximise student perception and acceptance of feedback. Benefits and challenges of anonymising



feedback need to be revisited, with increased opportunities for dialogue, actional planning and formative feedback opportunities. Impact of tutor emotions should be included in faculty development of feedback, allowing tutors to explore this concept in a safe space. More research is needed around this concept.

Take Home Messages

Providing feedback invokes emotions in tutors which impact the feedback given, both positively and negatively. Faculty development should allow tutors to explore this concept in feedback training. Schools should recognise its importance when designing their feedback strategy.



ePosters - Equality, Diversity and Inclusivity

11K01 (1395)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:35

Location of presentation: Tete d'Or 2

Experienced or witnessed racism and microaggressions during medical education: An exploratory survey of medical students at a large Canadian medical school

Samara Adler¹, Jérémie Boivin-Côté¹, Isabelle Gravel¹, Chaimaa Ouizzane¹, Samantha Bizimungu¹, Tara D'Ignazio¹, Claude Julie Bourque¹, Jean-Michel Leduc¹

¹ *Université de Montréal, Montreal, Canada*

Background

In June 2020, a committee on racial issues in healthcare was created at Université de Montréal (UdeM) to promote antiracism, develop equity initiatives, and emit proposals to the faculty. The primary objective of this study was to establish a baseline understanding of the prevalence of racism and microaggressions during medical education.

Summary Of Work

An anonymous survey was sent to all medical students and residents at UdeM (10 cohorts). This study collected demographics and quantitative/qualitative data on witnessed or experienced racism or microaggressions during medical education. Our survey included several open-ended questions on topics including individual experiences, proposed solutions, and desired resources. Our institution's research ethics board approved this study.

Summary Of Results

The response rate to the survey was 12.4% (321/2579). Twenty-six percent of participants self-identified as Black, Indigenous or People of Color (BIPOC). During medical education, 30% of respondents reported experiencing racism or microaggressions based on skin colour or culture, while 51% reported witnessing these events. Attending physicians (31%) and patients/families (22%) were most likely to be identified as responsible for this behaviour. Respondents who self-identified as BIPOC were 4.5 times more likely to have experienced (RR 4.51, 95%CI 3.27-6.21) and 1.4 times more likely to have witnessed (RR 1.39, 95%CI 1.11-1.74) such events. A large majority of participants (95%) believed that BIPOC medical students/residents may or do face additional obstacles during medical education. Major themes of solutions proposed by respondents included: Anonymous



reporting systems, dedicated counsellors from BIPOC groups, re-education of healthcare professionals and increased peer/faculty support.

Discussion And Conclusion

In this study, local patterns of microaggressions and experiences of racism during medical education were identified and linked to the context of their occurrence. BIPOC-identifying students were significantly more likely to witness and experience this behaviour during medical education. This study will help establish future steps at our institution by coordinating action plans and developing resources aligned with the obstacles identified and the proposed solutions by respondents.

Take Home Messages

The context and frequency of microaggressions and racism experienced in medical education may differ by region. Explicitly seeking to learn about one's own institution will permit targeted intervention to provide equity-deserving students with a safe and supported educational experience.



11K02 (3254)

Date of presentation: Tuesday 30th August

Time of session: 16:35 - 16:40

Location of presentation: Tete d'Or 2

Inclusion of Diversity in Clinical Case-Based Learning Improves Self-reported Awareness, Comfort, and Competency in Interacting with Diverse Patient Populations.

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¹ *RCSI University of Medicine and Health Sciences, Dublin, Ireland*

Background

Health inequalities have been identified within minority groups as a consequence of social and structural determinants of health. Addressing such issues within healthcare education is a key intervention to tackle the perpetuation of health inequities. RCSI University of Medicine and Health Sciences implemented diversity in clinical case-based teaching (CCBT) into the Graduate Entry Medical curriculum in 2021. The aim of this study was to evaluate the effects of diversity inclusion on the awareness, comfort, and perceived competence (ACC) levels of students in interacting with patients belonging to minority groups.

Summary Of Work

This was a retrospective cohort study comparing self-reported levels of ACC prior to and following exposure to the diversified CCBT. Topics explored included gender diverse, female gender, race, sexual minority, traveller population, physical and mental disability, and religion. Descriptive analysis and Chi-square tests were used to compare ACC before and after diversity inclusion and any demographic associations. Thematic analysis was completed on open question responses. Data was collected by anonymous online survey and ethical approval obtained from the RCSI Research Ethics Committee.

Summary Of Results

24 students completed the survey (28% response rate) of whom 54.2% were 25 or older, 66.7% female identifying, 25.0% ethnic minority, and 12.5% LGBTQ+ community. Overall awareness increased in 53%, comfort in 42%, and perceived competence in 49% of participants. The largest changes related to the Irish traveller population: increased perceived awareness (52%), comfort (58%), and competence (48%). There was no association between age group, gender, ethnicity, sexual orientation, or gender identity and ACC outcomes. Thematic analysis demonstrated students believe increased diversity enhances their learning experience and they desire further diversity in case-based teaching.



Discussion And Conclusion

Increasing diversity among CCBT increased students' ACC levels demonstrating that exposure alone, in the absence of formal cultural competency teaching, enhanced students' learning and helped them feel more prepared to encounter diverse patients.

Take Home Messages

Increasing the exposure of medical students to patients of diverse backgrounds in early years can help make them more aware, comfortable, and competent in interacting with such populations, potentially reducing future patient barriers to healthcare.



11K03 (4112)

Date of presentation: Tuesday 30th August

Time of session: 16:40 - 16:45

Location of presentation: Tete d'Or 2

Improving Educational Outcomes and Health Workforce Diversity

Reamer Bushardt¹, Minhye Kim¹, Joyce Maring¹, Marcia Firmani¹, Maranda Ward¹, Patrick Corr¹

¹ *George Washington University School of Medicine and Health Sciences, Washington, USA*

Background

A more diverse health care workforce and greater alignment of sociodemographic characteristics between health workers and patients are linked to better health outcomes. Health professionals from underrepresented backgrounds are more likely to practice in medically underserved areas. In 2018, the George Washington University (GW) began a series of career pathway initiatives to increase the number and academic readiness of students from underrepresented groups and disadvantaged backgrounds for health careers. Programs received supported through various funding sources, including institutional, philanthropic, and grant sources. Students were recruited from metropolitan Washington D.C.

Summary Of Work

Initiatives included a public-private dual enrollment partnership and high school-based STEM-M academy, transfer programs with community colleges, and academic enrichment activities. Pathways matched high demand health careers (e.g. medicine, nursing, medical laboratory sciences, rehabilitative sciences, emergency health, and informatics). Interventions included academic enrichment activities, mentoring and case management, professional seminars, scholarships, and no-cost dual enrollment credits. Primary endpoints included college acceptance and retention, academic performance, and career entry. Secondary measures assessed student experience and attitudes toward underserved populations.

Summary Of Results

In 2022, a comprehensive 4-year evaluation assessed student progress, mentorship, and career selections. Among students enrolled in the programs (n=389), 93% remained in good academic standing. Most students (n=299) selected 1 of 6 high demand health careers and others (n=32) were undeclared. All students reported economic or educational disadvantage, and many reported both. Most students responded positively in surveys about feeling prepared to attend college and felt motivated to pursue a graduate degree.



Discussion And Conclusion

Interventions that strengthen enabling factors and dismantle barriers to participation in college and health professions training can increase the number and diversity of students pursuing health careers, including individuals from underrepresented populations. Early intervention, holistic approaches (including financial, academic, and personal support) and longitudinal programming are key.

Take Home Messages

A diverse health care workforce is linked to better health outcomes. Health professionals from disadvantaged backgrounds are more likely to serve underserved communities. Health professional training programs can improve student diversity through the development of novel partnerships, such as dual enrollment programs and academic enrichment activities, with regional high schools and community colleges.



11K04 (3030)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 16:50

Location of presentation: Tete d'Or 2

Perceptions of faculty teachers and students of discriminatory experiences and sexual harassment in Academic Medicine – Results from a faculty wide evaluation

Sabine Ludwig^{1,2}, Sabine Jenner¹, Ralph Berger¹, Sylvie Tappert¹, Christine Kurmeyer¹, Sabine Oertelt-Prigione^{3,4}, Mandy Petzold¹

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Background

Discrimination and sexual harassment in the workplace and in higher education institutions are important public health issues and can affect employees, faculty members and students. Herein we aim at analyzing the prevalence of discrimination and sexual harassment of lecturers and students at one of the largest teaching hospitals in Europe. We assess whether there are differences between lecturers and students, women and men, and different study programs.

Summary Of Work

An online questionnaire was sent to N=7095 students of all study programs and N=2528 lecturers at Charité - Universitätsmedizin Berlin. The survey was conducted from November 2018 to February 2019. We investigated experienced or observed discrimination or sexual harassment at the medical faculty. Furthermore, we analyzed frequency, perpetrators, situational factors, attributed reasons and forms of harassment encountered.

Summary Of Results

A total of 964 (14%) students (S) and 275 (11%) of lecturers (L) participated in the survey. Discriminatory behavior was witnessed and/or experienced by 49,6% of students (L: 31%), sexual harassment by 23,6% of students (L: 19,2%). Students state lecturers (85,9%) as main source of discriminatory behavior (L: directors/supervisors: 47,4%; students 41,0%). Sex/Gender (S: 71%; L: 60,3%) is cited most frequently as reason for discriminatory experiences. Female students and faculty experience more discrimination and sexual harassment.



Discussion And Conclusion

Discrimination and sexual harassment are prevalent in academic medicine among medical students, dental students and students of further study programs in the healthcare sector as well as lecturers. There are differences in the reasons and sources of discrimination and sexual harassment between students and lecturers. Specific programs for lecturers and students are necessary to raise the awareness and educate the faculty on how to prevent and respond to it and whom to address. Special attention should be paid to female students and lecturers as well as students of dentistry study programs.

Take Home Messages

National preventive strategies should be implemented to tackle issues of discrimination and harassment at the workplace and in higher education institutions for the different target groups.



11K05 (2858)

Date of presentation: Tuesday 30th August

Time of session: 16:50 - 16:55

Location of presentation: Tete d'Or 2

Increasing medical student awareness of and confidence to advocate against racism in medicine: results of a student-led, interactive anti-racism programme

Thérèse M. Lynn¹, Oluwarotimi Vaughan-Ogunlusi¹, Kathryn Wiesendanger¹, Sarah Colbert-Kaip¹, Austin Capcara¹, Katrina A. D'Urzo¹, Sarah Chen¹, Seamus Sreenan¹, Marian Brennan¹

¹ *RCSI University of Medicine and Health Sciences, Dublin, Ireland*

Background

Systemic racism impacts personal and community health; however, education regarding its role in perpetuating healthcare inequity remains limited in medical curricula. As part of a broader programme progressing race equality at RCSI University of Medicine and Health Sciences, we implemented and evaluated the impact of a student-led anti-racism programme on medical students' awareness of and confidence to advocate against racism in medicine.

Summary Of Work

Early-stage medical students voluntarily enrolled in the programme. Students were assigned readings and videos exploring racial injustice in medicine and attended a virtual small-group discussion co-led by faculty and student facilitators. Online surveys were used to collect comparative data. Likert scale data was analysed using Chi-squared tests and cumulative scores were analysed using one-way ANOVA with Bonferroni post-tests. Open-ended questions were reviewed using reflexive thematic analysis.

Summary Of Results

A total of 42 students enrolled in the programme with a 62% survey response rate. The majority of students (60%) had no previous exposure to education about racism in medicine. There was a significant change in students' perceived definition of race from features including genetic, biological, geographical, and cultural factors to socio-political factors ($P < 0.0001$). Awareness and advocacy scores increased by 25% and 19% respectively ($P < 0.001$). Students' agreement with the use of race-based medical practice decreased by 25% ($P < 0.001$). Student-identified barriers to discussing racism included lack of education and lived experience, fear of starting conflict and offending others. All survey respondents (100%) would recommend this programme to peers and 69% engaged in further topical self-directed education.



Discussion And Conclusion

This simple and reproducible programme improved awareness and confidence in advocating against racism in medicine and resulted in an overall change in opinion regarding race-based medical practice. These findings are encouraging and in line with best practice towards decolonizing medical curricula and strengthening anti-racism teaching.

Take Home Messages

Early engagement with students is essential to equip future doctors with tools necessary to understand, advocate against and address the impacts of racism in medicine. Self-directed study followed by discursive sessions is an effective way to increase awareness of and improve confidence to advocate against racism in medicine.



11K06 (1730)

Date of presentation: Tuesday 30th August

Time of session: 16:55 - 17:00

Location of presentation: Tete d'Or 2

Diversity And Inclusion In Health Professional Education: A Grounded Theory Model

Olga Matus-Betancourt¹, Cristhian Pérez-Villalobos¹, Javiera Ortega-Bastidas¹, Camila Espinoza-Parçet¹, Nancy Navarro-Hernández², Verónica Silva-Orrego³, Peter McColl⁴, María José Solis-Grant¹, Mary Jane Schilling-Norman¹, Liliana Ortiz-Moreira¹, Ivone Campos-Cerda¹

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Background

Health professionals are not the only ones who work with diverse populations, but they are among the few who must work directly and systematically with people's vulnerabilities. Learning to respect diversity is essential to promoting health. But it is difficult to train health professionals to deal with a diverse and complex society if the training does not respect and take advantage of the inherent diversity of the classroom. For this reason, the present work set out to understand the role of diversity and inclusion in the academic experience of health care students and teachers.

Summary Of Work

Qualitative study following the guidelines of grounded theory. For this purpose, 21 interviews were conducted with teachers and 25 interviews with students from six health careers, from three universities in Chile. The interviews were conducted after informed consent. For data analysis, the selective coding was reached developing a comprehensive model.

Summary Of Results

We obtained a model from selective coding that offers a comprehensive explanation of the role that diversity and inclusion have in the academic experience of teachers and students of health careers. This phenomenon is caused by belonging to minorities and the associated social conceptions. Action strategies of the institution, teachers and students are identified. The intervening factors are associated with the legislative framework on patients, student participation, modeling by teachers and university regulations. The consequences translate into a cycle between participation and learning that can be virtuous or vicious.



Discussion And Conclusion

Although diversity is valued at the university level, there is little clarity among informants about what an inclusive education should be and what it should look like. However, they understand it as a central aspect of training. This derives from the values of medical professionalism but also from the legal framework in force in the country and in the institutions.

Take Home Messages

Health professionals must be trained from diversity and for diversity.



11K07 (3213)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:05

Location of presentation: Tete d'Or 2

Do the NHS Education Scotland Equality Priorities Reflect the Concerns of Doctors with Disabilities?

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Background

In contrast to 19% of working age adults, only 1.5% of doctors in training in Scotland report having a disability. Despite increasing awareness of the value individuals with disabilities can add to the profession, there is still a need to make training more inclusive. This includes ensuring doctors' views are reflected in policy and in medical education.

Summary Of Work

Academic literature published between 2002 and 2021 was reviewed to assess the progress of doctors with disabilities in the UK's National Health Service (NHS). A regional survey was sent to all South East Scotland Foundation Year (FY) doctors about their experiences in training. This was compared to NHS Education Scotland (NES) Equality Outcomes to analyse the progress in support for doctors with disabilities in medical education, and if NES Priority Outcome 5 reflected the challenges still to be met.

Summary Of Results

Thirteen publications were identified and 2.17% of FY doctors in South East Scotland responded to the survey. Analysis uncovered shared themes including the onus for support being on doctors rather than organisations, and a widespread lack of education regarding disability in the workforce. Survey responses identified that although the NES Priorities were appropriate, they failed to contextualise the specific applicability to doctors with disabilities.

Discussion And Conclusion

There is increasing awareness of what doctors with disabilities can add to the medical profession. However, they are underrepresented compared to the general population and experience additional challenges. NES Priorities may help address these, but more focused guidance is needed.



Take Home Messages

1. The number of doctors with disabilities is not reflective of what is seen in the general population despite recognition that they can add a unique perspective to the medical profession.
 2. There needs to be more academic research and policy focused specifically on doctors with disabilities, especially when it comes to their training and educational experiences.
 3. Moving forward, NES-affiliated organisations, alongside the wider NHS, need to enact the NES guidance whilst working to understand doctors with disabilities' concerns in greater detail.
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11K08 (2805)

Date of presentation: Tuesday 30th August

Time of session: 17:05 - 17:10

Location of presentation: Tete d'Or 2

Tackling Differential Attainment in health care

Bijal O'Gara¹

¹ Health Education England, South West, Bristol, UK

Background

In the context of the COVID-19 pandemic, and the poorer outcomes for black and Asian ethnic individuals in the UK as well as the historic issues of differential attainment (DA) within Postgraduate Medical Education and training meant that it was time to act.

National data shows International medical graduates (IMGs) and BAME (black and ethnic minority) doctors have worse training outcomes and opportunities due to their protected characteristics.

2020 Health Education England's (HEE), Deans report provided a strategy to achieving better equality, diversity and inclusion.

Summary Of Work

My focus of the last 6 months has been on the IMGs integration into the Southwest of England NHS with a number of strategies;

- HEE backed IMG Network has been established; allowing a voice and representation within HEE.
- Welcome letter produced with links to resources
- Biannual regional South West IMG conference
- Local IMG specific induction
- Online Handbook for IMG's
- Video vignettes introducing specialties.
- Created specific personal development plan for IMGs
- Trial of "enhanced shadowing" for IMG doctors.

Summary Of Results

Presentation at the regional directors of medical education to disseminate all the above initiatives and enable change. Questionnaire to all senior educators reflected 95% wanted hybrid education day



on differential attainment. A multipronged and multi-level approach to train the trainer and improve trainee experience.

Discussion And Conclusion

Differential attainment amongst doctors needs to be addressed to get the best out of each doctor. This requires a cultural and behavioural change at every level within the NHS and is often deep rooted. Having multiple streams of work and aiming to make changes at multiple levels is a way of addressing this.

Take Home Messages

20,000 doctors in training in the UK welcomed the attention given by HEE to differential attainment issues and made it clear that immediate action needs to happen for change to develop and be felt by individuals. This change needs to occur across all sectors; system-wide across health and social care, from us all as individuals and from wider society.



11K09 (3698)

Date of presentation: Tuesday 30th August

Time of session: 17:10 - 17:15

Location of presentation: Tete d'Or 2

JEDI-Minded for Disability (Justice, Equity, Diversity, Inclusion): Community-Informed Disability Education

Jessica Prokup¹, Gretchen Ferber¹, Amy Houtrow¹, Elise Pearson¹, Kristen Milleville¹, Max Hurwitz¹

¹ *University of Pittsburgh Medical Center (UPMC), Pittsburgh, USA*

Background

People with disabilities (PWD) experience significant healthcare disparities in the United States. Physicians and medical students report discomfort and inadequate training in the care of this population. Unfortunately in the United States, there is no requirement to teach medical students about PWD resulting in minimal to no educational experiences in medical school. When disability content is taught, the focus tends to be on the medical model of disability. There is a growing interest in creating educational content to bridge this knowledge gap and improve the quality of care for PWD.

Summary Of Work

Faculty, residents, and medical students at the University of Pittsburgh Medical Center's (UPMC) Department of Physical Medicine & Rehabilitation (PM&R) are designing a disability justice course at the University of Pittsburgh School of Medicine. This elective focuses on the disability experience and how students can serve PWD in an affirming, anti-ableist way, minimizing the focus on the medical model of disability. To better inform course development, we are conducting qualitative interviews with community members with disabilities to identify topics and content that are most important to teach. A standardized interview instrument was designed, and interviews are being conducted by faculty and residents.

Summary Of Results

Interviews are nearing completion with thematic coding currently underway. A final analysis of the results is expected several months prior to the anticipated presentation.

Discussion And Conclusion

When designing medical curricula focused on PWD, educators must have humility and acknowledge that PWD are the true experts on their experience. Conducting qualitative interviews ensures that we do not lose sight of this fact. Such a partnership also fosters direct community participation and ensures that we are meeting their unique needs. Our presentation will discuss the steps we have



taken at UPMC to include the voices of PWD in our course development and implementation. We will also discuss next steps, including the use of evaluative course data to promote further curricular changes.

Take Home Messages

Medical students receive inadequate training in disabilities leading to harmful misconceptions about PWD and attitudinal barriers to care. UPMC PM&R provides a framework for creating a community-informed disability course, designed to combat ableism and implicit biases among physicians-in-training.



11K10 (3705)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:20

Location of presentation: Tete d'Or 2

A Comprehensive Blueprint to Address Racism in Medical Education: A Suggested Approach from Cambridge

Azmaeen Zarif¹, Paul Wilkinson¹

¹ *University of Cambridge School of Clinical Medicine, Cambridge, UK*

Background

In 2020, the University of Cambridge School of Clinical Medicine convened the Racism in Medical Education Student-Staff Liaison Group (RME SSLG) following calls from over 2000 past and present students to address racism in medical education. Through collaborative student and staff leadership, we have developed an internationally-applicable framework to tackle racism in undergraduate medical education.

Summary Of Work

To comprehensively target the major areas of medical education, we agreed on four main areas of focus: Curriculum; Assessment; Student Reporting and Support; and Staff Development.

Summary Of Results

Curricular revisions have focused on improving understanding of how structural racism creates and reinforces health inequalities. New practical skills teaching is focused on raising students' awareness about their susceptibility to, and thus how to reduce, implicit biases. All speciality teaching is being revised to address the influence of ethnicity on speciality-specific presentation, treatment, and outcomes. We are developing novel assessment material to better reflect patient diversity and test students' ability to consider patients' ethnicities sensitively in their management. We are working to finely characterise ethnicity-based awarding gaps in our exams and then put in place appropriate ameliorative measures. We identified three major functions necessary for any racism-related reporting system: ensuring codified procedures following an incident report; providing emotional and practical support to students; and facilitating high-quality data collection to drive long-term change. For Staff Development, in addition to delivering Unconscious Bias Training, we are developing Active Bystander Training to enable staff to support students when they witness racism in the workplace.

Discussion And Conclusion

Our comprehensive approach includes visible, high-profile commitment from senior leadership; emphasises the importance of the voices of students and staff of colour; and includes



both relatively quick, clear actions such as a critical review of curriculum content alongside longer-term ambitions to address biased attitudes and constructions of knowledge that perpetuate structural inequity.

Take Home Messages

The doctors of tomorrow cannot be allowed to repeat the mistakes of the past. Our framework presents one such approach that other medical schools could implement, with the ultimate aim of improving the care and lives of ethnic minority patients and colleagues.



11K11 (4212)

Date of presentation: Tuesday 30th August

Time of session: 17:20 - 17:25

Location of presentation: Tete d'Or 2

Implementing a Bias Response Curriculum for Medical Students

Jean-Marie Alves-Bradford¹, Hetty Cunningham¹

¹ *Columbia University Vagelos College of Physicians & Surgeons, New York, NY, USA*

Background

The prevalence of medical students experiencing discrimination throughout their training is as high as 76% in some groups. Discrimination can impair self-esteem, productivity, relationships, cognitive function, learning and academic performance. In addition to interventions to reduce discrimination and to help those who directly experience mistreatment, medical students need “*upstander skills*” to support patients and colleagues who experience discrimination.

Summary Of Work

We developed and implemented a required upstander skills curriculum for all first-year medical students. The curriculum includes pre-reading and an interactive lecture, followed by faculty facilitated small group sessions in which students practice bias response strategies using sample cases. Pre/post surveys were used to assess student knowledge and attitudes toward bias response. Faculty development on implicit bias, bias response skills deployment and facilitating conversations involving bias was conducted for the small group session faculty leaders. Pre/post surveys assessed faculty experience and self-reported skill development.

Summary Of Results

On the pre-survey, 51% of medical students reported confidence in identifying bias response strategies to intervene in examples of bias. On the post-survey, 99% students reported confidence in identifying response strategies to intervene in examples of bias in medical settings. Student comments on the post-survey included “*I've been taught certain phrases/responses I can use in the moment to respond to bias. I previously often felt like I didn't know what to say..*” and “*I have more concrete strategies of addressing bias and microaggressions in ways that are non-combative and restorative.*”

100% of faculty reported improvements in knowledge in identifying strategies to respond to microaggressions, skills in fostering brave spaces, validating learners' viewpoints, and navigating racial tension in small groups, and felt comfortable and prepared to lead small group sessions.



Discussion And Conclusion

Implementing the bias response curriculum was feasible. Early outcomes data indicate it was successful. This intervention was limited to first-year students and its impact on their experiences in clinical environments is not yet known. We are extending bias response training throughout the four-year medical school curriculum and evaluating its impact on students' experience in clinical learning environments.

Take Home Messages

Bias response skills can effectively be taught to both students and faculty with improvements in knowledge, skills and attitudes.



11K12 (0294)

Date of presentation: Tuesday 30th August

Time of session: 17:25 - 17:30

Location of presentation: Tete d'Or 2

Development and Evaluation of a Workshop on Addressing Microaggressions in Medical Education

Amy Fleming¹, William Golden², Kimberly Vinson¹, Valencia Walker³, Joseph Jackson⁴, Heather Burrows⁵, Sharon Kileny⁵, Meg Keeley⁶, Kenya McNeal-Trice⁷

¹ *Vanderbilt University School of Medicine, Nashville/TN, USA* ² *Johns Hopkins School of Medicine, Baltimore/ MD, USA* ³ *The Ohio State University, Columbus/OH, USA* ⁴ *Duke University, North Carolina, USA* ⁵ *University of Michigan, Ann Arbor/MI, USA* ⁶ *University of Virginia, Charlottesville, VA, USA* ⁷ *University of North Carolina, North Carolina, USA*

Background

Microaggressions, identified as brief, commonplace indignities that disrespect minoritized persons, have persisted through generations of medical training. However, clinicians, staff, and administrators in medical settings may be unfamiliar with identifying and addressing microaggressions.

Summary Of Work

Nine physicians/medical educators at US academic medical centers developed a 90-minute, virtual workshop on addressing microaggressions in medicine. This workshop consisted of didactics, facilitated small-group reviews of microaggression case vignettes, and large-group discussions of the cases and strategies to address microaggressions. The workshop was presented to twenty-one (21) medical/hospital groups (US, Canada and Australia), including physicians, residents, fellows, nurses, respiratory therapists, medical administrators, and administrative staff. After the session, participants were invited to complete a brief on-line survey about the session's ability to improve their recognition and active mitigation of microaggressions in learning/clinical environments. Additionally, they were asked to evaluate workshop participation and utility in a virtual setting.

Summary Of Results

Three-hundred-four (304) participants completed the post-workshop survey. Utilizing a 5-point Likert scale (1= not at all to 5= very well), participants reported improved ability to identify a microaggression after completing the workshop. Pre-workshop (mean=3.47, median=4), post-workshop (mean=4.6, median=5). Importantly, 97% of participants (294/303) stated that after participating in the workshop they gained strategies for responding to a microaggression. And, 82% (248/303) stated they are confident they will respond as a bystander to a microaggression in the future. Participants acknowledged they have committed microaggressions in the past (57%, 172/302), and since completing the workshop have caught themselves causing or almost causing a



microaggression in the learning environment (34%, 104/304). Finally, overall evaluations of the virtual format for this workshop were positive, with 95% of question respondents (233/245) stating the virtual format made it easier to attend.

Discussion And Conclusion

Data supports that this virtual workshop, teaching bystander skills to mitigate microaggressions, is a successful and impactful training session across a broad group of learners. Quantitative and qualitative evaluations of the workshop support the need for this and further training around microaggressions in medical education.

Take Home Messages

This workshop successfully enhances the professional development of medical educators by teaching methods of identifying and preventing microaggressions. The workshop promotes diversity and safe learning environments in medical education.



11K13 (2703)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:35

Location of presentation: Tete d'Or 2

Gender Discrimination in Hidden Curriculum in Medical Education: A Qualitative Study Based on Medical Students' Experiences

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Background

"Gender mainstreaming" was established as a global strategy for promoting gender equality in the Fourth United Nations World Conference on Women in 1995. In Taiwan, according to the "Gender Equity Education Act" which was announced in 2004, medical professionals are obliged to obtain continuing medical education credits on gender issue. However, the never-ending gender discrimination both in fundamental and clinical education reveals that gender sensitivity in medical education cannot be adequately promoted merely on the grounds of formal accreditation and certification.

Summary Of Work

Based on medical students' experiences, this study explores how gender sensitivity should be established in medical education. Discourse analysis was performed with in-depth one-on-one interviews with 14 medical students, interns, and residents from different medical schools.

Summary Of Results

In the first part, seven modes of gender discrimination and stereotypes in the hidden curriculum were identified: (1) 'gender blind' in bedside teaching;(2) gendered stereotypes of physiological knowledge; (3) exaggerating or ignoring of lesbian, gay, bisexual and transgender (LGBT) people;(4) degrading profession of female nurses;(5) discriminatory treatment of female medical students; (6) sexual harassment and a hostile environment;(7) stereotyped gender-based division of labor. Both teachers and students co-produced a heterosexual masculine culture and sexism, including 'benevolent sexism' and 'hostile sexism.' In the second part, medical students' understandings of these experiences, as well as the dynamics of their actions and interactions with physicians' authority and peer discipline, were further delineated.



Discussion And Conclusion

This study investigates acquired gender discrimination among medical students from a hidden curriculum based on a lived experience. In conclusion, this study contended that, in order to establish gender sensitivity in medical education, particular attention should be paid to gender discrimination in hidden curriculum and the intertwinement between professional knowledge and power relation. Moreover, the 'gender inclusive' perspectives should be adopted in medical teaching and practice.

Take Home Messages

Gender discrimination in hidden curriculum and the intertwinement between professional knowledge and power relation need to be emphasized in current medical education.



ePosters - Faculty Development across a continuum 2: A focus on the next generation

11L01 (3479)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 16:35

Location of presentation: Salon Tete d'Or

How to Recruit and Select Peer Tutors for Teaching Clinical Communication Skills: Lessons Learned From a Pilot at one UK Medical School.

Jennifer Collom¹, Leo Hudson¹, Laura Yalley-Ogunro¹, Angela Kubacki¹

¹ *St George's University of London, London, UK*

Background

Peer tutoring and Peer Assisted Learning (PAL) have become invaluable tools in pre-clinical years medical education and authors have begun to formalise its implementation and design. Existing programmes have enlisted Peer Tutors (PTs) on a predominantly voluntary basis and with little documented evidence or description of the recruitment procedure. Ideally, the process by which PTs are selected should reflect the content they intend to teach, and the skills and attributes needed to perform the role accurately.

Summary Of Work

A new CCS Peer Tutor (PT) programme was developed, which aimed to hire PTs using a skills and experience-based selection process rather than considering exam grades alone for selection. Writing a well-defined job description and person specification to match the values and attributes to which PTs would be selected was paramount. With the desirable characteristics of a CCS PT in mind, a three-stage assessment approach including a written application, a three-station MMI-style assessment, and a training day for successful candidates was designed and implemented for our first cohort of PTs.

Summary Of Results

One year on after piloting and evaluating the programme, we will present our carefully considered recruitment and selection process and the lessons learned along the way. We will discuss the benefits of using a values-based approach for the recruitment of PTs and why feedback, empathy and facilitation skills are so important when selecting PTs to teach early years students clinical communication skills. We will share our methods for setting up a CCS PT programme, with a step-by-step detailed design explanation, which can be adapted by any educational healthcare institution.



Discussion And Conclusion

Peer tutoring and PAL methods are becoming more prevalent in medical schools across the UK. Therefore, it is now more important than ever to make sure consistently high standards of teaching are met. To this end, careful consideration must be made when assessing candidates for the role of CCS PT. We hope the lessons learned from our experience will help other institutions to effectively implement CCS PT programmes.

Take Home Messages

A robust recruitment and selection process for PTs in CCS teaching is essential for maintaining teaching standards and quality in medical education.



11L02 (1370)

Date of presentation: Tuesday 30th August

Time of session: 16:35 - 16:40

Location of presentation: Salon Tete d'Or

What factors motivate foundation doctors within the NHS to offer informal ward-based teaching to medical students?

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Background

U.K foundation trainees are in an ideal situation to carry out near-peer teaching for medical students; their position allows for cognitive congruence with the learner in a non-threatening teaching environment. Whilst the value of junior-led teaching is evident, many studies identify limitations faced by trainees, alongside growing disengagement, particularly after the restrictions on medical student placements during the COVID-19 pandemic. Our study set out to investigate the main enablers and barriers faced by UK foundation trainees when engaging in teaching.

Summary Of Work

Semi-structured interviews were conducted with fifteen ward-based foundation trainees at a tertiary-level teaching hospital. The data collected was transcribed verbatim and the data was analysed using the Framework Method.

Summary Of Results

Three main barriers and three main enablers emerged from analysis:

The work environment: Intense, unpredictable workload was overwhelmingly perceived as the most pertinent barrier, exacerbated by longer ward rounds and difficulty finding a room to teach.

Personal Factors: Participants felt unprepared for the often ad-hoc teaching sessions they delivered, with many desiring notice to plan their teaching around their other responsibilities.

Student Factors: Participants were deterred from teaching overwhelming numbers of students and disinterested students, who they identified through their prioritisation to obtain “sign-offs”.

Participant enjoyment: Participants enjoy teaching, accrediting significant value to ward-based teaching and regularly citing their own student experiences as a motivation to teach.



Professional Development: Participants acknowledge involvement and development of teaching skills as a factor in continuing professional development.

Senior student placement: There was a strong preference to teach senior students on longer placements for continuity and the development of rapport.

Discussion And Conclusion

Trainees are motivated by a genuine desire to teach to develop personally and professionally, an insight that builds on the existing literature surrounding this topic. Foundation trainees are further motivated by their uniquely close relationship to the medical student role, allowing them to empathise and reminisce about their own learner experiences.

Take Home Messages

Foundation trainees have an essential role to play in ward-based medical teaching. This must be acknowledged and facilitated by optimising environmental and organisational factors, in order for them to deliver the informal teaching students so often rely upon.



11L03 (3168)

Date of presentation: Tuesday 30th August

Time of session: 16:40 - 16:45

Location of presentation: Salon Tete d'Or

IMPRES5: From Ad Hoc Teaching Sessions to Full Day Themed Teaching Days – An Undergraduate Education Team’s Response to the COVID-19 Pandemic

Samantha Williamson¹, Hayley Boal¹, Joe Gleeson¹, Eleanor Dodd¹, Thomas Sharp¹, Ashley Wragg¹

¹ *The Mid Yorkshire Hospitals NHS Trust, Wakefield, UK*

Background

The Covid-19 pandemic has significantly impacted medical education. Many final year medical students feel less confident in the clinical setting, having missed a significant proportion of their 4th year studies.

Summary Of Work

We developed an innovative educational programme - IMPRES5 (Investigations, Management, Prescribing and Simulation in year 5), involving a full day of small group teaching each week, totalling 72 hours per student over their eight-week placement. IMPRES5 was designed, developed, and delivered by a team of post-foundation, near-peer junior doctors.

Each day had a theme, such as “the breathless patient”. The sessions aimed to develop students' application of prior knowledge, with realistic simulation, practical skills, communication skills, and diagnostic interpretation scenarios run in a safe environment.

Summary Of Results

IMPRES5 has received exceptional feedback:

Typical feedback comments included:

- “It was really helpful and interesting to have each teaching day themed on a presenting complaint.”
- “Protected time so (we) don’t miss out if clinicians are busy”
- “The best teaching I have had during medical school (...) I loved how interactive, clinically focused and relevant to F1/F2 each teaching day was.”
- “Consistently received feedback which I have been able to act upon to improve my clinical practice”



Discussion And Conclusion

We believe the key factors enabling the success of IMPRES5 include:

- The use of near-peer teachers, which contributed to safe and relaxed learning environments, and allowed for role-modelling of the FY1 role;
- The emphasis on translating theoretical knowledge into actions to take in clinical practice - partly via usage of high-fidelity simulation, but also by emphasising practical factors within case-based discussions and diagnostics sessions;
- Teaching students once-weekly over two months - this has allowed for significant continuity, allowing students and tutors to come to know each other well, raise or identify specific learning needs, and immediately focus on learning rather than requiring orientation/pre-briefs at every teaching session;
- Maintaining a face-to-face teaching approach throughout.

Take Home Messages

A longitudinal, near-peer, face-to-face teaching programme with emphasis on translating theoretical knowledge into real life can be an excellent structure through which to teach final year medical students, and help them prepare for clinical practice.



11L04 (3333)

Date of presentation: Tuesday 30th August

Time of session: 16:45 - 16:50

Location of presentation: Salon Tete d'Or

Tips for the success of the longitudinal online nation-wide Residents as Teachers fellowship

Tadayuki Hashimoto¹, Shunsuke Kosugi², Takeshi Kanazawa³, Makoto Kikukawa⁴

¹ Osaka Medical and Pharmaceutical University, Takatsuki, Japan ² Iizuka Hospital, Iizuka, Japan ³ Kenwakai Otemachi Hospital, Kitakyushu, Japan ⁴ Kyushu University, Fukuoka, Japan

Background

The authors developed and reported teaching competencies and EPAs for residents in AMEE since 2016 and 2018. Based on these, we have held year-round longitudinal face-to-face workshops (Residents as Teachers fellowship) since 2018. Because of the COVID-19 pandemic, we started a full-remote fellowship in 2020 and 2021. In total, 86 residents and young faculties from all over Japan participated in this fellowship.

Summary Of Work

We developed the fellowship in stages over four years, and conducted participant surveys and focus group interviews. Based on the results, we made improvements every year, and as a result, the program has grown into a program with a very high level of participant satisfaction. This time, we summarized the results of those four years and discussed what were the keys to success.

Summary Of Results

Four tips were derived from the interviews and discussions. social congruence theory, in which residents in similar situations learn together, and technology-enhanced learning to maximize the web-based learning in remote areas were identified as the participant-side elements. In order to stabilize the fellowship management, it was found that it was important to encourage their program director to provide support to each participant and to employ and train the facilitators.

Discussion And Conclusion

Although they are thriving in some countries, residents-as-Teachers programs are not yet common. The reasons for this are that residents are still undergoing training and are not in a position to teach, and they do not want to put more work on their busy schedules. We believe that the results of this study can be applied to implementation in other institutions.



Take Home Messages

In order for the Residents-as-Teachers fellowship to be successful, it is important to use social congruence theory, and methodology of technology-enhanced learning, and to reach out to each program director to sustain the program and gather educational staff to build a stable operating base.



11L05 (2638)

Date of presentation: Tuesday 30th August

Time of session: 16:50 - 16:55

Location of presentation: Salon Tete d'Or

The Tutoring Training Weekend: a major national French multidisciplinary congress, by students for students

Yann Kerbellec^{1,2}, Elisa Mangeolle^{1,3}, Coralie Pignol^{4,5}, Lucie Bréon^{4,6}, Damien Gilles^{7,8}, Aurore Chevalier^{9,10}, Lucas Herrera^{11,12}, Ali Chour¹³, Evan Gouy^{13,14}

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Background

French health student tutoring associations not only help students in getting into health studies but also help them succeed during their medical school.

The French national federations of medical, midwifery, dental, physiotherapy and pharmacy students organize an annual congress named "Tutoring Training Week-End" to allow French local teams to train, meet and share their experiences.

Summary Of Work

The heart of the congress is a set of **interactive training sessions** with several tracks depending on the role and profile of the participants.

In addition, there are also :

- a **round table** with expert views and exchanges with the students (e.g. Student Mental Health in 2021)

- a **project fair**, a time dedicated to present local projects with prizes given to the most innovative initiatives



The organization is shared by the national health student federations and by a local team. The 2021 congress was assessed by quantitative and qualitative online questionnaires.

Summary Of Results

Even though the congress had been held remotely because of the pandemic, we hosted **four hundred health students** for four days.

National trainers from the five federations handled **twenty-nine training sessions**, split into seven training courses :

- Reform of the health studies access
- Bases of associative management
- First year tutoring
- Course guidance
- Teaching skills
- Health and Well-being
- Undergraduate years tutoring

Concerning the round table, five contributors selected for their expertise in **Student Mental Health** came.

The global quantitative feedback was excellent. Respectively 4.4/5 - 4.2/5 - 4.6/5 for the Training sessions, the Round table and the Project fair.

Discussion And Conclusion

The Tutoring training weekend is a major event for students. It gives the opportunity to gain skills on several subjects and return with innovative ideas for new projects. The notoriety of this weekend shows the importance of peer learning in health studies, already developed but with future prospects. The **2022 Tutoring training Weekend** will be a more developed event with **sixty-six training sessions** and a round table focused on the **“Interprofessionality in health studies”**

Take Home Messages

French health student federations organize an annual training weekend for four hundred students to teach them tutor's skills.



11L06 (3874)

Date of presentation: Tuesday 30th August

Time of session: 16:55 - 17:00

Location of presentation: Salon Tete d'Or

Peer Teaching; What are the Learning Outcomes for the Student-Teachers?

Monika Kvernenes¹, Mohammed Anass Tanveer¹, Harald Haugsmyr Arntzen¹, Idun Grimstad Skjærseth¹, Thomas Mildestvedt¹

¹ *University of Bergen, Bergen, Norway*

Background

Peer teaching or peer assisted learning (PAL) describe structured educational interventions where students are facilitating the learning of other students. It is frequently used in medical education. While most of the literature on PAL is focusing on the benefits for student-learners, there is an increasing body of literature describing how participating in PAL activities also benefits the student-teacher. We have done an updated literature review aiming to summarize the existing evidence on what student-teachers learn from PAL. The following research questions guided our work:

- 1) What are the learning outcomes of peer-teaching and PAL activities for the student-teacher?
- 2) What peer teaching activities provide student-teacher benefits?
- 3) What is the impact size of the available evidence on student-teachers learning outcomes?

Summary Of Work

A wide literature search on peer teaching and PAL in undergraduate medical education was conducted in in four electronic databases (PubMed, EMBASE, Medline and ERIC). The search was conducted in October and November 2021 and resulted in 668 non duplicated articles. We did double blinded screening of the articles and included qualitative and quantitative research articles published from 2012 until present that reported on learning outcomes for student-teachers. We excluded papers that did not describe a structured PAL intervention with peer teachers in a formalized role. Disagreements were resolved by discussion in physical meetings. After a second round of quality assessment, 40 articles were included in the review.

Summary Of Results

Learning outcomes of PAL for the student-teachers are reported in four domains; subject-specific learning outcomes, generic skills (such as communication and teamwork), pedagogical knowledge and skills and personal outputs (such as confidence). "Kirkpatrick's Levels of Learning" model was used to grade the impact size of educational outcomes. Most studies report outcomes on Kirkpatrick's most basic levels; reaction and learning.



Discussion And Conclusion

PAL offers learning opportunities for all participants, student-teachers included. The engagement of students as peer teachers might be strategically planned and designed to meet learning outcomes for both student-learners and student teachers.

Take Home Messages

Updated evidence of the benefits of peer teaching and PAL will be presented.
Arguments for incorporating PAL into undergraduate medical programs will be discussed.



11L07 (3077)

Date of presentation: Tuesday 30th August

Time of session: 17:00 - 17:05

Location of presentation: Salon Tete d'Or

Resident as a teacher: Long term impact of training teaching skills to senior residents

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¹ *All India Institute of Medical Sciences Bhubaneswar, Bhubaneswar, India*

Background

Though they have teaching responsibilities, the senior residents in India are not given any specific training in teaching skills during their tenure. We introduced workshops to train senior residents at our institute with the objectives of assessing their effect on improvement of teaching skills and the impact and utility of the workshop after one year.

Summary Of Work

60 senior residents were divided into 2 batches and teaching skills workshops were conducted for 2 days. Feedback was taken from participants at end of the workshop. A questionnaire was mailed to all participants after one year of the workshops to assess their impact and utility.

Summary Of Results

Immediate feedback after the workshop, showed that more than 90% percent participants felt that the objectives of the workshop were fulfilled to a large extent. More than 60% of participants agreed that there was scope of active participation during the sessions. Majority of participants (more than 80%) felt that they would be able to apply the knowledge gained during the workshop.

20 participants responded to follow up questionnaire. 7 had joined other institutes as faculty. The rest were continuing with senior residency. 95% said they were able to apply the skills learnt during the workshops mainly in conducting tutorials (45%), teaching learning media (20%) and planning of lessons (20%), 70% agreed that the microteaching sessions helped them in their current teaching role. 70% said that they would like to enhance their skills in future through joining a medical education fellowship.

Discussion And Conclusion

A similar study by Satendra S. 2010 reported increased self confidence among senior residents and positive change in attitude towards teaching. In our study the participants were able to apply the skills learnt during the workshop and also reported an interest to enhance their skills. Planning and



conducting the interactive sessions helped to develop interest in teaching learning skills among the senior residents which they could also implement successfully in their teaching endeavours.

Take Home Messages

Training of senior residents in teaching learning skills can build interest in medical education and impact their future teaching endeavours.



11L08 (2411)

Date of presentation: Tuesday 30th August

Time of session: 17:05 - 17:10

Location of presentation: Salon Tete d'Or

A curriculum gap analysis by students for students

Aribah Naveed¹, Russell Hearn¹

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Background

At King's College London, third year medical students deliver a one-hour teaching session to their peers during their *Doctor as Teacher* module. Students submit a title and design learning outcomes for their session. These 200 self-designed teaching sessions provide us with insight into what learners would choose to incorporate into the curriculum through the lens of their own teaching and learning. We sought to explore these choices with the aim of identifying gaps in the perceived curriculum or insight into why students choose to teach certain topics.

Summary Of Work

Anonymised titles and learning outcomes for peer-teaching sessions delivered in 2018, 2019 and 2020 were analysed. Titles were mapped onto the existing curriculum with quantitative analysis of frequently chosen topics. Learning outcomes were thematically analysed by goal and complexity in alignment using Bloom's taxonomy. An anonymous survey was used to understand why the current cohort chose to teach their topics. Descriptive analysis was used to examine quantitative data alongside thematic analysis of qualitative responses from the questionnaire.

Summary Of Results

Survey data collection is currently ongoing. Initial results from analysis of historic teaching topics and learning outcomes indicates that students' choices are motivated by one of three factors: ease of teaching the topic (ECGs), a topic they feel is missing from the formal curriculum (niche anatomy), or preference for interactive teaching opportunities (suturing).

Discussion And Conclusion

This analysis gives insight into areas of the curriculum which student crave, and through incorporating these aspects into the core curriculum offer an opportunity to improve the learner-centred nature of undergraduate curricula. In addition, conclusions may be drawn about what topics are most suited to peer-led initiatives. The findings from this study could encourage other medical schools to evaluate and improve their curriculum utilising data from peer teaching.



Take Home Messages

The topics and learning outcomes chosen by students for peer teaching and the reasons behind this offers useful opportunities for improving student-led aspects of undergraduate curricula.



11L09 (4193)

Date of presentation: Tuesday 30th August

Time of session: 17:10 - 17:15

Location of presentation: Salon Tete d'Or

Internship with pedagogical anchoring in Region Stockholm: a new concept for enhancing educational merits among physicians

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Background

Teaching in clinical settings is challenging owing to heterogeneity in terms of needs and resources across disciplines. This is aggravated by the overall lack of pedagogical background among healthcare professionals. A substantial portion of physicians teach and supervise medical students, interns, residents, and consultants with inadequate or no formal pedagogical education throughout their entire career. This introduces an apparent risk for medical errors among newly graduated medical doctors. We therefore aimed at introducing a new internship format with integrated education within medical pedagogy.

Summary Of Work

Upon review of current literature and study visits in Swedish counties where similar internship formats have been implemented e.g., Region Östergötland, we designed a “pedagogical internship”, which extends the internship by 6 months. This additional time is allocated to pedagogical activities, advanced courses in pedagogy, and the conduct of a research or development project specifically designed for the intern. For the development of the pedagogical internship, a strategic collaboration between Region Stockholm and Karolinska Institutet comprising educators, four heads of internship programmes in Stockholm, stakeholders, legal advisers, and administrators was constituted to ensure the implementation of the project.

Summary Of Results

A pilot project comprising 12 interns over three admission periods was established. Of 71 applicants, four interns were admitted during the first selection period. Each intern was coupled with a mentor with long-standing pedagogical expertise and a project supervisor with ongoing research or development projects within medical pedagogy in clinical settings. Regular seminars and journal clubs were organised throughout the entire internship period to ensure acquaintance with up-to-date literature within medical pedagogy.



Discussion And Conclusion

With the overarching goal of enhancing pedagogical skills among physicians, we launched a pedagogical internship programme in Region Stockholm. We foresee that physician who have accomplished this internship will be equipped with pedagogical expertise and serve as ambassadors for teaching in clinical settings, not only within our county, but where they will practice their services.

Take Home Messages

Internships with a pedagogical anchoring may be one step towards increased pedagogical skills among physicians, improved quality of teaching in clinical settings, and avoidance of medical errors by young physicians.



11L10 (1128)

Date of presentation: Tuesday 30th August

Time of session: 17:15 - 17:20

Location of presentation: Salon Tete d'Or

Students as teachers; reflections of undergraduate medical students at Alexandria Faculty of Medicine

Marwa Schumann¹

¹ *Alexandria Faculty of Medicine , Alexandria , Egypt*

Background

Medical students have been increasingly shifting from passive listeners into partners and active change agents in the education process. Although the center of attention has moved away from the teacher and closer to the student, several frameworks were developed to describe the roles of the medical teachers and only few studies focused on the roles of the students. This work aims at exploring how undergraduate medical students perceive their roles in the education process.

Summary Of Work

This qualitative study was conducted using focus group discussions in the winter semester of the academic year 2021/2022 at Alexandria Faculty of Medicine. Maximum variation sampling was applied where students at various stages of their undergraduate medical education provided information about their perceived roles in the education process. The online discussions were audio-recorded, transcribed and analyzed using framework analysis. ATLAS.ti was employed for transcript analysis. Harden's and Lilly's eight roles of the medical teacher were used as a priori items for construction of the coding framework.

Summary Of Results

A total number of 21 medical students participated in four focus group discussions that lasted between 74 minutes and 92 minutes.

All eight roles of the medical teacher could be applied to the students in our sample. Participants classified the roles along a continuum of frequency; ranging from roles practiced the most (e.g. information providing, mentoring and coaching) into roles they rarely practiced (e.g. curriculum development and implementation). Participants perceived the COVID 19 pandemic as the main driving factor to prepare and present their own lectures and study material. This was facilitated by social media channels and platforms. Participants were actively involved in research, in managing and leading extracurricular education programs and in designing and distributing mock exams to peers. However, they were hesitant to identify themselves as role models or professionals.



Discussion And Conclusion

While undergraduate medical students perceive themselves as teachers, coaches, mentors, assessors, leaders and managers; they hesitate to identify themselves as role models and professionals. Overall, frameworks defining teacher roles can be applied on student roles.

Take Home Messages

Undergraduate medical students are becoming more independent and more in charge of their own learning and may need different forms of support.



11L11 (3364)**Date of presentation:** Tuesday 30th August**Time of session:** 17:20 - 17:25**Location of presentation:** Salon Tete d'Or

Faculty evaluation of barriers and enablers for research projects undertaken by medical students

Joanne Hart¹, Jonathan Hakim¹, Rajneesh Kaur¹, Richmond Jeremy¹, Genevieve Coorey², Eszter Kalman³, Rebekah Jenkin⁴, David Bowen¹

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Background

Medical degree programs use scholarly activities to support development of basic research skills, critical evaluation of medical information and promotion of medical research. The University of Sydney Doctor of Medicine Program includes a compulsory research project which is supervised by academic staff and affiliates, including biomedical science researchers and clinician-academics.

Summary Of Work

This study investigates research supervisors' observations of the barriers to, and enablers of, successful medical student research projects, and identifies the sources of support required. Research supervisors (n=130) completed an anonymous, online survey on perceptions of barriers to successful completion of projects and sources of support for their supervision of the student project. Data were analysed by descriptive statistics and simple content analysis. Further investigation was made by cross-tabulation according to prior research supervision experience.

Summary Of Results

Research supervisors reported that students needed both generic skills (75%) and research-based skills (71%) to successfully complete the project. The major barrier to successful research projects was the lack of protected time for research (61%). Further support was requested for expertise in statistics (75%) and scientific writing (51%), and the provision of funding for projects (52%). Prior research supervision experience influenced the responses. Experienced supervisors were significantly more likely to want students to be allocated dedicated time for the project ($P < 0.01$) and reported higher rates of access to expert assistance in scientific writing, ethics application preparation and research methodology. Novice supervisors reported higher rates of unexpected project delays and data acquisition problems ($P < 0.05$).



Discussion And Conclusion

Both generic and research-related skills were important for medical student research project success. Overall, protected research time, financial and other academic support were needed for the research projects. Prior research supervision experience influences perceptions of program barriers and enablers. These findings will inform future support needs for projects and training and Faculty development for the research supervision role.

Take Home Messages

Both generic and research-related skills and protected research time, financial and other academic support were important for medical student research project success

Novice supervisors reported higher rates of unexpected project delays and data acquisition problems. Identifying ways to support them will be critical for sustaining the research program's capacity, quality and sustainability



11L12 (3599)**Date of presentation:** Tuesday 30th August**Time of session:** 17:25 - 17:30**Location of presentation:** Tete d'Or 1

Medical Students as Educators: Non-Formal Education Guide

Rannia Shehrish¹, Anna Krawczyk¹, Tomáš Petras¹

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

An ideal medical education creates competent healthcare leaders capable of delivering socially accountable healthcare. Often the educational resources of medical schools, including the curricula, teaching and learning methods, and assessment tools are inadequate for the development of competencies of medical students. It is common for medical students to organize educational opportunities for their peers to bridge this learning gap. The International Federation of Medical Students' Associations (IFMSA) has always been a platform promoting such activities. Assuring the quality of these activities is necessary for a beneficial impact on medical curricula. Hence, IFMSA developed a Competency-based Non-formal Medical Education (NFME) Toolkit. The toolkit also serves as a guide for medical students to engage educators in adopting a learner-centered approach to teaching.

Summary Of Work

IFMSA created a Small Working Group (SWG) for developing the toolkit. The SWG outlined learning objectives in terms of medical competencies, the teaching methodologies, the learning environment, and the assessment tools. Also, three educational models were proposed, reflecting the basics of sexuality education, medical ethics, and research skills.

Summary Of Results

6 teaching methodologies, with multiple learning objectives, and 5 assessment methodologies have been identified and elaborated in the toolkit concerning the different competencies. The toolkit has been shared on the communication channels of the Standing Committee on Medical Education. The toolkit usage was assessed through an assessment form shared with National Member Organisations (NMOs), revealing that 88.9% of the NMOs found it helpful.

Discussion And Conclusion

There is an educational gap between medical students' needs and the educational resources provided by medical schools in many cases. Meaningful Student Engagement to capacitate peers via non-formal educational activities plays an essential role in addressing the necessary competencies for future health workers. There are a lot of lackings yet to be addressed to improve the current status quo for a more holistic medical education.



Take Home Messages

Non-formal education is necessary for all aspects of medical education. It not only creates opportunities for medical students to be capacitated with the right competencies but also recommends competencies to educators to implement more student-centered learning.



11L13 (2616)

Date of presentation: Tuesday 30th August

Time of session: 17:30 - 17:35

Location of presentation: Tete d'Or 1

Preference for online peer-teaching in post-COVID era – longitudinal study

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¹ Imperial College London School of Medicine, London, UK ² St Thomas Hospital, London, UK

Background

In 2019, the Imperial College Medical Education Society (MedED) launched a novel monthly virtual tutorial series for Year 1 (Y1) students aimed at a new, regularly-assessed module. These were consistently attended by 40-50% of Y1 students, and as the best-attended student-led lecture series by the society, it was expanded into Year 2 (Y2).

Summary Of Work

We retrospectively compared perceived utility of remote teaching in the pre- and post-COVID lockdown period – the post-COVID period exposing Y1s to in-person teaching. Online tutorials were delivered by the same tutors to the same cohort of students, now in Y2 of their Clinical Science Integration (CSI) module. As in the Y1 series, online feedback forms were collected following each tutorial to date (5 of 7).

Summary Of Results

In total, 1354 Y1 and 299 Y2 series feedback forms were collected. These included Likert-type rating scale questions, asking candidates to state the degree to which they agreed with statements. Compared to the previous year, when all faculty teaching was remote, the average rating for attending student tutorials online in preference to in-person increased: mean 3.9 increased to 4.48 ($p=0.001$). In Y1, 40% of students remained 'neutral'. Likewise, a significant increase was observed in students' confidence asking questions online: mean 3.82 increased to 4.30 ($p=0.0001$). No significant change was observed in student perception of the utility of having an older student in the chat to answer questions ($p=0.33$).

Discussion And Conclusion

Even in the post-lockdown period, there is significantly strong preference by students for online teaching as opposed to in-person teaching. Students also feel more confident asking questions online, likely due to the anonymity of the learning environment. The utility of an older year in the chat was not significant, possibly due to increased familiarity with the CSI module; in Y2, students are likely more equipped to seek answers from their own sources. Further work would assess the impact



of online learning on the CSI summative examination results. This would help inform whether online peer teaching should be retained in the post-lockdown period.

Take Home Messages

Despite the return to in-person teaching, students have increased preference for online teaching. They also feel more confident asking questions online.



Workshop 11M (1466)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 3A

Transitioning an In-person Clinical Experience into an Immersive Telemedicine Model

Hedda Dyer¹, Eric Patten², Christine Scott², Soraya Djadjo², Yvonne Mbinda¹, Keisha Target¹, Mariano Loo², Snehal Mehta¹

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Background

During the COVID-19 pandemic, in-person, clinical learning experiences were significantly limited. As a result, medical educators were compelled to explore alternatives to the traditional in-person “bedside” model. Alternative clinical learning experiences required engagement and academic soundness, while harnessing immersive technologies that emulate the tele-medicine experience. Additionally, given the continued unpredictable availability of in-person clinical experiences, it became clear that furnishing medical educators with innovative ways to mitigate the attrition of clinical knowledge is vital to a sustainable curricular strategy. This workshop will provide an overview of a collaborative, interprofessional teamwork approach that achieved the translation of a traditional, in-person clinical experience to that of a remote experience using hands-free headset technology. In addition it was vital to incorporate the tenets of instructional design methods to ensure an effective and sustainable learning experience.

Who Should Participate

Participants for this workshop should be healthcare professionals and students with an interest and/or experience in clinical and academic course designers, program directors, medical educationalists, augmented/virtual reality developers, telemedicine developers, simulation managers

Structure Of Workshop

Our Workshop will be structured in four phases:

INQUIRE PHASE - Briefly introducing the concept , engage participants and learn their prior knowledge and experience.

PROCESS PHASE - providing a means for participants to process what we have learned and how they will use it in their organization.



GATHER PHASE - providing a means for participants to learn the concepts. Using demonstration and breakout practice.

APPLY PHASE - brief debriefing and assessment how learners will apply their new knowledge and skills.

Intended Outcomes

At the end of this conference workshop, participants should be able to :

1. Translate in-person clinical learning experience into an effective immersive telemedicine model.
 2. Outline a framework for an immersive telemedicine learning experience that effectively utilizes the tenets of instructional design
 3. Formulate evaluation and quality improvement strategies for a sustainable, immersive telemedicine model
-



Workshop 11N (1813)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 3B

AMEE Faculty Development Committee - Writing Compelling Abstracts to Advance Faculty Development Research and Practice

[Diana Dolmans](#)¹, [Ardi Findyartini](#)², [Ayelet Kuper](#)³, [Susan van Schalkwyk](#)⁴, [Patricia O'Sullivan](#)⁵, [Yvonne Steinert](#)⁶

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Background

Faculty developers play a major role in inspiring health professionals to create new solutions to problems they encounter in their teaching practices. These solutions are often informed by diverse theories and practical experiences, which together provide empirical evidence about what might work in a given context. While these faculty development innovations and initiatives strengthen the field, faculty developers often wonder how to best communicate their practices and insights with other professionals through conference presentations or journal publications, to advance both research and practice. This dissemination, a critical component of the growth of the field, requires a compelling abstract for reviewers.

In this workshop, we will explore how to write an abstract about faculty development research and practice in a scholarly way. We will discuss the “do’s and don’ts” of writing an abstract, and address the following issues: how to tell a compelling story; how to define the scientific gap; how to explain the added value; and how to move from a local to a global interest. Together with participants, we will share insights into the critical elements of writing an abstract for a conference presentation or journal publication to advance research and practice in faculty development.

Lingard, L. (2015). Joining a conversation: the problem/gap/hook heuristic. *Perspectives on Medical education*, 4(5), 252-253.

Who Should Participate

Faculty developers interested in disseminating their work by submitting an abstract for a conference presentation or journal publication. Participants will ideally come to this session with have an innovation or research project in mind.



Structure Of Workshop

This workshop will consist of a brief plenary introduction, individual and small group work with feedback, and a large group plenary discussion.

Intended Outcomes

By the end of this workshop, participants will be able to describe key strategies to guide the effective writing of a compelling abstract to communicate new initiatives and research findings in faculty development.



Workshop 110 (1150)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Rhone 4

Longitudinal Group Concept Mapping: A Valuable Tool to Promote Knowledge Integration and Collaborative Learning

Nyla Dil¹, Jeffrey LaRoche¹, Caridad Hernandez¹, Analia Castiglioni¹, David Taylor², Dario Torre¹

¹ *University of Central Florida College of Medicine, Orlando, USA* ² *Gold Medical University, Ajman, The United Arab Emirates*

Background

Concept mapping is a meaningful learning strategy in medical education. Longitudinal group concept mapping allows the progressive development of critical thinking and promotes the assimilation of new knowledge structures to preexisting ones. Grounded in social constructivist theoretical framework, group concept mapping also allows to foster knowledge integration of curricular topics over time. Medical schools strive to increase active learning instructional opportunities in their medical education programs to foster skills necessary for lifelong learning. Therefore, it is important for medical educators to acquire skills in the use of active and collaborative learning tools such as longitudinal group concept mapping. This workshop will allow medical educators to analyze the practical aspects, challenges, and benefits of using longitudinal group concept mapping as an integrative pedagogical and assessment tool.

Who Should Participate

teaching faculty (both junior and senior) should attend

Structure Of Workshop

We will provide a brief theoretical and practical overview of concept mapping, describing how longitudinal group concept mapping can be used as a learning tool to foster knowledge integration of basic and clinical sciences, development of knowledge structures, and collaborative learning across curriculum courses.

Next, participants will breakout in small groups, and using a structured worksheet, they will develop a plan to implement a collaborative longitudinal concept mapping program at their respective institutions. They will explore the role of group concept mapping in the longitudinal integration and co-construction of knowledge across basic and clinical science content, recognize key criteria for map scoring, and identify and discuss strategies to mitigate challenges to implementation.



Intended Outcomes

At the end of this workshop, participants will be able to

- identify key features of longitudinal group concept mapping and its main theoretical perspectives
 - Develop an implementation plan to apply longitudinal group concept mapping to their own institution's curriculum
 - Recognize and discuss strategies to mitigate challenges
-



Workshop 11R (2528)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Roseraie 1

Development of a toolkit to help veterinary educators select appropriate feedback and assessment tools to support competency-based education

Katherine Fogelberg¹, Jennifer Hodgson², Regina Schoenfeld-Tacher³, Jonathan Foreman⁴, Jared Danielson⁵, Jody Frost⁶, Carolyn Gates⁷, Susan Matthew⁸, Emma Read⁹

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Background

Assessing student learning in competency-based education curricula can be a challenge. The default is often multiple-choice questions, but these are not always optimal for demonstrating student learning, higher order thinking skills or achievement of specific competencies. Recognizing this, the Analyze Working Group of the American Association of Veterinary Medical Colleges' Council on Outcomes-based Veterinary Education is creating an online, easy to understand assessment toolkit summarizing a variety of assessments currently being used in veterinary education. The toolkit includes suggested uses, examples, competencies that could be assessed, and peer-reviewed research surrounding each assessment. With many of the included assessments also being used in educational programs focused on training human healthcare professionals, this toolkit is likely to be useful for a variety of educators across the medical training spectrum.

This workshop will first clarify the difference between programs of assessment and programmatic assessment, briefly introduce the toolkit and the assessments included, then provide opportunities for participants to ask questions about the assessments, discuss each assessment with their colleagues, and finally practice using selected assessments to gain increased familiarity with, and understanding of, their uses. Our goals are to help participants broaden their knowledge of assessments used in veterinary and human medical education, help them select assessments that fit their needs, and encourage exploration of assessments to which they may not have been previously exposed.

Who Should Participate



Veterinary and medical educators interested in the variety of assessments available for use in competency-based curricula who would like to learn more about what these assessments are, what they are best suited for assessing, the information that supports their use, and would like an opportunity to become more familiar with how they are used through small group activities.

Structure Of Workshop

Brief discussion covering the differences between programmatic assessment and a program of assessment followed by introduction of the assessment toolkit, Q&A session, and finally small group practice using a variety of the assessments.

Intended Outcomes

To help participants broaden their knowledge of assessments used in veterinary and human medical education, help them select assessments that fit their needs, and encourage exploration of assessments to which they may not have been previously exposed.



Workshop 11S (4581)

Date of presentation: Tuesday 30th August

Time of session: 16:30 - 18:00

Location of presentation: Roseraie 2

Young medical educators' workshop: A Practical Guide to Scholarship as a Medical Educator

Sören Huwendiek¹, Monica van de Ridder²

¹ *Institute for Medical Education, Bern, Switzerland* ² *Michigan State University College of Human Medicine, East Lansing, MI, USA*

Background

Documentation of evidence of scholarship in education is essential support for career advancement. Recent publications have outlined specific approaches to building educational portfolios based on principles of scholarship. This workshop will facilitate the development by young educators of a portfolio built around scholarship in education and a scholarly approach to teaching. We will focus on the low-hanging fruit.

Who Should Participate

Young medical educators interested in a career in medical education and experienced medical educators interested in sharing their experience in medical education.

Structure Of Workshop

After a brief introduction to educational scholarship, participants will begin to apply principles to their own career advancement with an opportunity to develop their own concepts and questions and discuss them with other participants and facilitators.

It is recommended to prepare for this workshop by reading the following two articles: (1) Simpson D, et al. Advancing educators and education by defining the components and evidence of educational scholarship. *Med Educ* 2007;**41**:1002-9. (2) Morahan PS, Fleetwood J. The double helix of activity and scholarship: building a medical education career with limited resources. *Med Educ* 2008;**42**:34-44.

Intended Outcomes

At the end of the workshop participants will be able to: (1) identify principles and practices of scholarship in medical education; (2) apply these principles and practices to their own careers and portfolio development; (3) Build a bibliography and other resources with a network of colleagues with mutual interests; (4) are able to identify the low-hanging fruit.



Symposium 12A (1085)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Amphitheatre

Thinking Differently to Advance Research in Faculty Development: Beyond Skill Development

Yvonne Steinert¹, Ardi Findyartini², Olanrewaju Sorinola³, Diana Dolmans⁴

¹ Faculty of Medicine, McGill University, Montreal, Canada ² Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia ³ University of Warwick, Coventry, UK ⁴ Maastricht University, Maastricht, The Netherlands

Background

Faculty development is key to the success of medical and health professions education. Faculty developers continuously search for ways to best promote excellence in teaching, leadership, and research, and the worldwide growth of faculty development units and initiatives has been significant. Research in faculty development has also evolved and, to date, has shown an increased focus on the social aspects of faculty development, the importance of a professional identity, and the role of the organization on program design, delivery, and evaluation. However, despite its growth, research in this field has not kept pace with the evolution of new programs and activities. Why is this?

The goal of this symposium is to think “outside the box” and explore ways to advance research that extend beyond skill development. In particular, we will focus on potential solutions to address three common challenges: (1) How can we best balance research with the ongoing need for program design and delivery in faculty development and find a way to make research activities “fit”? (2) How can we build collaborative teams, mobilize the organization, and find creative ways to secure financial and human resources to meet research objectives? (3) How can we use theories or models, within and outside health sciences education, to generate faculty development research questions and methodologies?

The symposium presenters will discuss these questions and propose strategies to address these dilemmas, based on their experiences and the available literature, to help us collectively advance the field and ensure that research will continue to inform practice.



Symposium 12B (4827)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Auditorium Lumiere

CBE around the world: challenges and solutions

Jason Frank¹ Monika Brodmann Maeder², Carrie Chen³, Leila Niemi-Murola⁴, Jenny Hodgson⁵

¹ICBME, Ottawa, Canada ² Swiss Institute of Medical Education, Bern, Switzerland

³Georgetown University School of Medicine, Washington, USA, ⁴Leila Niemi-Murola, University of Helsinki, Kirkkonummi, Finland, ⁵International CBVE consortium, Blacksburg, USA

Background

Perspectives from different continents – North America, Asia, Europe, Africa, Australia...
This session will address the incorporation of the education plan into context and culture; implementation strategies that work; faculty development; models of CBE e.g. hybrid, time variable, other typologies; threats to fidelity of implementation; CBE along the continuum.

Topic Importance

1. Importance of context in CBE implementation
2. No 'one size fits all'
3. Different professions and resources

Format and Plans

3-5 participants from varied continents, with a moderator who asks a series of wicked questions / problems.

Panelists address their strategies that work in their contexts. Input from audience via questions from and to, and vote or quiz.

Take Home Messages

1. Context and culture are hugely important in CBE planning and implementation
 2. Models of CBE differ - typologies, time
-



Research Papers – Identity

12C1 (0680)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:20

Location of presentation: Bellecour 1

Rethinking Professional Identity Formation amidst Protests and Social Upheaval: An African Journey

Mantoa Mokhachane¹, Ann Zeta George¹, Tasha Wyatt², Ayelet Kuper³, Lionel Green-Thompson⁴

¹ *University of Witwatersrand, Johannesburg, South Africa* ² *Uniformed Services University of the Health Sciences, Bethesda, USA* ³ *University of Toronto, Toronto, Canada* ⁴ *University of Cape Town, Cape Town, South Africa*

Introduction

The underrepresentation of minoritised groups in research challenges the current universal understanding of Professional Identity Formation (PIF). ⁽¹⁾ There has been no recognition of an African influence on the construction of PIF; such influence is crucial for understanding PIF in South Africa, where the inequity of Apartheid still prevails. ⁽²⁾ As a Black, differently-abled, South African woman, the intersections of race, gender and disability mark the first author's lived experience, forcing a confrontation with traditional framings of PIF. While first author studied medicine during the apartheid era, experiences of gender and race inequalities remain palpable in contemporary medical education. This study explores PIF within the context of social upheaval during 2015/16 protests that rocked South Africa, when students challenged asymmetries of power and privilege that persisted the country's democratic transition; informal stories of students' experiences during these protests resonated with those of the first author from the apartheid era. Combining ubuntu philosophy⁽³⁾, feminist and anti-racist theories, this study examines students' experiences of PIF within the South African context.

Methods

We recruited senior clinical students and recently graduated physicians who had studied at a South African medical school during unrests of 2015-2016. We applied an interpretive phenomenological approach to analyse the participants' experiences as they reflected, making meaning of those experiences during the interviews. Data interpretations were made by the first author and the participants during and after their interviews, followed by additional interpretations made during research team discussions. The combination of critical theory and ubuntu philosophy facilitated the emergence of African metaphors to describe the students' PIF experiences.



Results

Participants foregrounded the ubuntu philosophy beginning in childhood extending across their lives into medical school. The spirit of ubuntu is embodied in the calabash, a ubiquitous household gourd used across Africa as a cultural expression, including during birth and other initiation rituals. This image captures the participants' reflections on their life course from their homes (ubuntu central) to medical school (Western-based hierarchies). The calabash is a powerful metaphor because it transforms from a vegetable with a soft centre into a tool with a hardened exterior, facilitating its usefulness in domestic life. Symbolising transition, the calabash is an essential part of African communion, holding water on some occasions and traditional beer on others. The spirit of the calabash can also embody feminine attributes of nurturing and strength.

Using the calabash as a metaphor, participants' experiences are framed and organized in two ways: a **calabash worldview** and the **campus calabash**. The calabash worldview is a multidimensional admixing of values including:

1. Ubuntu - reflections of traditional childhoods with families;
2. Women as rock - recognising the power and influence of women who raised, fed and guided them;
3. Lebollo (Sesotho for initiation) - traditional rites of passage from adolescent to adult, from student to professional;
4. Ugqirha (isiXhosa for doctor) – my body as the healing instrument as a doctor.

Descriptions of life on campus were captured by the image of a campus calabash: a vessel holding all the ingredients for growing, allowing them to ebb and swirl, ensuring the expression of all flavours. This additional layer of formation created cultural shock in a “good way”, a conscientisation wherein “you learn to know about other people’s struggles and what they face and what they sacrifice to actually get where I was at that time.”

Discussion And Conclusion

The African metaphor of the calabash allows the re-orientation of PIF to reflect an ubuntu-based value system. Further work is needed to determine the maintenance or erosion of ubuntu values as part of South African PIF between admission and graduation.

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12C2 (0784)

Date of presentation: Wednesday 31st August

Time of session: 08:20 - 08:40

Location of presentation: Bellecour 1

“Juggle the different hats we wear”: Unveiling role management as a counterpart to professional boundaries

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Introduction

Despite consensus that professional boundaries are foundational to professionalism, we are divided on what constitutes appropriate boundaries and remain uncertain of how to teach boundary setting. The contentiousness of professional boundaries is being magnified by social accountability successes in recruiting practitioners from underserved communities. As folks return to practice in the small interconnected communities they were recruited from, they are expected to maintain boundaries amidst dual roles that defy conventional boundary setting. Recent research shared how rural physiotherapists experience paradoxes when confronted with the rural norm of socializing with patients and treating friends, family and coworkers while simultaneously committed to upholding professional standards that expect such dual roles to be avoided.¹ Since it would be unfair to continue to knowingly send our trainees into this paradox unprepared, we examine how such folks maintain professional boundaries within dual roles to inform our curricula.

Methods

Following constructivist grounded theory methodology, interviews with 22 physicians who had lived and practiced in rural, northern and/or remote communities in British Columbia, Canada proceeded in iterative cycles informed by analysis. Recruitment targeted folks who had returned to their hometown or had practised in a given community for decades, as they were expected to have ample lived experience with maintaining professional boundaries amidst dual professional and social roles.

Results

Professional boundaries tended to be described as personal policies or “rules” for acceptable practices. They tended to be set in advance and reflected on at a later time. The metaphor of boundaries aligned with strategies for defence and enforcement. In contrast, navigating dual roles was described as “wearing multiple hats” and a metaphor of *juggling* multiple hats was offered to describe the strategic, skilled, and in-the-moment management of multiple roles. Role management included: a) *signalling* their current role to others to cue the appropriate interaction for the context;



b) *separating* roles by redirecting an incongruent role interaction to the appropriate time and place; c) *switching* roles during an interaction by pushing the current role into the background and pulling another role forward; and d) *suspending* a role by ending a relationship when an incongruent role continued to be involuntarily pulled forward into interactions and resisted being pushed into the background.

Discussion And Conclusion

By examining how rural physicians strive to maintain professional boundaries within dual roles, an instrumental aspect of professional conduct has been unveiled. The metaphor of juggling competing demands has long been used to describe purposeful shifts in attention to multiple roles, jobs, and expectations.² It also helpfully offers role management as a teachable conceptualization. Research on role switching and role transitions highlights the importance of monitoring for *congruence* between identities, roles, and expectations within interactions and ensuring *concordance* in the shared understanding of everyone's roles within interactions.^{3,4} Further studies are needed to determine best practices for health professionals. In conclusion, all professionals have multiple roles, identities, and obligations. If we were to view professionalism as including the skilled management of these multiple roles, then curricula could aim to teach role management strategies as a counterpart to professional boundaries.

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12C3 (0339)

Date of presentation: Wednesday 31st August

Time of session: 08:40 - 09:00

Location of presentation: Bellecour 1

Factors Contributing to the Professional Identity Formation of Health Profession Educators: A Quantitative Analysis

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Introduction

Previous research on professional identity formation (PIF) in clinician educators (CE) indicate that intrinsic motivation, organizational support, and effective networking contribute to a salient educator identity (EID),¹ however, an exploration of the formation and salience of EID was lacking.² In a previous qualitative study, the authors established five domains that have a positive influence on EID: communities supportive of medical education, culture of institution and training, personal characteristics, facilitators to career entry, and the professionalization of medical education.³ The purpose of this study was to analyze the availability and importance of these contributing factors on PIF in health profession educators (HPE).

Methods

Utilizing the author's previous study³, a survey was developed that included questions on the availability and importance of resources and experiences contributing to PIF, the importance of communities of practice in the development of EID, the factors contributing to development of teaching and scholarship skillset, and demographics. The survey used Likert scales and was reviewed externally by content experts and methodological survey experts. The survey was emailed to participants using the Academies Collaborative Survey Review Committee listserv. Descriptive statistics were used to analyze the frequency of contributing factors and Pearson's chi-squared tests to determine significant differences between subgroups. The study was exempted by the University of Chicago Institutional Review Board

Results

The survey had 123 respondents with 110/123 completing the demographics. Most responders (85%) were physicians (n=94), with 55% identifying as female (n=61). There were 18 specialties represented with internal medicine (n=26), pediatrics (n=21), and general surgery (n=6) being the most common.



Eighty-five percent (n=90) of respondents trained at university-based settings, while 87% (n=96) currently work in this setting. More than half of respondents completed training after 2006 (54%, n=51).

Role models (68%, n=84), mentorship (41%, n=50), and sponsorship in HPE (35%, n=43) were available to varying degrees to HPE's when needed. Other resources or opportunities of perceived importance were training and employment cultures supportive of HPE (60%, n=74 and 62%, n=76 respectively), an appointed position in health professions education (50%, n=61), and access to formal HPE training (39%, n=48). Chi square analyses on the importance of these resources on PIF were all significant ($p=0.01$).

When compared to other communities of practice, institutional communities of practice were identified as 'very important' by 50% of the HPE. On-the-job training was cited most frequently as the most important factor in developing teaching (72%) and scholarship (60%) skillset. Most respondents (54%, n=61) obtained their first formal role by 'being asked or selected'. There were significant associations with gender and availability of sponsorship ($p=0.047$) and also with 'effect of gender inequity on PIF' and availability of sponsorship ($p=0.047$). In addition, there were significant associations with 'graduation of training pre-2006' and mentorship ($p=0.0017$) and 'access to formal HPE training' ($p=0.0076$).

Discussion And Conclusion

PIF is influenced by many factors. Our findings indicate that role models, institutional culture of training or employment, institutional communities of practice, and on-the-job training are perceived as the most important factors influencing PIF. Although access to mentorship and formal HPE training has increased for HPE, inequity of these resources was noted in many areas, particularly gender differences in sponsorship.

In order to facilitate PIF, institutions should expand beyond educational role models and move towards improved sponsorship and supporting additional training in HPE. Our analyses highlight the importance of local institutional involvement in the development of HPE and therefore, institutions should continue to develop equitable opportunities for all to achieve academic equity.

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12C4 (0509)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:20

Location of presentation: Bellecour 1

Identity conflicts of student affairs officers in a medical university

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Introduction

Medical university education is complex, considering the people, situations, and systems that influence and complement each other. Collaboration between student affairs officers and the faculty is important in dealing with the recent rapid changes in medical education, and mutual understanding is essential to ensure that education is smoothly imparted and that participants become a cohesive social group. Although the spotlight tends to focus on faculty members who actually interact with medical students, student affairs officers – who continuously and inclusively monitor their growth and development – also play an important, behind-the-scenes role. However, it is clear there is a hierarchical relationship between student affairs officers and the faculty that is difficult to observe. While much attention has been paid to the formation of various professional identities, this study explores the identity conflicts of student affairs officers in medical universities using the figured worlds theory. Figured worlds are “socially and culturally constructed realms of interpretation in which particular characters and actors are recognised, significance is assigned to certain acts, and particular outcomes are valued over others”. Within these figured worlds, collective stories are told, which form the cultural resources that student affairs officers draw upon to construct their identity.

Methods

An exploratory qualitative case study was conducted with 24 student affairs officers (16 females and 8 males, mean age 37.7 years), working at a private medical university in Japan. Data were collected through face-to-face, semi-structured interviews until theoretical saturation. The interviews aimed to clarify the participants’ perspectives on their identity conflicts. The key questions were (1) ‘What kind of conflicts do you face in your daily work with the medical faculty?’ (2) ‘How do you reconcile these conflicts with your identity as a student affairs officer?’ Interview data were analysed using thematic analysis from the perspective of a social constructivism paradigm.

Results

The qualitative analysis revealed the following four themes regarding the identity conflicts of student affairs officers: differences in the perception of actual medical students, difficulties in building



trusting relationships with the faculty, resistance to the medical university's traditional atmosphere, and ambiguities in the process of deciding directions. Student affairs officers tended to provide support from a student-centred perspective when interacting with medical students, while the faculty employed a teacher-centred perspective. The limited opportunities for exchange of ideas between the faculty and student affairs officers were believed to have influenced the identity conflicts. Although the medical university's traditional atmosphere, characterised by hierarchy and authority, hindered cooperation, student affairs officers had come to terms with their own identity struggles with humility and compassion.

Discussion And Conclusion

Various differences in perceptions can trigger identity conflicts among student affairs officers. Although the faculty tend to unconsciously fixate on their thoughts, they need to better understand the context of relationships, potential power, and value of each profession against the backdrop of the dynamic social structure of medical education. To promote understanding between professions, it is necessary to not only set aside certain professional views and welcome dialogue with other professionals with different values, but also understand the multi-layered context of medical education so that conflicts can be handled optimally and relationships can be professionalised for social cohesion. These findings will help the medical faculty to consider the nature of inter-staff education and collaborative practice.

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Short Communications - Ethics & Professionalism

12D1 (4454)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:15

Location of presentation: Bellecour 2

Ethics of AI in Healthcare: The Algorithm will see you now

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Background

Artificial Intelligence (AI) uses progressive learning algorithms and data to program. This is a tool that could outperform physicians in tasks like diagnostics. Healthcare will be disrupted by the incorporation of digital technologies; revolutionising how we approach and view medicine. Hence it is essential that medical education incorporates this into the curriculum. Yet, an element that is overlooked are the ethical implications.

Summary Of Work

European Medical Students Association (EMSA) has helped educate students on 'Artificial Intelligence in Healthcare' through a number of projects. A Small Working Group (SWG) created a toolkit on Health Data Rights in Europe, addressing ethical implications of AI and Machine Learning in healthcare decisions.

Summary Of Results

Evolving from the survey 'Digital Health in the curricula' shared by EMSA, medical students felt unequipped for the incorporation of technology into healthcare. The SWG researched elements to empower medical students to understand the technologies and be able to ensure the maintenance of ethical practices, integral to medicine. A session 'Moving Forward Ethically' was held, whereby students could break down the advantages of the technologies, but also ethical concerns that would need to be addressed if patient outcomes were to be prioritised.

Discussion And Conclusion

Artificial Intelligence is becoming more intrinsic to healthcare. However, AI can inadvertently amplify biases. We should emphasise the need for diversity in datasets for programming algorithms. Doctors



need to understand the tools they use and the associated complications, hence medical curricula should reflect the changing industry. Digital Health Education should include the ethical limitations of Machine Learning and Artificial Intelligence. As EMSA, we continue our efforts to give necessary tools for medical students and raise awareness over ethical considerations of AI while educating our members.

Take Home Messages

→Ethics is a distinctive aspect of humanity and thus as Artificial Intelligence continues to be incorporated into our lives; it is vital that its regulated ethically, ensuring that human 'morality' is maintained whilst developments in technology change industry and society.

→It's important that medical students can understand technology, educate peers and advocate for patient rights in terms of the utilisation of these technologies in healthcare.



12D2 (4412)

Date of presentation: Wednesday 31st August

Time of session: 08:15 - 08:30

Location of presentation: Bellecour 2

Teaching ethics by maieutics

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Background

Maieutics is an approach to teaching that reaches back to antiquity in the interrogative method associated with Socrates. This is in contrast to the 'teaching by telling' approach of didactic instruction. Classical Socratic questioning elicits students' presuppositions with a view to challenging these in a dialogue of methodic, creative 'provocation'. This form of maieutics can be useful for ethics learning in an abstract mode but is not suitable for *professional ethics* learning in the medical curriculum.

Summary Of Work

'Teaching by asking' in ethics has been theorised in the literature of modern education for at least 130 years since it was advocated by John Dewey. In the approach proposed here the ethics educator facilitates students identifying gaps in their knowledge of the professional ethical contours of a clinical situation with a view to clinical *practice*. Unlike classical Socratic questioning, the questions are student-led. Also, unlike problem-based learning, the specialist knowledge of the teacher is material to the process; the method is suitable for more than small group sizes; and it does not necessitate alternating phases of discussion with self-directed study. However, this maieutic approach does share with classical Socratic method its emphasis on questions (including those of the teacher); the process of dialogue; and its starting point of students registering within themselves what they *do not know*.

Summary Of Results

The maieutic method as developed here presents students with real clinical cases that they discuss in subgroups with the task of generating a list of professional ethical questions to which they would require the answer *in order to decide what to do*.

Discussion And Conclusion

By rendering their own questions explicit, or indeed their misunderstandings, the students are doing their groundwork within the classroom prior to teacher input. It thereby helps to prepare them for



the process of thinking things through in future clinical practice when faced with unfamiliar professional ethical contexts.

Take Home Messages

This maieutic approach:

- Deploys *teaching for understanding*
 - Promotes learning through dialogical 'teaching by asking'
 - Helps equip learners for real-world professional ethical interaction
 - Is as valuable a tool for continuing professional development and postgraduate medical education as it is for ethics in the medical school curriculum.
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12D3 (1329)

Date of presentation: Wednesday 31st August

Time of session: 08:30 - 08:45

Location of presentation: Bellecour 2

Effectiveness of Participatory Theatre in teaching bioethics: A pilot study with medical undergraduates

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Background

Lecture-based teachings are ineffective in inculcating moral ethics and teaching handling bioethical dilemmas necessitating the need to adopt novel pedagogical teaching methods in bioethics education that are effective

Summary Of Work

The participatory theatre - street play as an educative modality was used to teach Discrimination and Stigmatisation. The study involved two stages of performance of a street play by medical student volunteers. The students were given the principle of Non-discrimination and Non-stigmatization and asked to prepare the script and drama to perform a street play to demonstrate the principle. The teacher facilitated the theatrical performance and followed it with a focus group discussion among both the actors the observer.

The student's feedback on the usefulness and effectiveness of street play in imparting education on Non-Discrimination & Non-Stigmatization was ascertained through a focus group discussion, a structured questionnaire and opinions from open-ended questions.

Summary Of Results

96.15 % (150/156) of the responding students agreed that street play was useful to learn ethical principles. Overall assessment of theatre to teach ethical principles was rated excellent / very good by 78.22% of the students. The student expressed high approval for the question pertaining to the theatrical aspects like depiction, relevance, impact, sensitivity, group dynamics, synchronization and clarity. The open-ended questions showed that the learning experience was fun, good and useful to most students.

Discussion And Conclusion



Conclusion - participatory theatre - was effective in facilitating learning of bioethics principles to medical undergraduates, increasing empathy and teamwork communication skills. Further, the conduct of street play on relevant issues does not need elaborate material equipment and can be done in a classroom. It could be a creative alternative to traditional teaching techniques. A small group of students 10-12 underwent a mini kaleidoscope of experiences, which brought out a lasting change as an outcome observed in this learning methodology.

Take Home Messages

Participatory theatre brings a metamorphosis peremptorily without scaring the mind or the accepted beliefs. This pilot study showed a small group learning with 10 to 12 students for a large class will bring about effective learning of ethical issues. This method of purposive experiential learning is readily accepted and has long-lasting impact.



12D4 (4200)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 09:00

Location of presentation: Bellecour 2

Experiences of Fitness to practice - a realist evaluation.

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Background

'The straw that broke the camel's back', 'the final blow' - both used to describe experiences of fitness to practice. Professionalism is accepted as being an accepted attribute within healthcare and the toll that continuous monitoring of professional behaviour takes is well documented in the literature. While the stress and emotional impact Fitness to Practice (FtP) has on all those involved is acknowledged, the cumulative and potentially life changing impact is oft ignored.

Summary Of Work

We report the results of a realist synthesis, exploring the context, mechanisms and outcomes with respect to FtP focusing here on the mental health of health professionals. Realist interviews (n=71) were conducted nationally, including registrants, regulators, witnesses, lawyers, psychiatrists, patients and informants who have been involved in FtP investigations. The sample, although mostly from dentistry, included expert representation from the all main health professions regulators. Our data offer a unique multi-stakeholder perspective.

Summary Of Results

Through our developing programme theory we explore the underpinning experiences of FtP. We demonstrate the danger of registrants suffering severe mental health issues as a result of FtP. This could be triggered by a single event or result from the cumulative impact of a number of factors.

Discussion And Conclusion

It is important to note that people who may experience mental health issues as a result of FtP may have no history of pre-existing mental health problems. What is not always acknowledged is the significant risks connected with the stigma of a FtP investigation for healthcare professionals who often can see no end to or no way out of their predicament. There has been a worrying link drawn



between mental anguish and a lack of resilience, rather than acceptance of the negative cumulative impact FtP can have and the threat to life that this could pose.

Take Home Messages

We offer insight on the practical considerations for improving fitness to practice, as well as the culture of faculty war stories creating fear of regulators. There is a need to engage undergraduate students with regulators from day one of their studies in order to ensure that the culture of fear does not perpetuate.



12D5 (3406)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:15

Location of presentation: Bellecour 2

To speak or not to speak? Medical students' deliberation process when dealing with professionalism breaches

Orit Karnieli-Miller¹, Galit Neufeld-Kroszynski¹

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Background

Medical students (MS) are exposed to professionalism breaches, including disrespectful communication toward patients and other health professionals. In these situations, they experience difficulty speaking up and changing the situation. This study explores their deliberations and cognitive and emotional processes about if and how to speak up.

Summary Of Work

A qualitative Immersion/Crystallization thematic narrative analysis of 134 reflective journals/narratives describing professionalism breaches written by 53 MS. The analysis included mapping the situations, identifying MS' dilemmas and concerns, exploring their actions and their consequences on them, including emotional burden.

Summary Of Results

MS' process of deliberation and its implications included: (1) Identifying a professionalism breach; (2) Applying a set of considerations (e.g., whether they (as students) feel they are expected to respond; the perceived degree of harm caused to the patient; the "price" they might "pay" for speaking up or reacting). These considerations will be demonstrated using a short animation video developed for students upon entering the clinical years. (3) Choosing a reaction: from non-reaction to small gestures trying to change the situation, to an apparent attempt to influence the behavior and try to stop it (e.g., through clearly speaking up); (4) Experiencing emotional implications, e.g., guilt, remorse (prevalent in non-reaction-silence) or satisfaction. The data analysis also allowed the identification of the impact of their reaction on their thoughts about their future ability to speak up or react in similar situations, as MS and as physicians.

Discussion And Conclusion

Understanding MS deliberation process and its implications are essential to help students understand their challenging experiences and navigate within them. Identifying the emotional effect



of silence/non-reaction may encourage educators to help students find their way to speak up and act, thus improving professionalism and patient care

Take Home Messages

MS are exposed to various professionalism breaches that lead them to a deliberative process of whether and how to speak up or act.

There is a need to help students find their way to speak up/act to help decrease the negative implications on them (e.g., remorse and guilt), as well as help in improving the professionalism behavior and culture.



12D6 (0710)

Date of presentation: Wednesday 31st August

Time of session: 09:15 - 09:30

Location of presentation: Bellecour 2

Vaccinated Against Dehumanization? Exploring how Novice Medical Students Re-interpret Personal Stories to Shape Professional Identity Formation

Eivind Alexander Valestrand¹, Monika Kvernenes¹, Elizabeth Anne Kinsella², Steinar Hunskaar¹, Edvin Schei¹

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Background

There is an “endemic dehumanization” in medicine, in which patients are treated like objects and health personnel burn out. It was our contention that exposing medical students to patients’ narratives, while also stimulating learners to reflect on their own stories and moments of vulnerability could shape professional identity formation in ways that mitigate dehumanization. As part of a course in patient contact (PASKON) first-year medical students meet and talk intimately with a seriously ill patient about how life is affected by illness. Patient and students subsequently present about the experience to the class, allowing all students to engage with 20 patient perspectives. In this study we ask how identity formation related to patient-centered attitudes and professionalism could be catalyzed in first year medical students through structured patient contact, followed by students’ reflection on their own narratives.

Summary Of Work

The study adopted a narrative methodology. At the end of course students wrote a 1500-word reflective essay about an experience or relation that preceded medical school, and how they believed this would influence them as future doctors. We undertook a dialogical narrative analysis of 68 reflective essays. Narrative and dialogic methods are suitable for exploring aspects of identity, while taking into consideration the context. During analysis we were interested in “how do people tell stories to explore who they might become?”

Summary Of Results

In the analysis we identified three aspects of professional identity formation revealed in the students’ texts. 1) Person-centeredness. Students saw medicine as being about helping individual people, not solely about diagnosis, medication, and treatment. 2) Vulnerability. Students wrote about how experiences and wounds from life can become sources of professional strength. 3) Reflexive humility. Students displayed intellectual humility, pointing out that one can never fully understand another person.



Discussion And Conclusion

For medical students' in this study, the processes of reflection informed recognition of the importance of person-centeredness, vulnerability and reflexive humility, as sources of professional capability.

Take Home Messages

Listening to patients' narratives and reflecting on their own experiences can shape students professional identities in ways that may mitigate the epidemic of dehumanization in medicine.



Short Communications - Continuing Professional Development 1

12E1 (2494)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:15

Location of presentation: Bellecour 3

Healthcare professionals' views on future access to continuing professional development (CPD) following the COVID-19 pandemic

Dara Cassidy¹, [Gareth Edwards](#)¹, Catherine Bruen¹, Helen Kelly¹, Richard Arnett¹, Jan Illing¹

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Background

The Covid-19 pandemic significantly changed the landscape of continuous professional development (CPD) for healthcare professionals. With populations across the globe unable to travel to attend in-person events, virtual platforms were widely adopted. Switching to these platforms presented both advantages and disadvantages to participants. The current study explores the perspectives of health professionals and their experiences of accessing CPD during the height of the Covid-19 pandemic, and their views on accessing CPD in the future.

Summary Of Work

The project adopted a mixed-method design, using both a survey and semi-structured interviews. It was international in scope, taking in the perspectives of a range of health professionals.

Summary Of Results

Based on the study findings, many healthcare professionals found the move to online CPD formats had led to greater inclusivity and accessibility. Online CPD events were often cost-effective, and allowed for a degree of flexibility, often missing at in-person events. There was, however, a general sense that engagement and interaction were poorer at online events, with reduced opportunities for making social connections.

Discussion And Conclusion

As Covid-19 related restrictions are eased globally, we are witnessing a reopening of society. Although there are clear benefits surrounding a move to online events, these cannot satisfy the need for physical interaction and social engagement offered by in-person events. It is highly likely that a



combination of virtual, in-person and hybrid sessions will shape the CPD landscape for some time to come.

Take Home Messages

There are many advantages offered by online CPD, including reduced costs and ease of access; however, this needs to be balanced alongside the benefits of engagement and interaction afforded by in-person events. There needs to be considerable focus on the design of online events, ensuring digital technologies are utilised in a way that encourages and supports greater engagement. Consideration should also be given to providing employees with protected time and space, so as to be able to complete online CPD with minimal interference from other work related activities, as is generally the case for in-person events.



12E2 (2932)

Date of presentation: Wednesday 31st August

Time of session: 08:15 - 08:30

Location of presentation: Bellecour 3

Enhancing postgraduate behavioural assessment through the development of a bespoke Situational Judgement Test

Alex Haig¹, Alison Budd¹, Hanna Gillespie-Gallery¹, Rineke Schram¹, Sanjay Sekhri¹

¹ NHS Resolution, London, UK

Background

Practitioner Performance Advice provides the UK's NHS with a variety of services, including advice, education, remediation, and clinical and behavioural assessments. Our behavioural assessments consist of three psychometric tests (HDS, NEO-PI, MVPI) and two half-day interviews with an occupational psychologist. Recent years have seen a notable increase in referrals for behavioural assessments – 85% in 2019.

Summary Of Work

Analysis has indicated both expanding numbers and complexity of cases referred. Situational Judgement Tests (SJT) have an established assessment method within healthcare, though most notably in early years training and within selection/recruitment processes. This work has created a bespoke assessment tool within a SJT framework to support healthcare professionals formatively, and focuses on the methods of extending SJT to postgraduate professional use and the preliminary evaluation of initial cases.

Summary Of Results

A bank of scenarios, as well as supporting instructional text, glossary, and user feedback survey was created. Concordance analysis indicated a high level of agreement between subject matter experts across specialties.

The test is delivered and analysed via a digital platform. The tool was developed in collaboration with Work Psychology Group, and separate evaluations will determine the impact and interchange with the other psychometrics, once sufficient cases have been conducted (mid 2022).

Discussion And Conclusion

Twelve subject matter experts agreed to construct both generic and specialty-specific scenarios (general practice, paediatrics, general medicine, general surgery, obstetrics and gynaecology, psychiatry, anaesthetics and dentistry). Each scenario has five responses, which assesses rank for



relevance, and a 250 word maximum free text box (the rationale). Experts agreed the ranked quantitative response based on concordance analysis, as well as the rationale. Internal and external evaluations will focus on content validity, face validity, usability and clinical significance.

The project team demonstrated that a SJT framework could become a bespoke tool for generic use, and support individual specialties. Informal frequentative analysis is ongoing, as the requisite case number is reached to conclude analysis.

Take Home Messages

- This collaborative work has demonstrated that a SJT can be readily developed to support assessment for postgraduate use
 - Analysis of results is ongoing and will focus on impacts on practitioner and employer, as well as the relationship to other assessment components
-



12E3 (4158)

Date of presentation: Wednesday 31st August

Time of session: 08:30 - 08:45

Location of presentation: Bellecour 3

An evaluation survey template for CPD programs

Tanya MacLeod¹, Stephen Miller¹, Michael Allen¹, Mary Ann Robinson¹, Michael Fleming¹

¹ *Dalhousie University, Halifax, Canada*

Background

Evaluation surveys are a useful and convenient way to gather feedback on individual educational programs, however, comparisons over time and between programs require that CPD providers agree on survey items. The development of a survey template for CPD programs requires careful consideration of educational outcomes, accreditation, program reporting requirements, and resources for data analysis and reporting.

Summary Of Work

We conducted a content analysis of survey items to identify evaluation domains across our accredited CPD programs. Using a Delphi approach, a team of program managers, directors and an evaluation specialist identified items for a survey template to address information needs across all programs.

Summary Of Results

We identified 123 unique survey items from 11 accredited programs. Items were organized into 13 domains: demographics, presenter skills, organization, applicability to practice, interaction/discussion, learning/knowledge, evidence-based, objectives/learning needs, intention to change, bias, future topic suggestions, suggestions for improvement, and general/overall evaluation. Early pilot testing (n=186) demonstrates excellent reliability of Likert ratings (Cronbach's alpha = 0.92) and statistically significant item correlations to overall program ratings ($p \leq .05$).

Discussion And Conclusion

We developed a survey template for use across our accredited CPD programs. In this presentation, we will encourage participants to consider ways to optimize their use of surveys in program evaluation. We will also discuss how survey evaluations can be a powerful change management tool in CPD.



Take Home Messages

Evaluation surveys of CPD programs often measure similar constructs but use different wording and response options.

Consistent question wording and response options facilitate data comparisons within and across programs.

Our evaluation survey template for CPD programs will be available for others to use.



12E4 (4485)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 09:00

Location of presentation: Bellecour 3

Entering an era of Precision Medicine: A needs assessment guiding design of a targeted training programme in CPD

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Background

Despite advances in published research on the application of precision medicine, a lack of understanding of its use in practice is reported. The needs of nurses, pharmacists, and general practitioners towards precision medicine are investigated using a mixed methods approach. This research will guide development of a training programme in Precision Medicine .

Summary Of Work

A mixed methods approach was used to investigate the perceived needs of our target audience towards precision medicine. Data was gathered using focus groups and an online survey. A hybrid approach to analysis using the Framework Method and Thematic Analysis was used to analyse qualitative results with NVIVO. An electronic survey consisting of closed statements was developed in an approach to survey design defining key constructs, formulating statements, reflecting on key concepts, selecting appropriate formats, establish raw questions, revise raw questions, and identify demographic data. The survey instrument was translated in French and German and piloted with 6 health care professionals.

Summary Of Results

The following themes emerged. The *level of knowledge* on precision medicine is low, affecting *motivation* and *perceived potential* of PM across professional roles. Participants agreed that a foundational programme with practical examples were required as a basis for *learning*. Reported *barriers to implementation* include the need to reform insurance models, safe storage of patient data and lack of clarity for use in practice, as well as *targeted education for patients*. These results map to implementation science that support a structured approach to implementation. The survey instrument was developed and piloted for validity. Data analysis of survey results will be included within the presentation that may validate results of the key themes found in the focus group among a wider audience.



Discussion And Conclusion

This research offers an essential guide on description, content and form of training. Precision medicine is perceived as important to the future delivery of patient care yet roadblocks to implementation may hamper training effectiveness. Training will not be effective if it is not implemented well.

Take Home Messages

Needs assessment promotes evidence-based education responses that may lead to best practice design, fit-for-purpose and responding to the needs of target populations.



12E5 (4507)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:15

Location of presentation: Bellecour 3

A framework to recognise and award learning achievement in CPD: Building the World Health Organisation (WHO) Academy

Janusz Janczukowicz¹, Muntaha K. Gharaibeh², Peter Preziosi³, Sharon Mitchell³, Tana Wuliji⁴

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Background

The fragmented approach to recognise learning in health education creates challenges to upskill a global health workforce. Systems vary widely across countries and range from credit schemes, to assessments based on annual dialogues or portfolio revalidation. For unregulated health workers there is an absence of structured education. The goal of the WHO Academy is to deliver targeted micro learning to health workers, award achievement on acquired competence and promote steps towards regulation for unqualified roles.

Summary Of Work

Using a literature review, modified Delphi process, and focus groups (delivered as an online Town Hall), a set of statements were generated within a proposed framework for learning recognition. 52 global experts in medical education, health worker education, regulators and qualification experts participated through 3 survey rounds. Consensus for inclusion was set at 80%. Thematic analysis was applied to analyse and organise comments and feedback. From emergent themes, a question route for the focus groups was developed. Data was analysed using NVivo.

Summary Of Results

Statements were assembled from 21 qualification frameworks and references collated during Delphi. In the first round 25/36 (69%) reached consensus. Following extensive rewriting of statements from collated feedback, in round 2, 34/36 (94%) reached consensus. Round 3 focused on collecting final feedback. From the thematic analysis, 3 overarching themes were identified, (1) *education principles* required to award learning, (2) the impact of creating a recognition framework on specific *stakeholders* and, (3) implementation challenges. Additional themes including portfolios, learner motivations and legal frameworks were added.



Discussion And Conclusion

From this research two streams of work will continue; 1. *What are the common acceptable and applicable standards for learning and to award learning in continuing education?* and 2. *How will the WHO Academy award learning using credentials, for WHO Academy learning programmes?*

Take Home Messages

Working with WHO regional focal points, medical education, qualification and health profession experts, the WHO Academy objective establishes an agreed set of standards and an approach to learning recognition in continuing education. The intention is not to build an aspirational framework, rather to work together, with already established systems of recognition and CPD, to propose a flexible approach fit for purpose adaptable to countries world over.



12E6 (0128)

Date of presentation: Wednesday 31st August

Time of session: 09:15 - 09:30

Location of presentation: Bellecour 3

A multifaceted theoretical framework to support the learning needs of medical specialists

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Background

The Royal Australasian College of Physicians (RACP) is the professional medical College of over 15,000 physicians and 7,500 trainee physicians, often referred to as medical specialists, in Australia and New Zealand. Due to the complex and applied nature of the medical profession, continuous learning is an priority which involves specific challenges, such as the constantly evolving state of knowledge and the extensive diversity within the scopes of practice of different specialties. Medical specialists mainly learn on the job in teaching hospital settings, a learning practice which is characterized by specific dynamics and contextual elements (hospital hierarchy, high level of responsibility while still in training, long hours shift, etc.).

Summary Of Work

To provide effective learning opportunities that could ensure expected learning outcomes in such a complex environment, RACP has invested resources to identify a research-based conceptual multi-dimensional framework comprising four components: social learning, learning by doing, experiential learning and reflective practice. To make the educational offerings compatible with a wide range of professional and practical needs, all the resources are accessible through multiple technological devices and are designed according to UX principles.

Summary Of Results

The framework has been applied to the design and development of online courses to support the continuing professional development program RACP offers to its members. The effectiveness of online resources is being regularly evaluated using analytics that indicate excellent level of users' engagement and satisfaction.



Discussion And Conclusion

RACP designs and develops all its educational resources applying the multi-dimensional framework introduced above which allows to capture the complexity of the medical educational model into the design of its educational resources. The design of the resources reflects how physicians learn throughout their professional life, from observing their peers and their behaviours, from their own experience and the experience of their peers, from their daily job, and from reflecting on their practice.

Take Home Messages

Educational resources need to address the challenges posed by a fast-paced environment, characterised by profound change, driven by rapid advances in medical knowledge, shifts in patterns of disease, new technologies, and changing regulatory frameworks.



Point of View 2

12F1 (2848)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:11

Location of presentation: Gratte Ciel 1

Lessons learned from peer-to-peer education: an international trend in medical AI

[Areeba Abid](#)¹, [Adrien Ezerzer](#)², [Katherine Link](#)³, [Jen Ren](#)³

¹ Emory University School of Medicine, Atlanta, Georgia, USA ² Université Claude Bernard Lyon 1, LYON, France ³ Icahn School of Medicine at Mount Sinai, New York, USA

We've seen an explosion of AI in medicine curriculum development across continents, driven by medical students organically. Why have we seen this explosion? We think it results from myriad factors: pre-existing expertise from students, growing climate of concern for technology misuse, and desire for medical education to evolve with changing pedagogy and technology. Today's 'non-traditional' medical students have diverse backgrounds, and many enter medical school with prior expertise. We've seen how medical students can be a source of expertise for their colleagues, especially in areas like technology where changes outpace traditional curricula.

We share 3 case studies from New York City, Atlanta, and Lyon of AI in medicine curriculum. In New York City (USA), Mount Sinai students organized a bi-annual speaker series inviting experts from academia and industry to present on topics in AI in medicine, aiming to enable non-technical medical students to build frameworks for evaluating medical AI in research literature and clinical practice. In Atlanta (USA), Med AI at Emory hosts annual "Introduction to ML" workshops to allow first-year students to get their hands dirty with model training. A 1-month project-based elective is also offered to fourth-year students with a deeper interest in AI/ML. Finally, in Lyon (France), we have surveyed physicians about their desires for future MOOCs to meet their continuing medical education needs and collaborated with clinicians with experience implementing AI to share their expertise.

Overall, we've learned a few things across our endeavors; there's tremendous demand for this content among medical students, and we have a lot to learn about evaluating medical-adjacent skills not traditionally incorporated in medical education, and to not let perfect get in the way of progress.

We still see many opportunities for improvement, particularly in growing a larger network/ecosystem for shared learning, in professional sponsorship, and especially to acknowledge medical student expertise in this area and to involve medical students in co-creation. Medical students have traditionally been seen as recipients of knowledge rather than also a source, but our endeavors in developing AI in medicine curriculum illustrate ways in which medical students have specialized knowledge to contribute.



12F2 (0454)

Date of presentation: Wednesday 31st August

Time of session: 08:11 - 08:22

Location of presentation: Gratte Ciel 1

The WEIRD Trio: How Western medical education fails to prepare physicians to care for patients in a pluralistic, multicultural world

Lester Liao¹

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A people's ethics reflects its culture. This is no less true of medicine. Medical students are already socially formed before they don their white coats. For many, they will come from a subset of society that is often quite different from that of their patients, which leads to a whole host of philosophical and sociological differences that shape medical learners to view the world differently from those they care for. This process is intensified through medical education, which continues the socialization process in a WEIRD (Western, Educated, Industrialized, Rich, and Democratic) context. This leads to a mindset that is shaped by the trio of secularism, individualism, and existentialism. This trio shapes learners to approach clinical encounters in a way that focuses on the individual patient, makes no reference to the divine, and focuses on personal desire and expression. This contrasts significantly with many patients that come from collectivistic, religious, or other such cultures. Consequently, medical learners are prone to misunderstanding the perspectives of many patients.

While this WEIRD cultural viewpoint is often purportedly neutral, it is in fact a created perspective based on a specific intellectual and sociological heritage. This is critical for learners to recognize in an age of pluralism and multiculturalism to strive toward any form of patient-centered care. Physicians must be well prepared to recognize their own cultural lenses as a foundational element of cultural competency. While there is no "view from nowhere", a greater awareness of one's biases and the alternatives permits a more robust "politics of moral engagement" and help us move toward harmonious living in the pluralistic medical world. This paper is intended to help learners and educators themselves understand their own peculiarity when it comes to global standards on approaches to ethics and culture in medicine.



12F3 (2998)**Date of presentation:** Wednesday 31st August**Time of session:** 08:22 - 08:33**Location of presentation:** Gratte Ciel 1

Exploration Before Explanation: Embracing Errors to Develop Adaptive Expertise

Leonardo Aliaga¹

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Patient care suffers from preventable medical errors and training physicians to avoid error is a cornerstone of postgraduate education. However, this error avoidance mentality can be problematic during training. Physicians are guaranteed to encounter novel clinical situations in future practice since it is impossible for them to experience every permutation of every clinical scenario in residency. Adaptive expertise is the ability to apply existing skills to solve novel problems, which enables physicians to reduce errors when managing novel clinical situations not encountered during training. Residency training traditionally focuses on errorless training which hinders adaptive expertise development. Physicians are at higher risk of committing medical errors during independent practice if they have not committed sufficient errors during training.

A potential antidote is Error Management Training, a framework that develops adaptive expertise by making learners produce errors when solving difficult problems before being shown how to solve them. Exploration comes before explanation. Courting errors during learning might appear antithetical to our goal of achieving errorless performance in medicine. However, simply seeing errors in a negative light overlooks the powerful advantage learners gain by making mistakes. Producing incorrect solutions engineers reflection on a topic's critical conceptual features. Making mistakes triggers metacognition, forcing learners to view a problem from multiple angles and use their wrong answers as contrasting examples to the correct answer. Learners develop a deep conceptual understanding of a topic; they "see" its underlying structure and become less likely to be fooled by surface features of new problems. Gaining a deeper conceptual understanding develops adaptive expertise and enables learners to avoid committing errors in future novel situations.

We can reduce preventable medical errors by developing physicians' adaptive expertise. To achieve this goal, we must reframe how we view errors in residency training. Traditional models of errorless training inadvertently rob learners of opportunities to engage in reflection and gain a deep, conceptual understanding of the topic being learned. Didactic explanations can never be as rich as the variety of clinical scenarios; adaptive expertise addresses this problem. Embracing errors during training to develop adaptive expertise will ultimately help physicians reduce errors during unsupervised practice.



12F4 (3114)

Date of presentation: Wednesday 31st August

Time of session: 08:33 - 08:44

Location of presentation: Gratte Ciel 1

Implementing an Outcomes-Oriented Approach to Residency Selection in a Competency-Based World

Holly Caretta-Weyer¹

¹ *Stanford University School of Medicine, Palo Alto, USA*

As stakeholders in both undergraduate (UME) and graduate medical education (GME) have sought to implement competency-based medical education (CBME) across the continuum of medical training, the chasm between UME and GME has grown wider with the side-by-side demand for growth-focused assessment in CBME and norm-referenced data to stratify students for the residency selection process. This leads students more often than not to focus on clerkship grades and test scores instead of their growth and development as a physician. They are more incentivized to be achievers, hiding areas for improvement in order to obtain honors level grades so that they can Match into the residency program of their choice. This dichotomy between achievement-focused metrics and the desire for a transparent, growth-focused system has led many to question the entirety of the residency selection process, as it currently stands in diametric opposition to the core tenets of competency-based medical education (CBME) and a true continuum of medical education.

This is a hotly debated issue and key barrier on both sides of the transition from medical school to residency training. It remains a discontinuous, competitive, achievement-focused process largely due to the way in which GME stakeholders select students to interview and how they decide where to rank them on their final Match list. In order to operationalize CBME and smooth the transition into a continuum from UME to GME focused on continued developmental growth and competence over norm-referenced metrics, the selection process must change. In order to achieve such change, we must investigate the current residency selection process including the use of current metrics and how interview and ranking decisions are made as well as consider diverse approaches outside of medicine to chart a path forward to align selection and CBME in order to achieve a true continuum of medical training. In this session, we will discuss a practical agenda for UME and GME stakeholders as well as residents and students to invest in the essential, pragmatic changes needed to optimize the educational continuum and reconcile it with novel approaches to the residency selection process.



12F5 (3732)

Date of presentation: Wednesday 31st August

Time of session: 08:44 - 08:55

Location of presentation: Gratte Ciel 1

Simulation Based Education, still a technology myth?

Helena Filipe^{1, 2, 3, 4}, Karl Golnik^{1, 5, 6}, Andreas Di Luciano^{1, 7, 8}, Pablo Musa^{1, 9, 10}, Arturo Grau^{1, 9, 11}, John Clements^{1, 12, 13}, AnnSofia Skou Thomsen^{1, 14, 15}, Mathys Labuschagne^{1, 16}

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The classic apprenticeship model has worked effectively to teach and learn in healthcare education for many decades. Salient factors driving simulation-based education (SBE) include societal expectations and patient safety, the growing complexity of working ecosystems, the continuing technological development, the need to train more and best fit healthcare professionals, time pressure and financial constraints. SBE environments expose learners to a planned, controlled, and diverse array of learning opportunities in a safe and supportive learning environment where error can be corrected with minimal impact. Experiential learning creates opportunities for tailored feedback and deliberate practice by focusing on what learners need/wish to improve under guidance and reflect on their progression, individually and collectively.

SBE should follow effective educational principles adhering to accreditation standards to achieve full potential education and clinical outcomes. Four essential accreditation pillars include: service to learners; curricula offered; resources and facilities available.

Considering geographically remote and under-resourced jurisdictions, and even those where postgraduate medicine and continuing professional development are off the formal tutelage of universities, we contend that professional societies can take a significant leadership role in SBE. They should support, promulgate, and provide opportunities to learn how to create effective and enjoyable SBE environments.

Factors contributing to creating these environments include:

- 1 Planned and structured curricula, adjusted for learning needs and with a strong component of formative assessment,



- 2 Continuous curricula quality improvement,
- 3 Research informed learning experiences,
- 4 A multidisciplinary learning community,
- 5 A network of engaged clinical educators,
- 6 The utilization of adequate technology,
- 7 The transition from learning improvement into supervised patient procedural diagnosis and treatment,
- 8 Properly designed and conducted SBE to train procedural, knowledge, and behaviors in the context of medical and surgical specialties, like ophthalmology, for every learning level.
- 9 Opportunities to learn and practice professionalism, leadership and communication
- 10 Technological support beyond simulators, such as online programs, demonstration videos, direct and/or video observation and remote mentoring.

We support the conceptualization proposed by Gaba: "Simulation is a **technique** – not a technology - to **replace or amplify real** experiences with **guided** experiences that **evoke or replicate substantial aspects of the real world** in a **fully interactive** manner."



12F6 (3837)

Date of presentation: Wednesday 31st August

Time of session: 08:55 - 09:06

Location of presentation: Gratte Ciel 1

Why don't learners matter when you design health facilities?

Megan Phelps¹

¹ *The University of Sydney, Sydney, Australia*

Hospitals and all types of health facilities continue to be built and refurbished around the world. This is an expensive, time consuming process with associated issues of environmental impact and sustainability. Many health facilities are considered 'teaching hospitals' or placement sites. Why, then, are learners' and students' viewpoints so rarely considered or truly represented when designing and planning health facilities?

Architecture has borrowed from the discipline of Medicine and increasingly considers evidence-based practice. 'Evidence-Based Facility Design' has been a Medical Subject Headings (MeSH) term since 2016. Patient-centred design has become an important part of the design and planning process for health facilities. The CoVID-19 pandemic has highlighted the importance of the staff viewpoint and experiences of health facilities, but the learner and student viewpoint of health facilities has not featured in discussions about the impact of the pandemic.

From my point of view, a focus on the student experience, gathering evidence of designable elements and enhancing the way buildings work for learners is an essential but missing part of health facility design and building. Representation on project user groups should be by the learners themselves or by members able to authentically represent their views. Learners should be involved in the gathering of information through methods such as post-occupancy evaluation to provide data for evidence-based design of health facilities.

How can we promote better health facilities for learning? As part of my PhD work and literature review I have some ideas about gathering evidence and using building guidelines and accreditation documentation to do so. I would like to share them with you and hear your thoughts.



12F7 (4601)

Date of presentation: Wednesday 31st August

Time of session: 09:06 - 09:17

Location of presentation: Gratte Ciel 1

Aspire for Mediocrity: Multifactorial triggers for changing standards of global health professional education

David Kandiah¹

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Medical/Health Professional Education has been a developed global specialty in the past 2 decades. As someone passionate in educating the next generation of health professionals to produce the best clinical practitioners, it has been frustrating to see the deterioration in standards in the past few years as manifest by poor patient care. As one of the first medical practitioners who completed a higher degree in Medical Education globally, I have noted the following over the past 30 years:

- 1 Health professional education is a fall-back option for academic promotion for academics/clinicians who have failed in other areas of practice.
- 2 Appointments are made based on connections, as universities have minimal standards to base the appointments as opposed to scientific and clinical appointments.
- 3 Multiple postgraduate degrees in Health Professional Education have been developed with leadership of these programs by unproven individuals.
- 4 Failure to obtain genuine feedback. The main criteria of success of any clinical education program should be Patient and Clinician feedback. For example when redesigning a new curriculum, I asked senior clinicians about the performance of students progressing to the higher years of the course. The itemised feedback on the student failures resulted in a change in the program with immediate positive feedback by the clinicians on the next year's cohort.
- 5 Plagiarism – it is shocking that favoured academics who lack the competence and integrity quite happily take credit for initiatives from less favoured individuals. An example is a junior lecturer who developed a well-regarded teaching program that is used nationally. The academic who has been credited with this program was not even involved with the conception, trials and initial implementation of the program. The junior person was threatened by the Dean of this medical school with sacking if she revealed this situation, resulting in her immediate resignation and loss to the academic community.
- 6 Rapid introduction of new courses as financial windfalls for universities, has been affected by a global shortage of competent qualified teachers; and promotion of less able individuals resulting in poor teaching and training.

Multiple real-life examples will be presented to provoke reflection.



12F8 (0665)

Date of presentation: Wednesday 31st August

Time of session: 09:17 - 09:28

Location of presentation: Gratte Ciel 1

Allowing mistakes for the sake of education: An ambiguous concept for training in surgery

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For many of us, failure is both a meaningful and memorable experience for learning. This is supported by a growing literature, from higher education and more recently medical education, demonstrating that failure is a powerful teacher. How then, can we harness the power of failure for clinical training?

A surgical resident describes: "I realized too late that I was in the wrong plane. It started to bleed from the liver. My consultant tried to stop this incident: "wait... you're too..." But the damage had already been done. A few seconds passed, with me being numb and overwhelmed by the situation. Then my consultant addressed me with the announcement: "There is an active bleeding from the liver." She did not scream or accuse me but the way she said it induced a deep-seated feeling of severity and guilt. We switched positions and I held the camera. I realized how much the situation had shaken me, as now, my hand was shaking, and I was not able to keep the camera in a neutral position. She asked me to sit down to gather control."

To provide powerful learning lessons, clinical supervisors allow trainees to fail in specific circumstances if they perceive they can safeguard patient safety (1). However, learning from failure doesn't always unfold the way we expect it to, in part because of the emotional intensity of a clinical failure experience. How to navigate this? As supervisors, we can't be sure we're creating the sort of memorable event we think we are when we support what we view as safe failure. Failure may provoke changed behavior in a trainee that is not for the better: it might cause hesitation, or worse, guilt, shame or anxiety (1). Our qualitative research in this area has raised critical questions that medical education needs to confront, debate and resolve.

(1) Klasen et al. doi: 10.1136/bmjqs-2019-009808.

(2) Bynum et al. doi: 10.1097/ACM.0000000000002479.



Short Communications - Education Management 2 / Role of the Patient in Medical Education

12G1 (2867)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:15

Location of presentation: Gratte Ciel 2

Transplanting Medical Education: American Classroom to Arabian Bedside

Tanya Kane¹

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Background

Cornell's medical degree was designed in NYC and subsequently transferred to Doha, thus the content, ethics, materials, methods and practices are far removed from their original context. It's a Western curriculum geared towards the demands of the US healthcare system, previously only delivered to students undertaking medical school in America. This anthropological study of an American medical school establishing a branch campus in Qatar is based on two years of ethnography. The fieldwork addresses the question: "Is it possible to transplant the complex and intricate process of creating physicians in the American tradition to another culture?"

Summary Of Work

This anthropological study of an American medical school establishing a branch campus in Qatar is based on two years of ethnography. The fieldwork addresses the question: "Is it possible to transplant the complex and intricate process of creating physicians in the American tradition to another culture?"

Summary Of Results

In observing the local reception of what is presumed to be a universal medical education and its partial but by no means total translation into local terms, this study demonstrates how in the Qatari context, professional training is impinged on by factors both intrinsic and extrinsic to the academic programme.

Discussion And Conclusion

Despite acquiring a "universal" skill set and being trained in the American medical tradition, divergences in clinical practice mirror cultural particularities of the Qatari socio-medical landscape. The "American way" of doing things did not always translate or conform to cultural mores and modes of practice within the Gulf setting. While the science "in itself" posed no problems even to the most



devout Muslim students, in the case of medical training there can be no “science in itself”, it is all about practice, and practice always takes place in a context. What is locally at stake requires careful consideration.

Take Home Messages

As medical knowledge moves from the “classroom to the bedside”, especially in a scenario when it is transferred to an entirely different culture, the delivery and application of science can create dilemmas and this is where the challenges of transnational medical education can arise.



12G2 (4037)

Date of presentation: Wednesday 31st August

Time of session: 08:15 - 08:30

Location of presentation: Gratte Ciel 2

An evaluation of an integrated approach to the development of learner autonomy & intercultural communicative competence as part of Medical Professionalism for International Medical Students

Helen Kelly¹

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Background

The context for this research is inclusive program design for an international student population studying through English at an Irish University in the areas of Health sciences. Third level education is becoming more globalized and with it comes the challenges of catering for a diverse student population. There has been much discussion on the globalization of higher education which has largely focused on opportunities for multicultural campuses and skills to be gained from studying in this environment (Andrade 2006; Murray & Muller 2019; Vertovec 2010). Equally the associated challenges of integration and intercultural competence development in such a complex environment have also been the subject of much discussion (Byram 1997; Volet and Ang 2012). However there has been limited focus on the challenges for educators and learners in this environment and less discussion on the role of and approaches to communicative proficiency levels of international learners and their progression through their course of studies (Arkoudis et al 2013).

Summary Of Work

This study evaluates an approach to curricula design for international healthcare students. The evaluation centres on learner autonomy, intercultural and communicative competence development. It will present preliminary data on the influences of the embedded curricular approach through examining learners' self-knowledge, attitudes, linguistic and intercultural development. This mixed methods study uses quantitative and qualitative analysis to evaluate the outcomes of this approach to learner-centred curricula design.

Summary Of Results

The discussion will center on a possible combination and inter-relationship of factors (linguistic, intercultural, personal, and socio-cultural) that influence language and intercultural learning among International Medical students. Drawing on a preliminary analysis of data, this paper will examine the learners' perspectives on their own learning, including the dialogical interplay between language acquisition and culture as part of the study of Medical Professionalism in an undergraduate Medical degree.



Discussion And Conclusion

The variables used in this empirical investigation draw from a conceptual theoretical framework that includes language acquisition in immersion contexts, adaptation, intercultural learning and growing medical professional identity.

Take Home Messages

This study aims to provide insights and recommendations relevant for international medical students to participate fairly and effectively in higher education contexts.



12G3 (3429)

Date of presentation: Wednesday 31st August

Time of session: 08:30 - 08:45

Location of presentation: Gratte Ciel 2

How do medical students take a patient's perspective and how do patient-teachers support students' perspective-taking: an explorative study

Charlotte Eijkelboom^{1,2}, Renske de Kleijn³, Lotte Baten¹, Marieke van der Schaaf³, Joost Frenkel²

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Background

Understanding a patient's perspective is essential in order to provide care tailored to a patient's needs. Educational interventions to improve students' perspective-taking skills, should be based on in-depth understanding of the perspective-taking process between students and patients. Therefore, this study aimed to answer:

- What strategies do medical students use to understand a patient's perspective?
- What affordances and constraints do students perceive when taking a patient's perspective?
- What strategies do patient-teachers use to support students' perspective-taking?

Summary Of Work

The context of this qualitative study was an online lesson, where two patient-teachers shared their story with fourth-year medical students from the UMC Utrecht. After the lesson students made an assignment where they reflected individually on how they took the perspective of these patients. 23/27 students agreed to participate in this study, their reflections were analyzed through template analysis. Both patient-teachers were individually interviewed after providing the lesson. The interview-transcripts were analyzed using an inductive thematic approach.

Summary Of Results

We identified 7 perspective-taking strategies that students used in various combinations. Students used inferential strategies, where they made inferences from available information. For example, they imagined themselves in the patient's shoes, or they recalled an analogous situation from their own experience. Students also used cultivating strategies, where they attempted to elicit more information about the patient. For example, by asking questions. We identified 8 factors that students mentioned as facilitator or constraint to take a patient's perspective. These factors were related to the educational environment, the individual student or the patient. Patient-teachers described 7 strategies to support students in taking their perspective. These strategies were



structured according to strategies to create a trusting learning environment and strategies to present their story.

Discussion And Conclusion

Both students and patients used multiple strategies in the perspective-taking process. Some patient-strategies like being open and creating room for questions aligned with student strategies and facilitators.

Take Home Messages

Perspective-taking is a dynamic process, relational in nature and dependent on the educational environment. By studying both the perspective-taker (student) and the target (patient), we increased our understanding of the perspective-taking process between medical students and patients.



12G4 (2780)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 09:00

Location of presentation: Gratte Ciel 3

WITHDRAWN



WITHDRAWN



12G5 (1496)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:15

Location of presentation: Gratte Ciel 2

Educator experts' consensus on the Patient and Public Involvement (PPI) in the Malaysian medical education

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Background

Patient and public involvement (PPI) is essential to medical education development, particularly in the clinical settings. However, there is a lack of framework to guide the best practices in the Malaysian context. Here, we report the educator experts' consensus on PPI based on our preliminary study. The consensus will pave the way for PPI framework development in Malaysia.

Summary Of Work

In this study, a modified Delphi method was used to obtain experts' consensus on PPI. This method applied iterative process in obtaining experts' collective opinions, that provided better validity than individual opinion. We conducted two rounds of Delphi survey with 59 educator experts (19 and 40 in the first and second round respectively). Data were analyzed for the threshold value, consensus percentage and the fuzzy score. Consensus reached if an item passed all three criteria. The results of the second round were taken as the final consensus.

Summary Of Results

The educator experts were able to reach a consensus on 16 out of the 25 items. They agreed that the engagement was high in their medical schools. A consensus was also achieved regarding PPI activities (teaching and learning, assessment, research), reasons for involvement (they are important stakeholders receiving medical care, knowledge application, authentic learning resources), safety measures taken by the faculty (providing explanation and acquiring consent, taking precautionary measures and ensuring good medical care, providing adequate monitoring and supervision) and motivations for PPI (monetary benefit, spirit of volunteerism). Further consensus was achieved on PPI issues (confidentiality and privacy, understanding of their roles, limited PPI and need for solutions during the pandemic, safety concerns warranted this restriction).



Discussion And Conclusion

The key aspects of PPI revolve around the issues related to the items examined in our study. Particularly, the least consensus on PPI issues resonated with the need to address principles for framework development as proposed by other researchers. Yet our study showed that the experts shared mostly similar perspectives on PPI by evidence of their consensus.

Take Home Messages

The consensus provided by educator experts will be the pillar in the development of a framework to ensure a beneficial and safe PPI in Malaysian medical education.



Short Communications - General Practice/Family Medicine

12H1 (4829)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:15

Location of presentation: Gratte Ciel 3

Impacts of COVID-19 on Australian General Practice Training and translation of findings into the education program

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Background

The COVID-19 pandemic impacted general practice in Australia as it impacted healthcare across the globe. This work was undertaken by GP Synergy, the organisation responsible for the education and training of General Practice (GP) registrars in NSW and the ACT. We aimed to determine the effect of the pandemic between March and August 2020 compared to prior to the pandemic. Understanding this effect enabled rapid changes to the GP Synergy education program.

Summary Of Work

Using ReCEnT (<https://research.gpsynergy.com.au/>) data, we compared data collected from GP Synergy registrars who undertook a GP training and completed a ReCEnT term in 2020. The during-COVID-19 data were collected between Mar-Aug 2020. This data was compared to registrar data from 2016-2019.

From a comprehensive report, a four-part series of summarized findings called “ReCEnT Reflections, Impact of COVID-19” (to be shown in the presentation) was created and distributed to registrars and supervisors. Each ‘Reflection’ focused on a topic area and enabled the registrar and supervisor to reflect on their own practice and adjust their supervision and/or learning needs.

The results of the report were also used to identify additional support for registrars from the GP Synergy education team to address deficits in registrar's in-practice experience.

Summary Of Results

The results are demonstrated in the four “ReCEnT Reflections, Impacts of COVID-19” series including the suggested educational interventions. The following four findings were highlighted:

Telehealth – shorter duration and less problems per consultation

Procedures – less procedures performed



Types of problems seen – more respiratory problems seen at the expense of other presentations

Seeking advice – less advice sought from supervisors

Discussion And Conclusion

The ability to collect real-time consultation data from GP registrars in training during the COVID-19 pandemic allowed GP Synergy to provide registrars (and their supervisors) with both individualised advice based on their own ReCEnT reports as well as advice based on the collation of results.

GP Synergy was able to swiftly translate these findings into educational changes such as the development of resources for procedures.

Take Home Messages

The ability to have a "snapshot" of the impact of the pandemic allowed for swift educational modifications to ensure registrars continued to receive high quality education and training.



12H2 (3259)

Date of presentation: Wednesday 31st August

Time of session: 08:15 - 08:30

Location of presentation: Gratte Ciel 3

Supporting the development of adaptive expertise in primary care through the ECHO Concussion program

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Background

The model of adaptive expertise in healthcare accounts for performance in both routine and non-routine clinical situations. Adaptive expertise requires developing both procedural (knowing 'what') and conceptual (knowing 'why') understanding in a clinical domain. In primary care, adaptive experts have been described as "specialist generalists", able to adaptively and collaboratively provide care across a variety of presentations, settings, and populations. The Extensions for Community Health Outcomes (ECHO) program uses technology-enhanced learning to build capacity in primary care. We examined how the ECHO model supports the development of adaptive expertise in primary care.

Summary Of Work

We conducted a rapid video ethnography of 51 recorded ECHO Concussion sessions (100 hours total). ECHO Concussion is an application of the ECHO model that aims to build capacity for concussion diagnosis and management in a community of interprofessional primary care providers. Each session has a didactic component delivered by ECHO 'hub' members, and a case presentation, where 'spoke' community learners take turns presenting de-identified patient cases and discussing diagnosis and management with the group. We explored the opportunities for development of specialist generalist knowledge and collaborative capabilities among community learners.

Summary Of Results

Within ECHO Concussion sessions, we identified learning mechanisms that support the development of adaptive expertise. Didactic components integrate knowledge across professions and evidence sources to help learners develop conceptual understanding. Learners work collaboratively through cases—varying between routine and non-routine—guided by hub members to attend to conceptual understanding of the case. ECHO hub members offer feedback in the form of diagnostic and



management expertise. While pre-existing healthcare hierarchies might challenge the utility of sessions for all in attendance, our analysis suggests that the co-construction and transformation of knowledge and relationships within and across sessions promotes interprofessional collaboration and legitimizes sources of knowledge.

Discussion And Conclusion

Utilizing pedagogical strategies aligned with the development of adaptive expertise, ECHO Concussion exhibits the potential to develop specialist generalist knowledge and collaborative capabilities. The ECHO model is a promising education platform to support the development of adaptive expertise in primary care, building capacity for excellence in healthcare.

Take Home Messages

Education programs, like ECHO Concussion, have the potential to support the development of adaptive expertise in health professionals.



12H3 (2883)

Date of presentation: Wednesday 31st August

Time of session: 08:30 - 08:45

Location of presentation: Gratte Ciel 3

European Training Requirements for GP/FM specialist training (ETRfGP) – can such recommendations improve training across Europe?

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Background

EURACT is an academic body with GP/FM trainers from nearly all European countries. One of its missions is to improve specialist training in GP/FM. A group of EURACT Council members (Nele Michels, Roar Maagaard, Jo Buchanan & Nynke Scherpbier) published recommendations on “European Training Requirements for GP/FM specialist training”^{*}.

Summary Of Work

The recommendations point to requirements for trainees, for trainers and for training institutions and are based on previous work by EURACT, including literature reviews. These recommendations have been approved by WONCA Europe Council that represents all national GP/FM colleges in Europe, so the recommendations should be seen as those of the GP/FM specialty across Europe.

Summary Of Results

The headlines of the recommendations to trainees, to trainers and to training institutions will be presented and discussed.

After the approval of the ETRfGP the authors hoped the recommendations could act as inspiration and guidance to educational planners in countries where there are substantial gaps between ETRfGP and the current training programs. The Covid-19 pandemic have had negative influence on both the speed of structural changes of GP specialist education and on our ability to monitor progress in this across Europe. However, EURACT Council will finally meet again in Spring 2022 and the country representatives will be able to discuss progress and obstacles to national improvements of GP/FM specialist training. The results of this discussion will be presented at AMEE.

Discussion And Conclusion

EURACT has produced European recommendations on the requirements for good specialist training in GP/FM. The recommendations have been approved by all national colleges of GP/FM in Europe.



The task for national planners of GP/FM specialist education now is to check if their training program meets the European Training Requirements for GP/FM specialist training – and to work for changes if important gaps are revealed.

Take Home Messages

If you are engaged in GP/FM specialist training in Europe there is an important document to study!

*) Ref.: *Education for Primary Care*, 29(6), 322-326.

<https://doi.org/10.1080/14739879.2018.1517391>



12H4 (3759)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 09:00

Location of presentation: Gratte Ciel 3

Teachers' and learners' opinions about how different forms of educational delivery work for them in Australian post-graduate general practice training

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Background

The huge impact of the COVID-19 pandemic changed general practice (GP) and GP post-graduate education. To maintain training, Face-to-face teaching (FTFT) was replaced by online learning (OLL). This provided the opportunity to research the users' perspective about what did and didn't work best for them and the reasons why.

We asked what GP teachers and learners saw as the benefits, challenges, and enablers of each mode of educational delivery.

Summary Of Work

A qualitative study included 45 registrars and medical educators (MEs) from both GP training organisations in Queensland, Australia during 2021. Purposive sampling ensured representation of urban, regional, rural, and remote environments. Data from 5 focus groups and then 22 semi-structured interviews were analysed thematically using the framework method.

Summary Of Results

The learners and teachers shared many similar views, most saw FTF delivery as most beneficial and found OLL created many challenges. However, many suggested ways to improve OLL.

Rural and remote users appreciated the accessibility and efficiency of OLL with absolute need for initial FTF to build social connection.

All users focused on the major themes of social connection, learning engagement, content delivery, and time and space. Other themes included technology, unplanned learning, learning safety, and pastoral care. Generally, FTF benefitted all but OLL mostly created challenges to achieve them.



Discussion And Conclusion

The importance of social connection and social learning dominated. This appeared to underpin most of the other themes that were identified as important to achieve safe and effective post-graduate GP training.

It appears that OLL and FTF delivery are not completely interchangeable and FTFT appears essential to some of the GP learning needs. OLL has a support role, but needs to be crafted well to achieve meaningful learning

Take Home Messages

GP educational frameworks prioritise communication skills and holistic person-centred care. Post-graduate education needs to contain relationship based social learning to build professional identity, communication, teamwork, and other non-technical skills.

Social connection appears to underwrite many of the users' educational needs, meaning OLL is unable to replace all the functions of FTFT. However, OLL may suit learning factual knowledge, also it could be improved to overcome some of the challenges, but at a cost.



12H5 (1174)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:15

Location of presentation: Gratte Ciel 3

Features of adolescent medicine training in family medicine residents: a scoping review

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Background

Adolescents and young adults require age-appropriate healthcare services delivered by clinicians possessing expertise in adolescent medicine. Although family physicians are becoming the primary point for adolescent medical care, both residents and practicing family physicians report a low perceived self-efficacy and under-preparedness to deliver adolescent medical care.

Summary Of Work

We followed Arksey and O'Malley's 6-step framework and searched seven electronic databases, and key organizations' webpages from inception to September 2020. We included documents describing family medicine residents' competencies (i.e., the observable knowledge, skills, attitudes, and behaviors) in adolescent medicine. Informed by the CanMEDS-FM, we analyzed the extracted data concerning basic document characteristics, competencies and medical topics using numerical and qualitative content analysis.

Summary Of Results

We included 41 peer-reviewed articles and 6 adolescent health competency frameworks (n=47). Most competencies taught in family medicine programs were organized under the roles of family medicine expert (74%), communicator (12%), and professional (8%), while none related to the roles of scholar, leader, and health advocate. Although there was representation of all competency roles in the competency frameworks, we found a similar emphasis on the expert role. The family medicine expert competency was expressed as the ability to assess, diagnose, counsel, treat, and manage diverse adolescent medical issues, making it central to other roles.

Discussion And Conclusion

The omission of multiple competency roles in family medicine resident education on adolescents combined with family medicine residents consistently reporting low perceived self-efficacy and under-preparedness to care for adolescent patients indicates that current training is insufficient for family physicians to deliver optimal care to adolescents.



Take Home Messages

There is an apparent disconnect between the holistic view of competency roles put forth by the CanMEDS-FM framework and what is currently being taught in family medicine residency programs concerning adolescent medicine. Authoritative organizations (e.g., accreditation bodies) should investigate the competency role discrepancies in the adolescent medicine curriculum for family medicine residents. Researchers can optimize the curriculum by exploring under-represented competencies, including leader, health advocate, scholar and collaborator roles



12H6 (1431)

Date of presentation: Wednesday 31st August

Time of session: 09:15 - 09:30

Location of presentation: Gratte Ciel 3

Programs to encourage working as a general practitioner in rural areas: why do medical students *not* want to participate?

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Background

Choosing a specialization is probably the most important decision medical students have to make. This choice is not only important for the students themselves, but also for society. The aspirations of medical students do not always match the needs of society. For example, in many countries too few students are interested in a specialization in general practice and/or working in a rural area. Therefore, several programs have been developed, in which students stay in a rural region for an extended period of time, by following clerkships in such an area. Although the effects of these programs are positive, it is often difficult to motivate students to participate in them.

Summary Of Work

We carried out a questionnaire study among medical students in the clinical phase of the Technical University of Munich in Germany. This questionnaire focused on the reasons for *not* participating in the extracurricular program which aims to reduce the shortage of general practitioners in rural areas in Bavaria. Eight response options were given - 7 specified reasons, based on the literature, and the option "other".

Summary Of Results

Based on the answers of 442 students from study years 3-6, the most frequently chosen reason for not participating in the program is "identification with other discipline" with 61.0%, directly followed by "not willingness to long-term commitment" (56.1%). In third place is "personal connections to another region" with 30.5%. Significantly more females give as reason for not participating in the program that the parents or partner are settled in another region ($c^2 = 0.004$, $P < 0.05$). More males give as reason that the financial support is insufficient ($c^2 = 0.002$, $P < 0.05$).



Discussion And Conclusion

Offering (extracurricular) programs to prepare and motivate students for work as general practitioners in rural areas can contribute to increasing the pool of future general practitioners. But in order to stimulate students to participate in such a program, it is important to take into account the motives of students.

Take Home Messages

If students do not experience a long-term obligation, this increases their chances for participating in such programmes.



Short Communications - Curriculum Approaches 2

12J1 (4399)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:15

Location of presentation: Rhone 2

Transforming Japanese medical education by implementing a new curriculum commencing clerkship from the first year and forgoing the traditional didactic classroom approach

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Background

In the Japanese medical education field, the traditional didactic educational style has remained in the first three to four years of the total six years of medical education. Moreover, in the last two to three years, students mainly learn through observations during their clerkship because of the paucity of experiences in the clinical setting.

Summary Of Work

Showa University Faculty of Medicine in Tokyo, Japan started a new curriculum in 2020 introducing clerkship from the first year. The clerkship begins by shadowing nurses; following dentists, pharmacists, and technicians; and then working with physicians once a week. From the fourth year to the sixth year, students concentrate on their clinical clerkship (CC) and participate in the clinics as one of the medical teams. The traditional didactic learning in classroom education before the CC is set aside, and students learn essential knowledge through self-learning using on-demand videos. In the setting of in-person classes, journal article synthesis and interpretation, and simulation learning are integrated as the main learning tools. Students in groups of ten engage in the comprehensive review and presentation of medical articles through cooperative learning. This new curriculum approach simultaneously inculcates professionalism and provides a behavioral science class that overcomes its unpopular reception in Japan.

Summary Of Results

Students of our new curriculum have achieved profound outcomes in their journal article review, synthesis, and presentations. Additionally, their summative written examination showed over the average of ten points higher than the averages of past students.



Discussion And Conclusion

Asian medical students have long been conditioned to believe that didactic teaching is a suitable educational approach in line with their shy disposition. Our transformative curricular approach has outplayed this stereotyped conception.

Take Home Messages

The introduction of a transformative educational approach is worth pursuing in any cultural setting. Medical education should not stagnate but must continue to make progress even during or after unprecedented challenges such as the COVID-19 pandemic.



12J2 (1646)**Date of presentation:** Wednesday 31st August**Time of session:** 08:15 - 08:30**Location of presentation:** Rhone 2

Team-Based Learning in nursing education and its effectiveness on learning outcomes: a systematic review

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Background

Team-Based Learning (TBL) is an active teaching methodology based on group interaction, recently implemented in nursing education. Starting from the specific conceptual model, the main objective of this study was to identify, appraise and summarize primary studies on the effectiveness of TBL in achieving learning outcomes in undergraduate nursing students. The secondary objective was to explore transferable skills and students reactions and attitudes.

Summary Of Work

A systematic review of experimental and quasi-experimental studies was conducted. A research protocol was developed; Cochrane Library, Pubmed/Medline, Cinahl, PsycINFO, Eric, Google Scholar and the reference lists were consulted. Two reviewers conducted the selection process independently. The "JBI Critical Appraisal Checklist" was used to check the quality of the selected studies.

Summary Of Results

We included 12 studies: 2 monocentric randomized controlled trials and 10 quasi-experimental studies. Nine studies out of 12 reported significant results in favour of TBL in terms of academic performance and clinical skills, however results were divergent when TBL was compared with other teaching methods. Seven studies highlighted the effectiveness of TBL in improving communication skills, interprofessional learning, and self-directed learning. Divergent results were obtained about problem solving and critical thinking skills. TBL promoted classroom engagement, however it didn't seem to be associated with better learning outcomes.

Discussion And Conclusion

TBL was found to be effective in achieving undergraduate nursing students' learning outcomes, but evidence was not sufficiently strong to warrant that it is more effective than other teaching methods.



The small number and the heterogeneity of the included studies is the main limitation of this review. Therefore, these results could be used to inform teacher and support the implementation and research of TBL in nursing education.

Take Home Messages

- TBL is effective in the development of academic performances, communication and interprofessional skills and self-directed learning.
 - TBL improve nursing students' learning outcomes but not enough evidence is available to prove that it's more effective than other teaching methods.
 - More rigorous and mixed-methods studies are required to improve the transferability of results.
-



12J3 (3979)**Date of presentation:** Wednesday 31st August**Time of session:** 08:30 - 08:45**Location of presentation:** Rhone 2

What educational experiences in health professions education are implemented to help learners become socially accountable health professionals?

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Background

Although there is an international movement toward socially accountable health professions education, learning related to social accountability (SA) remains a black box and little is known about how SA has been incorporated into health professions education (HPE) programs. The purpose of our study was to synthesize the extant literature regarding the implementation of educational activities underpinned by SA.

Summary Of Work

We undertook a scoping study to document and map the breadth and depth of the literature. We identified, selected, and summarized relevant literature, in an iterative and critically reflexive fashion. Our search of the relevant databases (CINAHL; ERIC; MEDLINE; APA PsycInfo; Education Source) generated 5,091 results, which were subsequently reviewed for inclusion and exclusion by two independent reviewers. PRISMA Extension was used to illustrate descriptive data and thematic analysis was used to identify descriptive themes. Using the Harvard Macy “step-back” method, an approach utilized to gather group feedback, we added a consultation with knowledge users as a final step to ensure that the findings were relevant and accessible.

Summary Of Results

134 articles met the criteria for data extraction. 85% of articles were from North America. 80% were published since 2010, with the most in 2019 (13%). 35% were published in medical and nursing journals; these disciplines were discussed in 84% of articles. We identified four major themes in our thematic analysis: conceptualizations of SA; nature and characteristics of educational approaches (e.g., service learning, immersive community experiences, simulation, theatre, etc.); learners’ development of SA; and barriers and facilitators to implementation.



Discussion And Conclusion

We address a critical knowledge-practice gap by describing what contributes to the implementation of educational approaches related to SA. The topics and subject matter tackled, the curriculum approaches taken, and the innovations produced are elements of practical knowledge that must be made accessible so that those facing similar challenges can benefit.

Take Home Messages

A framework for curriculum development and implementation resulting from this research might orient HPE programs with guidelines and strategies for curriculum planning and future implementation. We will share important lessons learned in terms of the elements and characteristics of educational approaches related to SA, differences with respect to HPE programs, and readiness for implementation.



12J4 (1254)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 09:00

Location of presentation: Rhone 2

Team members outperform team leaders in insights into their own performance, so let's rethink debriefing approaches

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Background

Teamwork is daily routine for health care professionals. Ad-hoc teams face particular challenges. They work in interdisciplinary, interprofessional groups of specialists managing critical tasks in highly dynamic, complex situations under time pressure. The quality of their teamwork is of high relevance to patient outcomes and depends on their ability to self-monitor their team performance. However, we do not know whether such teams engage in *accurate* self-monitoring of their team performance. If they do, it could facilitate post-hoc debriefings. But do they?

We examined the *accuracy* of team self-monitoring by team members and their leaders relative to external observations and the *relationship* of team self-monitoring and external observations to objective measures of performance.

Summary Of Work

This is a quantitative, observational, in-situ simulation study with real ad-hoc teams. Each team was presented with an unexpected, simulated, standardized cardiac arrest situation in an emergency department. Team performance was videotaped and assessed using the Team Emergency Assessment Measure (TEAM). In addition, objective performance measures (e.g., time to defibrillation) were collected and evaluated. After each simulation, all participants rated their teamwork on a questionnaire. To measure the accuracy of team self-monitoring and its relationship to objective performance, we report Pearson's correlations.

Summary Of Results

We observed 22 3-6 person teams ($N_{\text{participants}} = 115$). The team *members'* assessment of their team performance correlated strongly with the ratings of external observers using the TEAM ($r > 0.573$, $p <$



0.001). However, the team *leaders'* assessment of their team performance did not ($r= 0.347$, $p = 0.145$).

Discussion And Conclusion

Team *members* have better insight into their team's teamwork than team *leaders*. We have tended to emphasize the team leader's role in deciding whether to debrief and in guiding that debrief. Instead, our results suggest that it could be beneficial to involve team members more in the whole process of debriefings.

Take Home Messages

Our results show that team members have a better insight into their teams' performance than team leaders. This suggests that team members should have a role in deciding whether to debrief and in informing the debrief conversation. Team members should receive more attention in future research and educational interventions.



12J5 (0407)

Date of presentation: Wednesday 31st August

Time of session: 09:00 - 09:15

Location of presentation: Rhone 2

Very Short Answer Questions in Team-based Learning: Limitations in Enhancing Peer Elaboration and Knowledge Retention

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Background

In Team-based Learning (TBL), single best answer questions (SBAQs) are traditionally used because they enable immediate computer-assisted feedback and facilitate team discussions. However, recent improvements in digital marking systems and criticisms of non-analytical strategies in SBAQs have prompted the consideration of very short answer questions (VSAQs) as an alternative question format to SBAQs. VSAQs require a free-text answer of 1-5 words instead of providing the 5 answer choices as in SBAQs. The aim of our study is to compare the effect of VSAQs and SBAQs on peer elaboration and knowledge retention in TBL.

Summary Of Work

Twenty-four second-year medical students from the Lee Kong Chian School of Medicine participated in a mixed-methods study that included a randomised-controlled crossover trial with two intervention arms (TBL-VSAQs and TBL-SBAQs). Two consecutive TBL sessions were conducted, with one pre-clinical topic covered in each session. Students were randomly allocated into 6 teams of 4 members each. Individual and team scores and completion times were measured, and students were surveyed on their experience during team discussions. A follow-up quiz on the same topics was administered 2 weeks later to assess knowledge retention.

Summary Of Results

Within TBL, individual scores for VSAQs were significantly lower than SBAQs only in the more difficult topic (7.17 ± 1.52 versus 8.25 ± 1.48 ; $p = 0.046$, pooled SD = 1.51, Cohen's $d = -0.72$), while findings in team scores, individual completion times and team completion times were non-significant. Follow-up quiz scores showed no significant difference in knowledge retention between students who had done TBL-VSAQs or TBL-SBAQs for the respective topics. Students thought that VSAQs were more authentic and challenging, though most preferred the continued use of SBAQs for TBL.



Discussion And Conclusion

VSAQs have a limited impact on peer elaboration and knowledge retention versus SBAQs. The low conceptual level of questions in TBL-facilitated foundational courses may dampen peer elaboration and shroud the potential benefit of VSAQs on peer elaboration. Hence, we should be circumspect about their inclusion in TBL.

Take Home Messages

Within TBL, VSAQs had a similar performance to SBAQs in stimulating peer elaboration and knowledge retention. We advise caution in introducing VSAQs into introductory or foundational level TBL courses.



12J6 (2792)

Date of presentation: Wednesday 31st August

Time of session: 09:15 - 09:30

Location of presentation: Rhone 2

Raising awareness of medical students toward social accountability: the *Social Accountability in Health* program

Edouard Leaune¹, Valentine Monier¹, Sarah Ouedraogo¹, Léa Camerano¹, Gilles Rode¹

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Background

Regarding the importance to address the priority health concerns of communities and health inequity, several authors recently advocated for a new framework of medical education implying that medical schools have the mission to cultivate a strong sense of social accountability in medical students. Accordingly, we built an innovative educational program aiming at cultivating and raising awareness toward social accountability in both participating students and their peers.

Summary Of Work

Social Accountability in Health is a one-year educational program implemented in 2019 in the Lyon-Est Medical School of Medicine. *Social Accountability in Health* is dedicated to medical students who aim to improve their knowledge and attitudes in the care of the underserved. The students who participated in the program in 2020-2021 developed collaborative projects aiming at raising awareness toward social accountability in other medical students of the Lyon-Est Medical School.

Summary Of Results

A total of 33 students participated in the *Social Accountability in Health* program with high levels of satisfaction and motivation. Seven collaborative projects were developed, including podcasts, videos, cartoons, posters and a website. A website summarizing all the collaborative projects was created and was accessed 365 times by other medical students (<https://humanites.wixsite.com/website/projets-2020-2021>). A 7-episode podcast on asylum-seeking was created and accessed 412 times. A cartoon on the experience of vulnerability, poverty or disability was viewed 186 times.

Discussion And Conclusion

The students participating in SAH reported great satisfaction and feelings of usefulness. Raising awareness toward social accountability in medical students can be developed through specific educational programs and collaborative projects. Medical students may be more prone to show interest regarding social accountability through projects and medias created by their peers.



Take Home Messages

- Raising awareness toward social accountability in medical students can be developed through specific educational programs and collaborative projects
 - Medical students may be more prone to show interest regarding social accountability through projects and medias created by their peers
-



ePosters - Postgraduate Education

12K01 (4163)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:05

Location of presentation: Tete d'Or 2

The use of constructed response as an online assessment strategy for the certification of hematology specialists

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Background

The certification of medical specialists aims to verify that health professionals have the knowledge, skills and abilities to provide quality services to the population. The COVID 19 pandemic made it necessary to design online evaluations to accurately and objectively identify the level of performance of physicians requiring certification.

Summary Of Work

To develop an online exam for the certification of hematology specialists, cognitive task analysis was used to identify the assignment, criteria and contexts, as well as to grade the required knowledge and strategies to solve the situations faced by the hematologist in the clinical service. This allowed the development of 22 clinical cases that in turn had 140 constructed response items, which evaluated the organization of information, the application of concepts and the solution of problems of the specialty, these were graded with two rubrics, the first evaluated the relevance of clinical competence and the second the solution strategies proposed by the subject.

Summary Of Results

The exam was administered using Moodle platform for the presentation of the cases and items and Zoom for the support of the subjects, it lasted 5 hours, with a 10-minute break. Fifty-one applicants and eight evaluators participated. The psychometric values were: mean difficulty p .45, that is, moderately difficult, mean Rpbis of .27 acceptable, Cronbach's alpha of .89, three factors were identified, organization of information, application of knowledge and problem solving, which explain 61.2 %. Forty students passed, the mean score was 64.4 ds 13.43, the maximum score was 91.03 and the minimum was 29.54.



Discussion And Conclusion

Discussion.

The clinical cases evaluated by means of constructed responses show how the students strategically discriminate and prioritize the knowledge of the hematology specialist in order to apply it in different contexts and situations.

Conclusion.

The constructed response format is a valid option for the assessment of complex clinical competencies in the specialty of hematology.

Take Home Messages

Specialty certifications may focus on the innovation of resources to look forward into this type of online formats.



12K02 (2885)

Date of presentation: Wednesday 31st August

Time of session: 10:05 - 10:10

Location of presentation: Tete d'Or 2

Dermatology resident's training in 2021 : a national cross-observational study

Marie Boileau^{1,2}, Romain Samaran^{1,3}, Morgane Weiss^{1,4}, Marine Robert^{1,5}, Nicolas Olivier^{1,6}, Alexandre Teboul^{1,7}, Pierre Hamann^{1,8}

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Background

Medical training evaluations of the residency in dermatology are rare. In France, the last was conducted in 2013. The FDVF (Futurs Dermato-Vénérologues de France), the French association representing young dermatologists conducted an observational study on the medical training of dermatology residents in France.

Summary Of Work

A descriptive cross-sectional survey was sent to all French residents in dermatology by digital questionnaire between March 13 and April 11, 2021. The areas addressed were theoretical and practical training, research and future professional aspirations.

Summary Of Results

Of the 399 residents enrolled in the dermatology curriculum, 269 responded to the survey (67.4%). All regions were represented and the promotions were equally distributed. Regarding theoretical formation, 213 residents (81.0%) had access to local or regional dermatology courses, 147 residents (55.9%) reported having viewed courses available on the national numeric platform at least once in the past 6 months. Interestingly, the main sources of instruction were books, websites and webinars and not the national platform. Lack of time available was the main reason for dissatisfaction concerning their personal medical training (n=220/248; 88.7%). Regarding practical training, 84.3% of residents (n=215/255) had access to consultations with a senior physician. Independent consultations were possible for 74.5% of residents (n=190/255). They were mostly not satisfied with their training in interventional dermatology including using lasers, surgery and phototherapy. Only 36 residents (14,7%) had access to a private practice dermatology rotation, while 81.2% (n=199/245) reported an interest in this type of training course. Of the residents who completed this type of internship, 88.9%



had hands-on surgical training (n=32/36) and 69.4% on laser training (n=25/36). In their final year, 83.8% of residents had completed at least one additional paid degree course. The two most frequent additional degrees were about internal medicine and about pediatric dermatology.

Discussion And Conclusion

This work is original because it was conducted by french dermatology residents with the aim to improve their own training. This work has identified changes that could be made to the dermatology curriculum and generated proposals currently under discussion.

Take Home Messages

This work, initiated by students, has led to initiate a collaborative work with the competent educational authorities to modify the professional competence referential.



12K03 (1777)

Date of presentation: Wednesday 31st August

Time of session: 10:10 - 10:15

Location of presentation: Tete d'Or 2

Discharge Summary Training

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Background

Discharge summary (DS) plays a crucial role in the continuation of care, preventing adverse events and readmissions. However, there is little formal teaching and many hospitals do not evaluate the quality of DS. Structured training on DS writing can improve its quality. Hence, it is a key step towards improving care transition and also translates into better clinical coding for hospital subvention and cost saving.

Summary Of Work

A compulsory DS e-learning module on its importance and components is required for all junior doctors. PGY1s also attended small-group, virtual sessions with commonly encountered clinical cases of varying difficulties with instant feedback to improve on their clinical narrative. PGY1s are evaluated on their DS by their supervisors with individualised feedback every month. Subsequently, a 6-week education campaign is held to reinforce common mistakes through screensavers, emails and SMS.

Summary Of Results

Pre (n=53) and post (n=31) surveys on perceptions of DS amongst junior doctors were conducted. 100% felt that DS is important and 92.5% believed that receiving feedback from seniors will lead to improvement but only 34% received formal training. After structured training, there is an increase from 19% to 96% of them knowing all components of a complete DS. 100% of them were satisfied with the training. An audit adapted from the Royal College of Medicine on high quality DS also showed an increase of complete DS from 21% to 80% over 6 months after structured training.

Discussion And Conclusion

Our comprehensive structured DS training employed a flipped classroom approach with blended model of learning through e-learning module, experiential learning on the job and metacognition with deliberate practice from supervisors' feedback. In our interactive virtual sessions, there is active and collaborative learning through case-based discussion. Timely reminders in our education



campaign also reinforces commonly missed information. Over time, structured training will improve the quality of DS.

Take Home Messages

DS is an integral part of patient care and formal training is important for its quality. A multi-pronged approach is needed for experiential and self-directed learning through interactive session with personalised feedback on the job.



12K04 (1689)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:20

Location of presentation: Tete d'Or 2

The OT3 Program: A Report on an Opioid Train-the-Trainer Program for Safe Prescribing Practices

Kristine Tatosyna-Jones¹, Caroline Cone², Yeji Ko¹, Opioid Prescribing Champs Team¹, Mario Davidson³, Charlene Dewey MD MEd³

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Background

The proper prescribing of opioids is a complex process and is not simply writing a prescription. We developed a 16-tip teaching guide complete with learner objectives and corresponding competencies, 7 web-based learning modules, and other practical clinical tools (pocket card, screening tool, provider decision aid).

We hypothesized that an opioid train-the-trainer (OT3) program implemented across ten institutions would result in improved participants' knowledge and prescribing skills.

Summary Of Work

Ten OT3 champs were trained on 16 safe prescribing practices and competencies. OT3 champs trained ten faculty at home institutions who trained their trainees using *The Proper Prescribing of Controlled Substances: A Clinical Teaching Guide*.

Participants completed 6-7 on-line modules. We assessed participants' pre/post-knowledge and self-assessed understanding/ability to prescribe using the 16 tips. Our goal was to assess the impact of the OT3 program.

Summary Of Results

Participation was limited due to the pandemic two months into the study. Overall, the OTC reached 96 faculty and 514 trainees. Most residents lacked knowledge on the 16 tips, content, and competencies but knowledge scores improved for each module: reaching statistical significance on 4 of 7 modules. Participants found the modules and additional resources valuable. Ratings on the module quality were lower than expected (3.6/5.0) mostly due to technology challenges. Qualitative interviews with OT3 champs, revealed positive impacts for champs, faculty and trainees, patients, and local and state practices.



Discussion And Conclusion

We implemented an OT3 prescribing program across ten US states. The pandemic stopped training for several months, impeding implementation. There were positive impacts on the OT3 champs, teaching faculty, trainees, and patients. Additional benefits included becoming the expert at home institutions, scholarly works, improved patient care, impacts on promotion, and changes at institutional and state levels.

The OT3 program provided access to safe prescribing training to over 600 trainees and faculty at ten intuitions resulting in improved knowledge by those participants who completed the training. Overall, the modules need updated technology and formatting. Next steps include formally assessing skill/competency and return on investment.

Take Home Messages

The OT3 program is a cost-effective program for improving resident opioid prescribing knowledge and changing clinical behaviors.



12K05 (3281)

Date of presentation: Wednesday 31st August

Time of session: 10:20 - 10:25

Location of presentation: Tete d'Or 2

Text messaging improves resident comfort with self-regulated learning skills

Kimberly Gifford¹, Lynn Foster-Johnson², Suzanne Reed^{3,4}, Ann Burke⁵, Lynn Thoreson⁶, Laura Lockwood⁷, John Mahan^{3,4}, Daniel Schumacher⁸, Joseph Minichiello², Gwendolyn Cook², Linda Morris², Marianna Henry²

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Background

While the use of self-regulated learning (SRL) skills optimizes training, approaches to teach SRL in residency are limited. Text messaging may provide an opportunity to empower residents to use SRL skills.

Summary Of Work

Residents were randomized to receive and respond to texts (response group) or receive texts without an expectation of response (prompts group) at 5 time points during a single rotation to prompt them to think about their learning. Participants completed an online survey at baseline prior to the intervention (pre-intervention) and again at the end of the intervention rotation (post). For residents who responded to both surveys, the pre- vs post- change in whether they identified specific learning goals for the rotation was compared using chi-squared. The degree of agreement (1=strongly disagree to 5= strongly agree) with comfort statements about SRL was compared using paired t-tests.

Summary Of Results

Residents in both response group (n=9) and prompts group (n=18) read all the texts. All residents in the response group responded to most or all texts. Although residents in the prompts group were not expected to respond, 5/18 (28%) responded to at least one text and 3/18 (17%) responded to all of them. Across both groups, residents thought texts were extremely useful 3/27 (11%), moderately useful 9/27 (33%), slightly useful 13/27 (48%), and not at all useful 2/27 (7%), with no difference between groups (p=0.2).



Compared to their pre-intervention survey, residents in both groups were more likely to report that they identified specific learning goals for the intervention rotation (response group 44% vs 89%, $p=0.045$; prompts group 22% vs 67%, $p=0.005$). Furthermore, residents in the response group reported greater comfort identifying their deficiencies in knowledge/skills (mean=3.56 vs 4.11, $p=0.02$), creating learning goals (mean=3.56 vs 4.22, $p=0.04$), and planning strategies to address learning goals (mean=3.00 vs 3.89, $p<0.001$).

Discussion And Conclusion

Residents read all texts and frequently responded, even when not expected to respond. Nearly all residents found some utility in the texts. Comfort with SRL skills improved the most for residents in the response group.

Take Home Messages

Despite limited statistical power due to the small sample size, text messaging may be a useful method to promote self-regulated learning in trainees.



12K06 (0541)

Date of presentation: Wednesday 31st August

Time of session: 10:25 - 10:30

Location of presentation: Tete d'Or 2

The Effectiveness of a Multi-Station Viva Voce Examination over a Virtual Examining Platform During the COVID-19 Pandemic

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Background

The Coronavirus Disease 2019 (COVID-19) pandemic has resulted in cancellation or postponement of conventional specialty examinations internationally. This has significantly impacted the training and career progression of residents, including in Singapore.

Summary Of Work

Navigating the challenges of restricted inter-hospital movement and the need to maintain social distancing during the COVID-19 period, Singapore's nationwide Plastic Surgery residency viva examination was conducted virtually for the first time. Using a multi-station virtual examining platform over ZOOM, the examination involved residents and faculty examiners from 3 different institutions located across Singapore. This study delineates the process of setting up a standardized multi-station, virtual-examining platform and examines its effectiveness via a post-examination survey of residents and examiners.

Summary Of Results

The nationwide Plastic Surgery residency Viva Voce examination was conducted with 16 residents, 9 examiners and 2 proctors, over 2 back-to-back sessions. A ZOOM meeting was set up with a main waiting room and 9 breakout rooms. Each candidate was scheduled to rotate through a circuit comprising of 3 different stations - with 1 examiner taking each candidate through 1 case study per station. Questions and pictures were presented using Powerpoint slides and each candidate was examined for knowledge, presentation and time management.

Discussion And Conclusion

Our experience has shown that the virtual-examining platform is a user-friendly and convenient method for conducting a viva exam. It provides quality simulation of the exam setting, while adhering to social distancing measures. A multi-station set-up with examiners from multiple institutions also ensures standardization. The ability to record each session also allowed for feedback to be given to



residents and for standardization of marking. However, the drawbacks include a relative lack of exam pressure in a virtual exam setting. A conventional in-person viva examination was still preferred by both examiners and candidates. Nonetheless it is a viable alternative platform for conducting examinations in the midst of a pandemic, thereby allowing residency training assessment and progression to continue.

Take Home Messages

Strategies to further enhance the process for adoption in future examinations include, the involvement of multiple examiners per station, including the involvement of overseas faculty; and providing a tablet to allow residents to illustrate when required.



12K07 (4151)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:35

Location of presentation: Tete d'Or 2

Educational culture in residency training: need for change

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Background

Residency training is time-based in Greece, and public hospitals serve as training centers. The doctors of the national health system act as clinical teachers without any obligation to undertake any form of formal training in education. The trainee doctors are directly supervised throughout their training. According to the few papers published on residency training, the trainee doctors believe that their clinical teachers do not care about their education, and they do not feel confident practicing independently once they complete their training.

Summary Of Work

This qualitative study explored the clinical teacher's perception of residency and their feelings about their role. Individual semi-structured interviews were conducted with eight clinical teachers, reaching information saturation.

Summary Of Results

Two main themes emerged: a) a misperception of the goal of residency and b) recognition of teaching obstacles.

All, but one of the clinical teachers, believe that PGME is merely the first step towards independent practice. Fully independent practice after completing training is considered possible only for simple clinical cases. This belief is stronger amongst the surgeons. Interestingly the only different point of view originated from a participant actively educating himself on education issues.

All participants consider teaching their obligation and accept their role as clinical teachers. Lack of protected teaching time, overload with clinical work, and lack of appreciation of their teaching role by hospital management are considered obstacles. Furthermore, they recognize that their lack of educational training hinders their teaching effort.

Discussion And Conclusion

The goal of residency training, according to the World Federation of Medical Education, is the independent practice upon its completion. According to both clinical teachers and trainees, this goal



is not achievable with the current structure of residency in Greece. The teaching obstacles play a significant role in that. But even if all obstacles were eliminated, autonomy is unlikely to be possible if the clinical teachers do not aim for it.

Take Home Messages

There is a need to change the educational culture amongst the clinical teachers in Greece. This is only achievable by investing in teaching the teachers why to teach and how to teach.



12K08 (3374)

Date of presentation: Wednesday 31st August

Time of session: 10:35 - 10:40

Location of presentation: Tete d'Or 2

The use of multisource feedback in developing junior doctors' leadership skills

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Background

All doctors need leadership skills to contribute to the management of a complex healthcare system. There is an increasing focus on how to identify and support development of junior doctors' leadership skills. Multisource Feedback (MSF) is an acknowledged method originally intended as a leadership development tool. In the last 20 years MSF has been used in specialist training as both a formative and summative assessment method. The present study aims to examine how MSF can be used to assess and support the development of junior doctors' leadership skills in clinical practice.

Summary Of Work

32 junior doctors from 32 clinical departments representing 17 specialties in eight hospitals completed a leadership-focused MSF-process. The MSF-process consisted of four elements: 1) self-assessment, 2) a report with feedback from multiple respondents, 3) personal feedback dialogue with a certified feedback facilitator, 4) written personal action plan. Semi-structured interviews on the junior doctors' perception of and benefits from the MSF-process were conducted. A thematic analysis was performed to organize and describe the empirical data.

Summary Of Results

The majority of junior doctors found the MSF-process intense, rewarding and helpful in understanding the many facets of clinical leadership. The MSF-process identified new learning objectives for their leadership development such as task delegation, independent decision making, becoming a role model, capability to speak up and handle conflicts, giving and seeking feedback. The junior doctors highlighted the personal feedback dialogue with an experienced specialist as well as the development of an action plan as the most beneficial elements of the MSF-process.

Discussion And Conclusion

A leadership-focused MSF-process increased junior doctors' attention and awareness of leadership in daily clinical practice, provided deeper insight and concrete tools for the development of leadership



skills. Thus, a leadership focused MSF-process may contribute to and increase leadership competence among junior doctors, however further studies are needed to explore learning effect.

Take Home Messages

A leadership-focused MSF has the potential to develop junior doctors' leadership skills and thus to be used as originally intended, as a leadership development tool. Systematic use of MSF should therefore be considered in future support of junior doctors' leadership training.



12K09 (3332)**Date of presentation:** Wednesday 31st August**Time of session:** 10:40 - 10:45**Location of presentation:** Tete d'Or 2

Facing educational challenges during COVID-19 pandemic in an Endocrinology Residency in Brazil

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Background

In Brazil, Endocrinology Residency consists of 2-year program with theoretical and practice activities. In the University Hospital of Ribeirao Preto Medical School, University of Sao Paulo, residents have been engaged in weekly lectures, multi-specialty discussions, laboratory rounds, and direct patient contact on a daily basis. With the COVID-19 pandemic restrictions, the residency program needed to be restructured.

Summary Of Work

Whereas the resident rotations on inpatient and outpatient activities were maintained, changes in didactic sessions and strategies to maintain resident wellness were performed. Additionally, residents experienced telemedicine technologies for outpatient care. Virtual seminars and teleconferencing platforms were organized to mitigate the loss of in-person classes. Thus, the online theoretical activities offered to achieve knowledge on different Endocrinology areas were improved by inviting expert professors to present meetings. A post-session questionnaire was provided to residents to assess the impact of those seminars.

Summary Of Results

From July 2020 to November 2021, 30 speakers from other Brazilian and International institutions facilitated synchronous meetings through online platforms. Ninety-five percent of residents felt that the external professors' meetings positively impacted their learning. Additionally, 44 virtual seminars were weekly presented by residents with direct supervision from medical preceptors. These seminars were considered excellent and very good for 79% and 21% of residents, respectively. One disadvantage raised by the residents regarding online activities was the difficulty to focus attention integrally during the presentation. Small groups and the use of synchronous and asynchronous consultations facilitated the interactivity. Sixty-three percent of residents pondered that a hybrid program would be a better model for the academic activities after the pandemic.



Discussion And Conclusion

Structuring online theoretical activities supported the learning needs of Endocrinology residents and contributed to social distancing and prevention guidelines in the pandemic. Systematic contribution of external expert professors, including the international speakers, would not have been done in the traditional program.

Take Home Messages

Learning online strategies during the pandemic increased the interaction with professors from different Universities and offered additional points of view for the residents. Although the full impact of Covid-19 on residency programs is still unknown, the incorporation of new facets of learning technologies might become a legacy from the pandemic period.



12K10 (2192)

Date of presentation: Wednesday 31st August

Time of session: 10:45 - 10:50

Location of presentation: Tete d'Or 2

Programme director's view of the medical internship: A phenomenographic study

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Background

In the literature, the transition from being a student to working as a doctor has been found to be a pivotal phase in a medical career and studies have shown high levels of burnout among junior doctors. For newly graduates, various forms of introductory services have been established to ease the transition from medical student to practicing doctor, e.g. medical internship, mandatory service or foundation years. Although previous research has explored junior doctors' experiences of introductory services, little is known about other stakeholders' view. In this study, we sought to explore how programme directors of the Swedish medical internship understand the meaning of the medical internship.

Summary Of Work

We adopted a phenomenographic approach, investigating variations in how programme directors understand the meaning of the medical internship. The programme director is responsible for the educational content and format of the medical internship, coordinating the efforts of the on-site supervisors. Data was collected through individual in-depth interviews with twelve programme directors from ten hospitals. A phenomenographic analysis identified categories as well as the relationship between these, known as the phenomenographic 'outcome space'.

Summary Of Results

Preliminary results show that programme directors conceptualise the internship similarly to medical interns, in that they understand the internship as pivotal in junior doctors' development. Our data suggests that programme directors emphasise the interns' opportunities to perform challenging tasks under supervision. Therefore, it is seen as important that the interns are given tasks that fulfil their educational needs, rather than the productive needs of the department where they are stationed.



Discussion And Conclusion

Programme directors hold a crucial role for medical interns as they control both the content and shape of the internship, and are a key stakeholder in junior doctor's introduction to clinical work. Therefore, it is of interest how they conceptualise the meaning of the internship programme for the development of junior doctors into competent physicians.

Take Home Messages

When investigating an educational intervention such as the medical internship, it is important to consider all stakeholders' perspective, as they may very much differ.



12K11 (2687)

Date of presentation: Wednesday 31st August

Time of session: 10:50 - 10:55

Location of presentation: Tete d'Or 2

An effective online training program for prenatal diagnosis of placenta accreta spectrum (PAS) disorder for obstetrics-gynecology and radiology residents during the COVID pandemic.

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Background

Placenta accreta spectrum (PAS) disorder is one of the most serious conditions in obstetrics and can cause massive hemorrhage or maternal death. The incidence of PAS has been increasing globally concordant with an increasing cesarean delivery rate, however more than 50% of PAS cases are not diagnosed before delivery. We developed an online training program to increase the prenatal PAS diagnosis capability of OB-GYN and radiology residents during the COVID pandemic during which face-to-face training is limited.

Summary Of Work

This prospective study was done between September 2020 and June 2021. The program was developed from free software as an online training program for prenatal diagnosis of PAS. It consisted of a pre-test, core lecture, self-study exercises and a post-test based on ultrasound images from our center. The participants were 60 residents from 1st-3rd year OG-BYN and radiology residents. The participants' satisfaction with the program was evaluated.

Summary Of Results

Before the training, 98.3% of the participants had minimal experience and 100% had low confidence in their ability to diagnose PAS. During the training, all participants showed progressively increased capability to diagnose PAS. The average overall accuracy to diagnose PAS increased from 71.3% before training to 95.2% after training ($p < 0.001$), which was a 2.5 times increased capability ($p < 0.001$) by a mixed logistic regression model calculation. Retention of knowledge at 1, 3 and 6 months after training was stable at averages of 84.7%, 87.5% and 87.7%, respectively. The overall satisfaction of the participants with the online program was 81.6%.



Discussion And Conclusion

Discussion: This is the first online training program for prenatal diagnosis of PAS, and the data showed successful training outcomes. The competency to diagnose PAS disorder improved notably after the PAS diagnosis program and the knowledge retention remained stable after the program.

Conclusions: The developed online prenatal diagnosis of PAS training program was successful and was proven effective in a situation where face-to-face interaction with students was difficult.

Take Home Messages

This online, free training program for prenatal diagnosis of PAS is useful and easily accessible by anyone and can be included in residency or post-graduate programs.



12K12 (2815)

Date of presentation: Wednesday 31st August

Time of session: 10:55 - 11:00

Location of presentation: Tete d'Or 2

Duty hour restrictions – looking beyond a simple 80-hour limit

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Background

The ACGME has previously prescribed 80-hour weekly duty hour limits for trainees. While longer hours have been associated with poorer patient and physician outcomes, few studies have attempted to evaluate this specific cut-off, nor to critically evaluate the definition of duty hours. We aimed to evaluate the nature of the relationship between working hours and patient safety outcomes and explore the definition of working hours in the present day.

Summary Of Work

An anonymous nationwide survey of junior doctors (“JDs”) was conducted. Data was collected on demographics, working conditions (including hours, non-clinical work duties and call duties), as well as self-reported medical errors. A negative binomial regression model was used to ascertain the effects of clinical hours and non-clinical hours on the likelihood of medical errors. Participants were further identified for semi-structured interviews by purposive sampling.

Summary Of Results

1,117 unique survey responses were received, representing 26.0% of the nationwide population. Baseline demographic characteristics with mean working hours are described. Increasing frequency of medical errors was noted with increase in working hours. 17.0% of errors led to serious patient complications, with 3.1% of errors contributing directly or indirectly to patient mortality.

A continuous relationship between hours worked and medical errors was observed. For every additional clinical hour worked per week, 1.020 times more medical errors were reported ($p < 0.001$). The inclusion of non-clinical working hours improved the model. For every additional non-clinical hour worked per week, 1.013 times more medical errors were reported ($p = 0.006$). Other factors contributing to errors are described.



Discussion And Conclusion

The use of an 80-hour cut-off as a “safe” limit is arbitrary and duty hour restrictions should consider local context and risk appetites, as well as manpower restrictions. Additionally, this study provides the first evidence that increased non-clinical working hours also contribute to poorer outcomes. Residency programs should be cognizant to the effect of these additional duties on resident performance and patient safety, and should consider mechanisms to routinely record these.

Take Home Messages

Longer working hours are associated with poorer patient and physician outcomes in a continuous manner. The definition of physician work in the present day should be carefully considered.



12K13 (3106)**Date of presentation:** Wednesday 31st August**Time of session:** 11:00 - 11:05**Location of presentation:** Tete d'Or 2

Deliberate under-reporting of duty hours and its contributing factors

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Background

Junior doctors (“JDs”) are subject to duty hour regulations, with longer hours associated with poorer patient and physician outcomes. However, previous studies have typically utilized self-reported working hours. Previous reports have suggested that under-reporting of duty hours is common, and have described reasons why JDs may exceed duty hours. However, the reasons behind the behavior of under-reporting itself have not been critically evaluated before. We hence aimed to evaluate patterns and causes of under-reporting of duty hours in JDs.

Summary Of Work

This was part of an anonymous nationwide survey of junior doctors conducted in Singapore. For this part of the study, data was collected on baseline demographics, factors relating to reporting of duty hours and underlying reasons for this behavior. Participants were further identified for semi-structured interviews by purposive sampling.

Summary Of Results

810 respondents (72.5%) completed optional questions relating to reporting of duty hours. Only 19.5% of these reported accurate logging of their working hours. Amongst those who did not, unlogged working hours included clinical hours (74.5%), administrative duties (58.9%), training or teaching duties (42.8%), research or other academic duties (28.1%), and non-residential calls (16.9%).

The first group of reasons for under-reporting related to administrative burden, such as having to justify exceeding working hours (78.3%) or onerous administrative workload (55.6%). A second group of reasons related to a sense of inconsequentiality, such as the perception that this did not improve work requirements (66.9%) or that exceeding regulations was considered routine (57.2%).

Qualitative data corroborated these themes. Some interview participants also revealed that program administrators had deliberately asked them to under-report their hours for the purposes of compliance to accreditation requirements.



Discussion And Conclusion

Barriers to accurate reporting include both systemic factors regarding the process of reporting hours and violations, as well as individual factors reflecting a lack of buy-in on the part of JDs. These may need to be addressed with better education and communication about the importance of accurate duty hour reporting. Anecdotal reports of “forced” under-reporting suggests the contribution of underlying organizational failures.

Take Home Messages

Under-reporting of working hours is extremely prevalent. It is important to develop objective, easy-to-use and reproducible tracking mechanisms of working hours.



12K14 (1938)

Date of presentation: Wednesday 31st August

Time of session: 11:05 - 11:10

Location of presentation: Tete d'Or 2

Virtual OSCE for medical residents during the COVID-19 pandemic

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Background

In our post-graduate medical foundation residents program, objective structured clinical examination (OSCE) is utilized to evaluate physician competencies as an end-of-year summative assessment. In May 2021, escalation of Taiwan's COVID-19 epidemic forced strict social distancing rules, preventing the "traditional" OSCE with faculty, standardized patients (SP), resident trainees and staff all being present in-person. We thus designed an online "virtual" OSCE to eliminate direct personnel contact.

Summary Of Work

We adapted our OSCE blueprint, incorporating clinically relevant skills and 'virtual' format. All members were informed of the change and Google Meet was selected as the platform for delivery. Scoring was through checklist, statistical analysis of the mean score, pass rates analyzed were done in comparison with the previous year's OSCE. Online surveys were collected.

Summary Of Results

OSCE comprised of 3 stations, with each station lasting 12 minutes (including 2 minutes of feedback). The stations comprised of 1) Shared decision making (SDM), 2) Telemedicine, 3) Intubation and nasal swab of COVID-19 patient. OSCE was delivered to 49 PGY-1 residents split into 9 subgroups. Pre-recorded online orientation was given to students and faculty.

When comparing "virtual" OSCE in 2021 with "traditional" OSCE in 2020, statistical analysis showed no significant difference in the mean score (74.22 ± 8.62 vs 67.9 ± 6.65 , mean difference 6.318; 95% CI - 9.59 - 3.04, $p=0.087$) or pass rates (92.7% vs 93.9%, c^2 0.02, $p=0.881$).

Survey showed 89.5% of faculty and 72.2% of trainees found the "virtual" OSCE format closely represented "traditional" OSCE. More than 90% found the exam accurately assessed clinical skills and could identify areas for future improvement. Similarly, the overwhelming majority (>85%) of faculty felt that "virtual" OSCE allowed accurate assessment of trainees and observation of SPs .



Discussion And Conclusion

During the COVID-19 epidemic, we adapted our OSCE to an online “virtual” format to avoid non-essential close contact. We found the format to be effective and feasible, and can be used to assess novel and increasingly relevant skills such as SDM and telemedicine. Limitations of this format include the inability to assess physical examinations skills and to monitor body language.

Take Home Messages

Virtual OSCE is feasible and effective for evaluation of relevant clinical skills in medical residents



12K15 (3049)

Date of presentation: Wednesday 31st August

Time of session: 11:10 - 11:15

Location of presentation: Tete d'Or 2

The influence of the clinical microsystem on residents' communication skills during clinical practice.

Mirja van der Meulen¹, Colleen Gillespie¹, Khemraj Hardowar¹, Jeffrey Wilhite¹, Zoe Phillips¹, Kathleen Hanley¹, Lisa Altshuler¹, Andrew Wallach¹, Sondra Zabar¹

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Background

Residents' journey to independent practice requires balancing the simultaneous challenges of learning on the job and practicing safe patient care. As residents progress through training, they receive less direct supervision and take on more responsibility in the complex world of clinical care. The quality improvement field recently began focusing on influences of the "clinical microsystem" – the smallest unit in which care is provided – has on quality of care. We were interested in how the functioning of the clinical microsystem (CMS) might affect residents' communication skills.

Summary Of Work

Unannounced Standardized Patients (USPs), trained actors portrayed clinical scenarios "incognito", assessed resident physicians' core communication skills and the CMS functioning. USPs rated residents' communication skills on 12 checklist-items, averaged into a percentage well-done score. CMS measures were 1) clinical atmosphere 2) care-teams functioning and 3) patient care associates' professionalism. Residents' Objective Structured Clinical Examination (OSCE) communication scores were included to investigate whether some residents might exercise effective skills in chaotic or low functioning CMS than others. Scatterplots were graphed to explore CMS influences on residents' performance.

Summary Of Results

In total, 247 USP visits took place at one clinical site from 2014 to 2019. Fifty-two USPs were seen by 84 second post-graduate year internal medicine residents. Graphs show that residents' communication skills might be influenced by the CMS: within a more chaotic clinic and with less high functioning clinical teams, residents tend to communicate less proficiently. Residents with above average OSCE communication skills were less affected compared to residents with below average OSCE communication skills.



Discussion And Conclusion

Our preliminary analyses suggest that residents are influenced by the clinical microsystem. However, residents with better communication seem to be able to 'deal' with the clinical microsystem more effectively. Further analyses will be conducted using multilevel regression analyses to disentangle possible significant influences while accounting for the repeated measures within residents.

Take Home Messages

- Residents' interpersonal and communication skills seem to be influenced by how well CMS functions.
 - Not every resident seemed to be influenced by the CMS by the same degree, residents who are better communicators during simulation settings seem to be able to deal with the clinical microsystem more effectively.
-



12K16 (1371)**Date of presentation:** Wednesday 31st August**Time of session:** 11:15 - 11:20**Location of presentation:** Tete d'Or 2

A resident-driven approach to implementing a CBME framework into postgraduate Anesthesiology training

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Background

Postgraduate training in Anesthesiology is recently focusing a transition towards a competency-based medical education (CBME). In 2018, the European Board of Anesthesiology has released a CBME framework defining training requirements for trainees (ETR), but it remains unaddressed how this could be integrated in daily clinical practice and into local postgraduate Anesthesiology training programs.

Summary Of Work

A group of anesthesia residents of the Charité pro-actively formed a working group to integrate ETR into their training program. The working group selected suitable items of the 364 ETR items based on practicability, possible implementation and significance in a local setting and allocated them into learning module. According to the category of the ETR items, appropriate learning methods were co-allocated. A senior anesthesiologist supervised the residents' activities.

Summary Of Results

The European ETR framework was transferred into a total of 12 modules with an average of 15 ETR items per module in the categories knowledge, clinical skills, and specific attitudes. Four of the 12 modules were newly developed. For each module a template was created which included learning goals, homework preparations by different groups, knowledge sharing through the jigsaw technique in the module, training of practical skill and the supervision by senior anesthesiologist.

Discussion And Conclusion

Residents can play a pivotal key role in translating an international CBME framework into daily practice of a local postgraduate anesthesia training program and thereby take responsibility of their



own learning. Our example may inform and guide other residents and institutions in setting up own working groups for integration of CBME frameworks in their local training programs.

Take Home Messages

Residents may serve well as bottom-up approach to put CBME into the practice of their postgraduate training programs.



ePosters - Selection for Admission

12L01 (3932)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 08:05

Location of presentation: Salon Tete d'Or

What to Learn with the Medicine National Access Test Results

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Background

The National Access Test (Prova Nacional de Acesso – PNA) in Portugal consists in the serialization of the recent medical graduates. This tool ranks the candidates through theoretical acknowledgment evaluation, to posteriorly choose the medical specialty. It is a method that will define the future of these medical professionals. Thus, we consider of extreme relevance the analyses of its results.

Summary Of Work

In order to obtain information that can be used to improve the teaching-learning process during the course, the results analysis obtained in the PNA, was performed. A database with the results (2019, 2020) of 2791 recent medical graduates was built, the data were statically analysed using SPSS v. 28. The PNA results from FCS-UBI students were compared with the results of their classification in college admission test and with the type of high school (public or private). The results were normalized.

Summary Of Results

The data proof that there is a significant statistical difference between the grades of the final media ($p < 0.001$), the students of FCS-UBI have lower results, although, this difference is small taking into account an overall evaluation in absolute terms. It was not verified a statistical significant difference in the normalized data of the PNA ($p = 0.330$), but there is a positive moderate correlation ($r = 0.525$) between the final graduation results and PNA results. On what concerns to the type of high school attendance it was verified that students from public high schools have higher grades, both in graduation and in PNA.

Discussion And Conclusion

This study reveals that there is a correlation between the results of the graduation and PNA and students from public high schools obtained better results in both. Although, there is no statistical



significance in the normalized results of PNA, there is the need of more studies that will allow a better understanding of the results obtained by FCS-UBI students with the results of other faculties in Portugal.

Take Home Messages

The PNA defines the future of medical students. Faculties should have the concern to adequate the teaching-learning methodology to the necessary skills to perform the Access Teste.



12L02 (2241)

Date of presentation: Wednesday 31st August

Time of session: 08:05 - 08:10

Location of presentation: Salon Tete d'Or

Do our physicians represent the population they serve? A study on the cultural and socio-economic diversity of physicians

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Background

Having a diverse healthcare force can contribute towards reducing health inequalities. In spite of numerous widening participation initiatives, many cultural and socio-economic groups continue to be underrepresented in the population of physicians. In Germany, there is insufficient evidence on the diversity of physicians. The goal of this study is to determine to which extent physicians in the Hamburg region of Germany represent the population they serve.

Summary Of Results

We designed a survey that contains 38 items addressing physicians' socio-economic status and cultural background based on previously validated national surveys. Important variables include self-reported indicators of parents' financial, educational and occupational background. We will compare the socio-economic and cultural background of the general population in Hamburg with that of physicians in our sample.

Discussion And Conclusion

Results of this study will show to which extent the cultural and socio-economic background of Hamburg physicians reflect the diversity of the population they serve. Specifically, findings will indicate the effect of family income, profession, education and cultural background on physicians' access to and success in the profession.

Take Home Messages

We developed a survey to support widening participation initiatives in medical education by raising awareness among policy makers on the need to take action in addressing social injustice and healthcare inequalities.



12L03 (3145)

Date of presentation: Wednesday 31st August

Time of session: 08:10 - 08:15

Location of presentation: Salon Tete d'Or

WITHDRAWN



WITHDRAWN



12L04 (2800)

Date of presentation: Wednesday 31st August

Time of session: 08:15 - 08:20

Location of presentation: Salon Tete d'Or

A database system to track entrance and success in German medical schools

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Background

Presently a joint project group of 6 German medical schools (STAV) is developing a procedure for medical school student selection intended to be used nation-wide. To evaluate the emerging procedure, data gathered at different places and times (e.g. admission test results) need to be combined with demographic information and study success information. This task is constrained by requirements for data protection and user data consent stipulated by German data protection regulations.

Summary Of Work

Personal data (PD) and test data (TD) are kept in separate databases running on different computers operated by different administrators. The PD-database stores first name, last name, birthdate and e-mail address (person string) of all applicants who consented to study participation. The TD-database stores data from entrance tests and other sources such as administrative files. Records belonging to an individual applicant are identified by a unique code that is attached to the applicant's record in the PD database as well as in the TD-database, functioning as a link.

Every new dataset, e.g. entrance test results, is processed by a special application, called Matching App, which identifies applicants who have given their consent at the website of the STAV-project. The Matching App runs an algorithm which detects near misses in re-identification and, if necessary, displays the result for further inspection by a human eye. If identified in the list of consenters, the person string is replaced by a code connecting it to the unique code of the individual applicant to allow longitudinal tracking. The TD-database receives data sets pseudonymised by the Matching App and offers tools to combine data from different sources into output files for research purposes.

Summary Of Results

Three interlocking database-programs managing personal data, test data, and re-identification of recurrent applicants are set up to collect longitudinal data.



Discussion And Conclusion

As longitudinal data become available for longer time spans the database system will become increasingly informative about the predictive value of measures taken before admission.

Take Home Messages

Longitudinal data for educational research is collected by a system of three interlocking databases which handles imprecise re-identification and conforms with data protection regulations.



12L05 (1983)

Date of presentation: Wednesday 31st August

Time of session: 08:20 - 08:25

Location of presentation: Salon Tete d'Or

Associations between sociodemographic characteristics and test scores in French and English versions of Casper

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Background

Casper is a situational judgment test used for admissions by many medical schools. In Canada, the test is available in French and English. Previous studies have demonstrated associations between sociodemographic characteristics (e.g., gender, socioeconomic status, ethnicity, age, language) and Casper scores. The goal of this study is to document if these associations are stable between the French and English versions of Casper.

Summary Of Work

Casper scores (mean=500, standard deviation=50) for all candidates applying to at least one of the four medical schools in Quebec (Canada) for 2021 were anonymized and combined with sociodemographic data obtained by an exit survey. Regression models for the French and English versions were created using stepwise regression and a unified invariant model was generated and tested using multigroup analysis.

Summary Of Results

Results of 6179 applicants who took the test either in French (n=3878) or English (n=2301) were retrieved for this analysis. Mean score for the French version was slightly higher than for the English version (506.8 vs. 501.1; $p < 0.001$; $d = 0.112$). Sociodemographic data was available for 5330 applicants. In a unified regression model including applicants taking either the French or English version, male gender ($B = -8.460$), parental income $< 50,000$ \$ ($B = -8.990$), Black self-declared ethnicity ($B = -45.176$) and age > 28 combined with non-white self-declared ethnicity ($B = -32.566$ for interaction) were all significantly associated with lower scores ($p < 0.001$). Taking the test in one's primary language (French or English) was significantly associated with a higher score ($B = 14.328$; $p < 0.001$). Parental education level and size of community where applicants grew up were not associated with Casper scores. The unified model explains 12.0% and 13.2% of the variance in French and English test scores, respectively.



Discussion And Conclusion

Associations between sociodemographic characteristics and Casper scores can be considered stable across the French and English version of the test. The small mean score differences observed between both versions of the test could be related to underlying sociodemographic characteristics of the cohorts and will require further studies.

Take Home Messages

In the Quebec context, similar subgroup differences related to gender, parental income, ethnicity/race, age and language are observed in both the French and English versions of Casper.



12L06 (3419)

Date of presentation: Wednesday 31st August

Time of session: 08:25 - 08:30

Location of presentation: Salon Tete d'Or

Bursting Bubbles: how widening participation enhances students' experiences of medical education

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Background

Many UK medical schools are widening participation (WP) by supporting students from underrepresented backgrounds to undertake medical degrees through gateway programmes, which provide an additional year of study to support transition to university. Currently, most WP research focuses on the challenges students experience accessing and navigating university, which can lead to framing them as 'deficient'. This study offers a diversity-positive discussion of WP by examining the perceived impact on the education environment made by gateway medical students.

Summary Of Work

This qualitative research drew on a social constructivist paradigm and a comparative case study design between the University of Southampton and University of Aberdeen. Medical students and staff participated in focus group discussions about their perceptions of WP, student diversity and integration in medical school. Data were thematically analysed and interpreted in relation to their university contexts and gateway programme designs.

Summary Of Results

43 students and 13 staff participated in 16 focus groups. At the University of Southampton, perceived differences of gateway students, including their cultural insights and awareness raising of inequitable institutional practices, were valued but initially inhibited integration. Southampton's gateway students experienced some academic discrimination and their sense of belonging and inclusion in the medical school took time to develop. Participants from the University of Aberdeen reported that diverse perspectives enrich classroom discussion and improve communication skills, and believed that gateway students are more likely to 'give back' to underserved communities. Aberdeen's gateway students were well integrated and felt included in the medical school. However, the value of their 'unique' contributions was sometimes questioned. Some participants felt professional assimilation in the clinical years mitigated the potential for gateway students to affect learning.

Discussion And Conclusion



This research challenges the dominant deficit discourse by illustrating how gateway students enhance the educational environment. Findings are considered in relation to their contexts, providing insights into factors shaping how gateway students are perceived throughout their studies, and conditions that facilitate enriched learning in a diverse cohort.

Take Home Messages

Educators should reflect on the institutional aims of widening participation, and consider how multiple forms of excellence can be valued to ensure that the potential rewards of a diverse medical classroom are achieved.



12L07 (4540)

Date of presentation: Wednesday 31st August

Time of session: 09:30 - 08:35

Location of presentation: Salon Tete d'Or

Admission of Medical Student in Phramongkutkiao College of Medicine

Phunphen Napradit¹

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Background

Student selection and recruitment for Phramongkutkiao College of Medicine (PCM) was only through the Joint direct admission of Thai University Central Admission System (TCAS). Admission scores as academic performance were derived from 7 common subjects examination organized by National Institute of Educational Testing Service and specific subject examination conducted by Consortium of Thai Medical School. The objective of this study was to evaluate admission of medical student in PCM through TCAS.

Summary Of Work

The admission scores and demographic data of medical students who passed admission criteria into PCM in academic year 2018 were analyzed.

Summary Of Results

The number of students recruited by TCAS 3/1 (the third round/1) was 100 and by TCAS 3/2 (the third round/2) was 9. At the end of clearing house system, 59 males and 40 females were admitted as PCM's medical student. Their average age was 17.5 years old. The majority of students came from secondary school located in Bangkok. The mean and SD percentage of total admission scores, 7 common subjects and specific subject were 63.73 ± 3.23 , 64.04 ± 4.30 and 62.99 ± 4.40 , respectively. Male medical student who got highest admission score (81.45%) recruited from TCAS 3/1. The lowest admission score was 59.44% recruited from TCAS 3/2. Females had scores on specific subject, social, Thai and English language higher than males.

Discussion And Conclusion

TCAS was a major part of admission process on Thai medical education. However, the association between academic performance as admission scores and competency outcomes as medical education goal was unclear. Further study is required to assess the selection and recruitment process in PCM.



Take Home Messages

The medical students who were selected through TCAS will graduate in academic year 2023. Thus, it should be comparative study whether the admission of medical student in Phramongkutklao College of Medicine affect physician competency.



12L08 (2618)

Date of presentation: Wednesday 31st August

Time of session: 08:35 - 08:40

Location of presentation: Salon Tete d'Or

Aim High: An Insight into Medicine for Young Adults

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Background

In the UK, Medical Schools require applicants to gain an understanding of what a medical career involves before submitting their applications. Accepted work experience can take many forms, whether it is voluntary or paid. Students usually apply for a work experience in a care or clinical setting but this is not attainable for all, especially during the pandemic.

The COVID 19 pandemic imposed major changes and the existing placement programme was suspended but a new flexible and creative approach was needed.

Summary Of Work

The Post Graduate Medical Education (PGME) department at GOSH created a virtual programme which had the following objectives:

- gain insight into entry requirements
- gain insight into the role of a doctor
- become familiar with typical training pathways
- identify the values and attitudes of a good doctor
- learning about how different professionals work together
- learning about the importance of reflection

The programme was open to all and was a great opportunity particularly for students from low resources backgrounds. The free 1-day session was held on a Saturday and featured talks, Q&A panels, live demonstrations and a simulated MDT meeting.

Summary Of Results

The course was advertised to local schools and over social media, with 554 students logging in via Zoom. 151 attendees completed a survey and overall quality was rated as 55% Excellent, 40% Very Good and 5% Good. 96% would like an online version next year and 100% would recommend this event to a colleague.



Discussion And Conclusion

Overall, the programme was successful, with very good feedback. The live demonstration workshops that covered surgical skills, clinical simulation, x-ray interpretation, ventilation and the simulated MDT meeting were very popular and there was a request for more in future programmes.

Feedback indicated that attendees wanted more information on the medical school applications/interview process but appreciated the sessions on how to stand out with your application and “What if I don’t get in?”

Take Home Messages

It is important that we provide an in-person programme for work shadowing that is accessible to all in our local community. The Aim High format can be easily expanded to other healthcare professionals and run yearly for those that have trouble accessing in-person shadowing.



12L09 (4559)

Date of presentation: Wednesday 31st August

Time of session: 08:40 - 08:45

Location of presentation: Salon Tete d'Or

Student's opinion in using non-cognitive attributes in student selection

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Background

Attempts have been made in many medical schools not to be only cognitive attributes in student selection, but how can we make it with fairness and acceptable methods.

Summary Of Work

First step for local recruitment of applicants from high school students in three provinces was using portfolio of the past three years which contain their activities and there are committees who rank the portfolio. Second step was done at Medical Education Center for three days with Multiple Mini-Interview (MMI), situational judgment test (SJT) semi-structure interview. Both MMI and SJT are testing most of non-cognitive attributes. Questionnaires were applied for evaluation of student selection process.

Summary Of Results

There are 223 applicants from 40 high schools who are eligible for application with portfolio. Sixty six applicants were proceeded for the second step and forty applicants were selected. Overall satisfaction was 98.6%. Most of the students were appreciated with our fair and quality process of selection.

Discussion And Conclusion

These selection methods can set according to competencies of medical students we need, however it may not applicable to large number of applicants.

Take Home Messages

Not only cognitive, but non-cognitive attributes play an important role for medical practice.



12L10 (3523)

Date of presentation: Wednesday 31st August

Time of session: 08:45 - 08:50

Location of presentation: Salon Tete d'Or

Barriers of Medical and Dental Admission Involving Biomedical Admissions Test (Bmat) In Thailand

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Background

BioMedical Admissions Test (BMAT), a standardized test with content specification under the UK National Curriculum, has been a part of medical school applications worldwide. Although the study by Cambridge Assessment verified the fairness of the test in the UK, none has investigated whether that applies to middle-income countries such as Thailand. This study aims to explore the underlying barriers in BMAT preparation of Thai students for university application as a study case for other countries. The term “fairness” in this study means an equitable opportunity for all to attend such schools.

Summary Of Work

A cross-sectional quantitative survey had the respondents voluntarily submit the BMAT scores of 2021 and a self-assessment of information, geographical, financial, language barriers, and time constraints.

Summary Of Results

Responses from 90 Thai high school student samples from 30 provinces who use BMAT scores for admission are reported. Eighty-seven of the respondents (97%) experienced at least one type of barriers, where 74 (82%) experienced time constraints, 73 (81%) experienced information barriers, 64 (71%) experienced language barriers, 62 (69%) experienced financial barriers to accessing resources, and 48 (53%) experienced geographical barriers.

The prevalence of language and geographical barriers are statistically different in the Bangkok Metropolitan Region and other provinces. [OR=4.47] (P<0.01), [OR=2.42] (P<0.05) respectively.

The prevalence of language barrier correlates with lower scores in Part 1 (P<0.01) and numerical score of Part 3 (P<0.05). Similarly, the prevalence of geographic barriers correlates with lower scores in Part 1 (P<0.05) and Part 3 (P<0.05).



Discussion And Conclusion

The study shows concerns about the equity of using BMAT for admission as it presents several barriers within the context of Thailand, a representative of middle-income countries. Compared to the UK context, the difference in curriculum and context could be the cause of these barriers. Thus, these barriers should be considered as they may be confounding factors in applicant assessment. Additional support such as different types of supplementary free materials in other languages for candidates with each of these barriers are suggested.

Take Home Messages

With the correlation presented by the survey, it is possible that BMAT scores do not reflect the ability of students, but rather the barriers they have to face.



Workshop 12M (1904)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 3A

Advancing Data Capture and Analytics Through Workplace-based Assessment Mobile Technologies (WBA-MT)

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Background

Workplace-based assessment represents a critical component of competency-based medical education. Entrustable professional activities (EPAs) have emerged as a framework commonly used in workplace-based assessment. Entrustment decisions that allow learners to contribute to patient care with increasingly more autonomy and limited supervision are critical. Trustworthy decisions about entrustment require adequate data capture. To make this feasible, mobile technologies are emerging as a way to document assessments, support robust analytics, and enable instant feedback and also supports summative decision making and its related aggregated feedback to learners. There are important considerations that need to be explored when developing or selecting mobile technologies for these purposes. This workshop will provide a practical framework to guide educators or institutions in this process. The presenters of this workshop have expertise in the implementation of mobile technologies for this purpose. Attendees will receive frameworks and examples to support planning at their home institutions.

Who Should Participate

Educators and educational administrative leaders interested in EPAs, competency-based medical education and workplace-based assessment.

Structure Of Workshop

3. Introductions- 2 min
4. Facilitated discussion about participants' experiences in planning WBA-MTs- 10 min
5. Introduction to the system of assessment and guiding questions for planning- 10 min
6. Small group activity outlining a plan using guiding questions- Each group will focus on a different set of questions- 15 min
7. Summaries will be reported to the larger group- 20 minutes



8. Four examples will be given illustrating various planning processes, contexts, challenges, and designs, again, tying to the guiding questions- 30 minutes
9. Wrap-up- Each participant will be invited to identify 1 action they will take to perfect a plan at their home institution- 3 min

Intended Outcomes

Participants will be able to:

- Use guiding questions in planning and implementing workplace-based assessment/EPA assessments using mobile technologies
 - Evaluate systems of assessment and varying decision-making processes.
 - Use scenarios to work through guiding questions in the development of an institutional plan identifying barriers
 - Discuss four examples of planning processes and design from national and international initiatives
-



Workshop 12N (2586)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 3B

Compassionate postgraduate training: caring for and about our trainees – getting the basics right

Simon Gregory¹, Rille Pihlak², Alvaro Cerame³, Shruti Sharma³

¹ HEALTH EDUCATION ENGLAND, Cambridge, UK ² The Royal Marsden Hospital, London, UK ³ European Junior Doctors Committee, London, UK

(Joint workshop by Postgraduate Committee and EJD as priority area for both)

Background

The student or employee status of residents/ doctors in training varies between nations. There are numerous examples of these doctors sacrificing normal work-life balance and normal sustaining activities. There are far too many reports of stress, burnout, mental health problems and deaths by suicide. Stress and burnout significantly impede learning, affecting teaching delivery, competency acquisition, assessment and academic progression. It also reduces quality of care. To achieve excellence in postgraduate education it is necessary to get the basics right, applying our knowledge of Maslow's hierarchy, and caring for our trainees, our adult learners. The pandemic has exacerbated these but also shown how support measures can be introduced to support continued curriculum progression.

At previous AMEE conferences trainees have expressed displeasure with solutions such as resilience training and mindfulness without getting the basics right. This session will explore the evidence of ongoing maltreatment and the evidence base for the impact and solutions including sharing best practice.

Who Should Participate

Residents/ doctors in training, educators, programme leaders and managers who will be able to share their experience, share best practice and contribute to the creation of solutions.

Structure Of Workshop

There will be stimulus materials from members of the Postgraduate and the EJDC.

Content will include sections of the workshop for attendees to exploring:

- Reality of a working and learning as a junior doctor
- EJD will present an international perspective ensuring examples from global north and south and from different education systems)



- Solutions to reset and reform Postgraduate education and training - some examples will be shared but it is intended that participants contribute their own experience, learning and solutions
- Making postgraduate training more compassionate and supporting trainees to excel.

Intended Outcomes

This is an opportunity explore and understand the issues, to share best practice and therefore to learn from others. It is intended that a best-practice report will be produced to inform development of an AMEE Guide.

Compassionate programmes and employment

Understanding of the evidence for creating excellent learning cultures

How much we can all learn from each other globally.



Workshop 120 (1876)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Rhone 4

Tests as learning tools? A hands-on workshop on how to introduce test-enhanced learning to your curriculum and help your students become active learners

Julius Josef Kaminski¹, Anne Franz¹, Ylva Holzhausen¹, Harm Peters¹

¹ *Charité - Universitätsmedizin Berlin | Dieter Scheffner Center for Medical Education and Educational Research, Berlin, Germany*

Background

We all know: assessment drives learning. But what do you think about the claim that assessment enhances learning? In their BEME guide No. 48, Green et al. (2018) showed for health profession students that test-enhanced learning (TEL), i.e. using tests as learning tools, is a highly effective method for gaining and consolidating new knowledge and a proper way to increase its retention. Moreover, TEL interventions can improve our students' ability to transfer knowledge to specific clinical situations. Green et al. (2018) concluded that educators should find ways to make TEL an integral part of their curricula. But how can you do that practically?

In this introductory and intermediate level workshop, we will:

4. Explore the cognitive-psychological basis and the metacognitive effects of TEL.
5. Showcase examples of introducing formative test-enhanced learning at a low-threshold level to medical curricula.
6. Practice constructing formative TEL interventions that help our students become engaged learners.

Concerning the latter, we focus not on mere knowledge retention but rather – in the words of David Boud (2016) – on a sustainable assessment by constructing TEL interventions that train the deep-level processing of relevant knowledge.

Who Should Participate

This workshop is for educators among all health-professions who want to make their students' relevant knowledge stick. It is also for all students who wish to learn more effectively and teach their teachers that, e.g. even multiple-choice tests can be excellent learning tools.

Structure Of Workshop

The workshop will consist of a sequence of short inputs by the facilitators followed by a more extended hands-on small-group task split into two parts by a break and a summary and reflection in the large group.



Intended Outcomes

After attending the workshop, the participants will (1) understand the theoretical background of formative testing, (2) be able to construct and apply sustainable and effective TEL interventions, and (3) be able to raise the awareness for creative test-based interventions that improve students' learning within their faculties.



Workshop 12S (3508)

Date of presentation: Wednesday 31st August

Time of session: 08:00 - 09:30

Location of presentation: Roseraie 2

Climate Change in Medical Curriculum - Educational Framework

Mohamed Eissa¹

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

The IFMSA Standing Committee on Public Health has been advocating for the inclusion of health in the center of the climate action resulting from the apparent interlinkage between climate change and health and their direct and indirect impacts on our health outcomes. As a result, in the past year, the IFMSA conducted a survey to assess the inclusion of climate change in the medical curriculum, which brought unsatisfactory results and indicated the need for the inclusion of climate change in the medical curriculum.

Who Should Participate

- Medical Students
- Other Healthcare students
- Post-graduate students

Structure Of Workshop

We aim through this workshop to

- Present our educational framework on climate change in the medical curriculum
- Present relevant advocacy case studies from our National Member Organizations
- Create an open space discussion for reflection and identification of the way forward for participants to do their own advocacy

Intended Outcomes

By the end of the workshop, participants should be

- Oriented about an example of framework to use for the inclusion of climate change in the medical curriculum
- Through national case studies, identify concrete steps in their own context on their national level for the inclusion of climate change in medical curriculum.
- Providing inputs, from their countries and backgrounds, on the framework and the advocacy case studies, which would help IFMSA in empowering its members in a more evidence-based manner to advocate for the inclusion of climate change in their curricula in their own universities



Symposium 13A (1094)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Amphitheatre

Preparing tomorrow's experts today: Aligning self-regulation and adaptive expertise for lifelong learning

Ryan Brydges^{1,2}, Maria Mylopoulos², Rune Dall Jensen³

¹ *Unity Health Toronto, Toronto, Canada* ² *University of Toronto, Toronto, Canada* ³ *Aarhus University, Aarhus, Denmark*

Background

Meeting the ongoing needs of patients requires educating clinicians who are prepared to learn about and solve new problems they will encounter in their future. Such adaptive experts effectively apply their knowledge to routine problems, and solve non-routine problems by continuously learning as they work. A key component undergirding adaptive, continuous learning is self-regulated learning (SRL). Conceptually, learners' situated SRL behaviours during undergraduate and postgraduate training can be connected to their adaptive expertise behaviours when problem-solving in practice. However, researchers have yet to use SRL literature to study adaptive expertise (or vice-versa); for example, if the foundational conceptual knowledge in a domain changes significantly, does a clinician's adaptive expertise relying on that knowledge base 'expire', thus requiring re-activation of SRL core processes?

Topic Importance

Educators responsible for updating curricular content cannot keep pace with the rapid expansion of knowledge. And yet, today's society needs health professionals prepared to engage in the ongoing SRL required to become and sustain themselves as adaptive experts. Fortunately, we believe that curricula designed using SRL and adaptive expertise principles can develop professionals who can keep pace with advancements in science, technology, and healthcare.

Format and Plans

- We will define the core constructs of SRL and adaptive expertise, describe key research findings, and explain connections to human cognition.
- Audience members will respond to three 'practice exploration' questions, designed to elicit personal experiences with the core constructs. Time will be provided to answer and record responses on an interactive platform (e.g., padlet).
- As a panelist analyzes audience responses, others will present successful applications of SRL and adaptive expertise to the design of training and assessment in health professions curricula and workplace-based learning.



- The moderator and panelists will facilitate reporting back of key themes and discussion of implications for future scholarly work.

Take Home Messages

- Conceptual connections can be made between successful SRL during training, and adaptive expertise in practice.
 - SRL and adaptive expertise link to cognitive and curricular mechanisms, and understanding these links can help educators better design daily teaching.
 - Gaps in evidence exist when connecting SRL and adaptive expertise, and we will discuss how to close those gaps through research and pedagogical practices.
-



Symposium 13B (1106)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Auditorium Lumiere

The Medical School of Future After Covid-19

Süleyman Yıldız¹, Ronald M Harden², Trudie Roberts³, Emine Senkal⁴, Davinder Sandhu⁵

¹ Dicle University, Diyarbakır, Turkey ² AMEE (An International Association for Medical Education), Dundee, UK ³ Leeds University, Leeds, UK ⁴ Health Education England London Paediatrics, London, UK ⁵ American University of Antigua, Antigua, Antigua and Barbuda

Background

The ongoing pandemic has undoubtedly exposed various weaknesses and inequalities that have been characterising medical education in the past; however, it has also placed on the agenda radical initiatives and opportunities to address some of these “legacy problems”.

Medical education that is supported by technology was already making inroads into the traditional educational methods. The pandemic accelerated the change, making clear that involving technology into medical education is an inevitable necessity for everyone. It is now accepted by most authorities that a new era has begun in medical education and that the medical schools of the future should be structured and operate with this consideration in mind.

Advances in medicine, changes in the supply of healthcare, and patient and community expectations put a great stress on medical schools that need to respond to such significant developments. Once the pandemic is over, technology-supported education tools and personalised methods for each medical student may come to the fore, enabling us to address all these challenges. With the help of artificial intelligence technologies, a new tutoring system can be created that would transform the roles of students, educators and medical schools.

Topic Importance

The symposium aims to present the effects of COVID-19 on global education, including real data that is both striking and exciting. Building on this framework, the symposium’s second objective is to discuss the changing roles of students and teachers during the pandemic and the innovations that have been developed by medical schools to accommodate these changes. Finally, the symposium will offer a broader perspective on the future medical education curriculum and the “medical school of the future”.

Format and Plans

Different stakeholders will present their views and five subjects will be addressed during the symposium: 1) COVID-19 impact to education globally; 2) The changing role of students and teachers



after the COVID-19 pandemic; 3)Institutional adaptations and innovations of medical schools to pandemic; 4)The medical school of the future after COVID-19; 5)The curriculum of tomorrow.

Take Home Messages

The COVID-19 pandemic has laid bare the inadequacy in medical education and in medical schools, but the disruption in the status quo presents an opportunity to reimagine and rebuild our educational systems to better serve medical students and health care systems.



Research Papers - Assessment

13C1 (0398)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:20

Location of presentation: Bellecour 1

The Space and Place of Practical Assessment- A sociomaterial case study of a high-stakes OSCE held during the COVID-19 pandemic.

Craig Brown¹, Lorraine Hawick¹, Jennifer Cleland², Anna MacLeod³

¹ *University of Aberdeen, Aberdeen, UK* ² *Lee Kong Chian School of Medicine, Singapore, Singapore* ³ *Dalhousie University, Halifax, Canada*

Introduction

Consider an OSCE venue – the space is filled with people (candidates and patients acting out their lives and teachers coordinating the OSCE). There is a flow of students through stations, from A to B to C, managed (often) by alarms. There are restraints on who can go where, and when. OSCE delivery and administrating is enmeshed with material actors of all kinds, whether they are buildings, virtual or material spaces, desks, beds, checklists, human and nonhuman bodies, and so on. As Orlikowski noted “everyday organizing is inextricably bound up with materiality”. (1)

Yet, although recent studies on other topics within medical education highlight that the interactions between physical space, place, things and people are important, the influence of physical space on OSCE assessments is understudied. Using a sociomaterial framework we explored how the “non-human” and human interact and how physical constraints and opportunities impacted on practical assessment activities, disrupted by the Covid-19 pandemic. Understanding the sociomaterial entanglements involved in the OSCE exam will increase our understanding of this complex process aiding planners, funders and commissioners in considering the actors at play when organizing and designing an OSCE.

Methods

We aimed to explore the question 'What is the influence of space on the delivery of a high stakes OSCE?'. To make visible the complexity of an OSCE, the study was theoretically framed in sociomateriality and conceptually framed in Star and Strauss' notion of articulation work. This is a qualitative study, using a case study approach. CSR research recognizes the importance of context and draws on multiple sources of evidence. Key personnel (including coordinators, building manager, clinical educators, technicians) involved in the organization and delivery of a final year MBChB OSCE held during the pandemic participated in semi-structured interviews. During interviews photo-elicitation was used to allow participants to recall and reflect on specific elements of assessment space and place. Documentation, including floor plans and questions were also analysed. Reflexivity



was discussed amongst emic and etic members of the team. Ethical approval was granted from the Ethics Review Board.

Results

Preliminary analysis suggests several themes. OSCE operationalization, particularly one that is disrupted due to the pandemic, from a blueprinted question to an actual exam is complicated, certain questions can only be conducted in set rooms (for example by using video conferencing equipment in lieu of patients for communication skills stations, this impacts the order of stations within an exam as single rooms are required because of sound transference. The number of single rooms is limited acting as a limiting factor on how many sites and stations planners can incorporate in their design). The social aspects of the OSCE in how different groups (patients, examiners, students) interact with each other in the assessment space has been fractured due to the pandemic (for example the social interactions usually witnessed between examiners in the social space was disrupted as the space was repurposed during the pandemic and food was not provided. Patients were not present in the building but digitally present giving the feeling of a disembodied OSCE).

Discussion And Conclusion

Matter matters! (2) Our empirical study describes how spaces and the materials that are in them, both human and non-human impact each other within an OSCE structure. Taking a sociomaterial view of a disrupted OSCE enabled us to gain further insight into how the role of space affects the what, when and how of practical assessment within healthcare education. Understanding this is essential for assessment organizers and should be considered at the concept (question writing, testing, blueprinting) phase of the process as they seek to balance the exams psychometric properties alongside the spaces and sociomaterial influences present during operationalization of the exam.

References

- Orlikowski, W. Sociomaterial practices: Exploring technology at work. *Organization Studies*, 2007; 28(9), 1435–1448.
- Macleod A, Ajjawi R. Thinking sociomaterially: Why matter matters in medical education. *Academic Medicine* 2020; 95(6):851-55.



13C2 (0636)

Date of presentation: Wednesday 31st August

Time of session: 10:20 - 10:40

Location of presentation: Bellecour 1

The effect of assessments on student motivation in Health Professions Education: A realist review

Rashmi Kusurkar¹, Cesar Orsini², Sunia Somra³, Antony Artino⁴, Hester Daelmans⁵, Cees van der Vleuten⁶

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Introduction

There has been a debate on the effects of assessments on learning in the Health Professions Education (HPE) literature, putting forth concepts such as “Assessment-drives-learning” and “Assessment-for-learning”. However, the effect of assessments on student motivation has been largely neglected in this scientific dialogue. Therefore, the current review aimed to answer the following research question: *How do assessments affect student motivation in HPE? Which mechanisms lead to what outcomes in which contexts?*

Methods

The databases PubMed, EMBASE, PsycInfo, ERIC, Cinahl and Web of Science were searched, using the terms “assessments” AND “motivation” AND “health professions education/students”, from 2010-2020. Empirical papers or literature reviews investigating the effect of assessments on student motivation in HPE using quantitative/qualitative/mixed methods were included. A realist synthesis, which explores context-mechanism-outcome, was chosen as we wanted to study complex interventions which can have intended and unintended consequences depending on the context.¹ Rigour and relevance of articles was evaluated using RAMSES standards. All titles-abstracts and full papers were screened independently by two researchers, who also extracted data fragments from the included articles. Differences in opinion were resolved through consensus. RAK assigned the all data to context, mechanism and outcome, and AA checked every 5th article. The final results were agreed upon in the full research team. The framework of intrinsic and extrinsic motivation of Self-determination Theory (SDT) was used to analyse the extracted data.



Results

On applying the inclusion-exclusion criteria, out of 15,291 articles extracted from the initial search, only 24 articles were included in the final sample. The rigour and relevance of articles was established. Examples of innovative assessment formats included collaborative testing, peer assessment, and Entrustable Professional Activities. We classified assessments depending on whether they stimulated intrinsic or extrinsic motivation and studied their context, mechanism and outcomes. The **context** required for the stimulation of intrinsic motivation was that the assessment itself had to be: a) interesting/fun/challenging, b) innovative, mastery-based, and conducted longitudinally, c) seamlessly introduced into the study, d) embedding student autonomy, e) having pass/fail grading, f) including reflection, g) having collaborative elements, h) co-constructed with students, and i) having authenticity with clinical practice. The **outcomes** of assessments stimulating intrinsic motivation were higher creativity and study effort, skill development, higher self-regulation and interest in the topic, better learning approach, increased competence, and engagement in learning. Stimulation of extrinsic motivation happened in the **context** of: a) the mere existence of assessment, b) presence of grades, c) focus on factual knowledge, d) desire to fulfil supervisor's expectations, e) competitive element, f) performance pressure, g) fear of failure, and h) conflicting agendas. The **outcomes** of assessments stimulating extrinsic motivation were surface and strategic learning (learning only what is likely to be asked in exams), which happened at the expense of learning for future practice, and undermining of student engagement. Owing to the word limit, the mechanisms will be presented at the conference.

Discussion And Conclusion

This work adds to the HPE literature by describing the *mechanisms* underlying the *outcomes* of assessments on student motivation and the *context* in which they took place. The features of assessments that led to intrinsic motivation can likely be used by health professions educators to redesign current assessments or develop future assessments. We found a somewhat disturbing trend: students strategically learned what was expected in the assessments at the expense of what is needed in the health professions practice. This finding is more alarming in light of SDT's claim that stimulation of extrinsic motivation through incentives (grades) has a long-term deleterious effect on intrinsic motivation.² As such, we believe that health professions educators may need to urgently rethink their assessment practices and introduce assessments that stimulate intrinsic motivation and a love for professional practice. 'Light the fire instead of filling the bucket for HPE students!'

References

1. Ryan RM, Weinstein N. Undermining quality teaching and learning: A self-determination theory perspective on high-stakes testing. *Theory & Res Educ.*2009;7(2): 224-233.
2. Wong G, et al. RAMESES publication standards: realist syntheses. *BMC Med Educ*2013;11:21.



13C3 (0502)

Date of presentation: Wednesday 31st August

Time of session: 10:40 - 11:00

Location of presentation: Bellecour 1

Trainees' perspectives about allowing failure in clinical training

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Introduction

Previous research suggests that clinical supervisors allow trainees to fail during clinical situations (1). In such situations, supervisors use their judgment to assess if the benefit to trainee' learning outweighs the threat to patient safety (2). While trainees view their failures as both educationally valuable and emotionally draining (3), less is known regarding their awareness and experience of supervisors *allowing* them to fail. This study asked: Do trainees recognize the strategy of allowing failure? And if they do, how do they perceive and experience it? Answering these questions is necessary to ascertain whether these experiences have the educational benefit that supervisors anticipate.

Methods

With ethics approval, we individually interviewed 15 residents from 9 different teaching sites in Europe and Canada. Participants were a purposive sample of 9 female and 6 male residents, representing 1- years of postgraduate training in various specialties. We used a 2-part, semi-structured interview guide, with questions about their own experiences of failure, and discussions of examples of others' allowed failure, provided from a previous study with supervisors. Interviews were audio-recorded, anonymized, and transcribed. Consistent with constructivist grounded theory methodology, data collection and analysis were iterative, supporting theoretical sampling to explore themes.

Results

Participants reported that failure was a common, valuable and emotional experience during clinical training. They recognized that supervisors sometimes anticipated and allowed failure to happen. Discussing failures and their implications was important to trainees; however, such discussions were



experienced as both uncommon and indirect. Rarely did supervisors explicitly acknowledge an event *as a failure*, and no participant had been told that a failure had been *allowed*. Recognizing allowed failure but never having it explicitly confirmed by supervisors, participants tried to make sense of these events on their own. They sought to understand whether the supervisor saw the failure coming: "I made a prescription for a child... in one [instead of 4] doses, but my supervisor said it's okay. He had it also wrong in his mind" (P7). Trainees experienced such unanticipated failures different from allowed failures. If they interpreted a failure as allowed by the supervisor, trainees then sought to ascertain supervisory intentions. They described situations where they judged supervisor's intent to be benign ("... if you fail, there won't be blame, it will all be about learning" (P13)) and situations where they inferred a more malignant intent ("He's just looking for failure," (P3)). In this sense-making regarding supervisors' intentions for allowing failures, participants rarely discussed patient safety and ethics; however, in their reflections on the actual examples of others' allowed failure from previous research, these concerns were prominent.

Discussion And Conclusion

Our results confirm that trainees perceive their own failures as valuable, and potentially emotional, learning opportunities. In the absence of explicit discussion with supervisors, trainees ask themselves whether a particular event is an unanticipated or an allowed failure. When they judge that they have been allowed to fail, their interpretation of the event is colored by their attribution of supervisor intent, which raises the question of whether perceived intent might impact the educational benefit of the experience. Why trainees view the safety and ethics of their own allowed failures differently than others' is not clear, and further research is required to understand how this might influence their acceptance of allowed failure as a common supervisory strategy. We suggest that supervisory conversations during and after failure events should use more explicit language to discuss failures, explain supervisory intentions, and support trainees' sense-making. Whether or not allowed failure achieves its potential educational benefit may depend on the quality of these conversations.

References

1. Klasen J, et al. 'Whatever you cut, I can fix it': clinical supervisors' interview accounts of allowing trainee failure while guarding patient safety. *BMJ Qual Saf.* 2019
2. Klasen J, et al. 'It depends': The complexity of allowing residents to fail from the perspective of clinical supervisors. *Med Teach.* 2021
3. Wu A, et al. How house officers cope with their mistakes. *QSHC* 2003



13C4 (0633)

Date of presentation: Wednesday 31st August

Time of session: 11:00 - 11:20

Location of presentation: Bellecour 1

A scoping review of self-monitoring in graduate medical education

William Rainey Johnson¹, Anthony Artino², Adam Barelski¹, Steven J. Durning¹

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Introduction

Physicians and physicians-in-training have repeatedly demonstrated poor accuracy of global *self-assessments*, which are assessments removed from the context of a specific task, regardless of any intervention.¹ Self-monitoring, an in-the-moment self-awareness of one's performance, offers a promising alternative to global self-assessment.^{2,3} The purpose of this scoping review was to better understand the state of self-monitoring in graduate medical education (GME) – that is, how self-monitoring is defined, measured, and taught. We seek to discover best-practices within GME to promote self-monitoring, identify the gaps in the empirical literature, and recommend future directions and theoretical frameworks for self-monitoring research within GME.

Methods

We performed a scoping review following Arskey's and O'Malley's six steps: identifying a research question, identifying relevant studies, selecting included studies, charting the data, collating and summarizing the results, and consulting experts.⁴ Our search queried Ovid Medline, Web of Science, PsychINFO, Eric, and EMBASE databases from 1 Jan 1999 to 16 April 2019.

Results

The literature search yielded 4128 unique articles. Through iterative reviews of the abstracts and full-text articles, we identified 53 articles for inclusion, increasing to 58 articles after adding articles found during hand-searching references and expert consultant reviews. All the articles were published in peer-reviewed journals. About half (n=27, 47%) appeared in educationally focused journals. Over 20 different terms were used to describe self-monitoring and only six (10%) provided a definition for the equivalent term.

The focus of the research reviewed was relatively homogeneous – post-performance self-judgment in a procedural skill (n=23, 40%) was the most common. The accuracy of self-monitoring was measured in 41 studies (71%). Similarly, most studies focused on self-judgement (n=47, 81%) with fewer including self-observation (n=28 or 48%) and/or self-reflection (n=25, 43%). Most self-monitoring was conducted following action (n=50, 86%). Over 65% (n=38) of the studies included



showed some improvement or positive correlation with the measured outcome, and only 8% (n=5) had a negative correlation.

Discussion And Conclusion

Exploring the role of self-monitoring in GME through a scoping review was challenging due to the lack of clear definitions and heterogeneity of terminology. We hypothesize that this heterogeneity is multifactorial: perhaps due to the large number of articles published in non-educationally focused journals, as well as the popularity of the concept of self-monitoring, both in lay-literature and accreditation bodies' guidance. To advance this line of research, we strongly recommend clear definitions that build off prior work.

The existing literature focuses predominantly on post-performance self-judgment and mostly on procedural skills. Yet, pre-performance and during performance self-judgment would more seem critical for patient safety. Future research should draw on the demonstrated accuracy and focus on optimal timing of self-monitoring for improving clinical outcomes.

The usefulness of self-monitoring seems promising. Among the studies with positive findings, self-monitoring was more often paired with coaching or expert feedback. The synergy of coaching and feedback with self-monitoring aligns with self-regulated learning theory. These observations should influence future studies and help to move the literature toward methods for encouraging and teaching self-monitoring with the support of coaching and feedback.

Self-monitoring is a complex phenomenon that seems promising as a research focus to improve the safety of GME and broader healthcare practice. The current literature is riddled with challenges, most notably the lack of clear definitions and terminology. We hope this scoping review will establish a foundation for future research, providing recommendations for terminology, definitions, and theoretical frameworks to guide research questions and study designs.

References

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3. McConnell MM, Regehr G, Wood TJ, Eva KW. Self-monitoring and its relationship to medical knowledge. *Adv Health Sci Educ*. 2012;17(3):311-323. doi:10.1007/s10459-011-9305-4
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Short Communications - Teaching & Learning 3: Games

13D1 (1310)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:15

Location of presentation: Bellecour 2

Comparing Flow Experience of Medical Students in Cognitive, Behavioral and Social Educational Games

Maryam Alizadeh¹, Fateme Heidari², Azim Mirzazadeh¹, Ahmad Rouhi³, Sana Sadat Peighambaroust¹, Fatemeh Beheshtizadeh¹, Azadeh Angouraj Taghavi¹, Alireza Saramad¹

¹ *Tehran University of Medical Sciences, Tehran, Islamic Republic Of Iran* ² *Virtual University of Medical Sciences, Tehran, Islamic Republic Of Iran* ³ *legal medicine research center, Tehran, Islamic Republic Of Iran*

Background

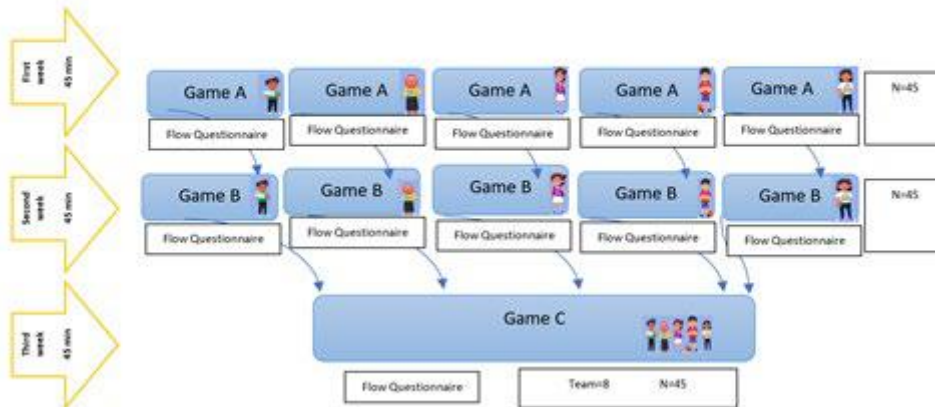
This study contributed to the current body of literature on educational games by comparing medical students' flow experience in three types of educational games developed based on behavioral, cognitive, and social learning theories. Even though several studies have investigated medical students' attitudes, knowledge, skills, satisfaction, experience, and acceptance of the educational games (12-16), there are few studies on the flow experience of medical students in a game-based learning environment

Summary Of Work

A quasi-experimental repeated measure design was employed. A group of randomly selected second-year medical students from the cohort of 2018-2019 (N= 45) played three educational games developed based on cognitive, behavioral, and social learning theories. At the end of each game, students completed the flow experience scale (Pearce, 2005). Due to the mandates of social distancing of Covid-19, a virtual platform "BigBlueBotton" with breakout rooms was used to run the games. The study took place at Tehran University of Medical Sciences, Medical School in the cohort of 2018–2019 medical students during 2020-2021.



Intervention in a snapshot



Summary Of Results

Out of 45, Thirty-nine medical students completed the study. There was no evidence that the flow experience of medical students differs when they play cognitive, behavioral, or social games ($P=0.40$). Repeated measure test showed that the mean of students' scores on subdomains of flow experience (Enjoyment ($P=0.10$), engagement ($p=0.46$), and control ($P=0.82$)) didn't differ significantly in three different games.

Table 2: Flow experience and its subscales of second year medical students in Cognitive, Behavioral and Social educational games

	Enjoyment	Engagement	Control	Flow
Cognitive	15.87(1.99)	11.90(1.55)	14.82(2.14)	42.59(4.20)
Behavioral	16.54(1.93)	11.74(1.52)	14.87(2.45)	43.15(4.63)
Social	16.61(2.55)	12.08(1.38)	15.05(2.96)	43.74(5.99)
Mauchly's Test of Sphericity (Mauchly's W, P-value)	0.88, 0.10	0.86, 0.06	0.75, 0.005	0.78, 0.01
Tests of Within-Subjects Effects (F, P-value*)	2.34, 0.10	0.78, 0.46	0.14, 0.82	0.87, 0.40

*P-value was reported based on Mauchly's Test, if p-value of Mauchly's W was less than 0.05, Greenhouse-Geisser was assumed

Discussion And Conclusion

We found that flow experience didn't differ in the three educational games. However, considering the lessons learned from this intervention the social game could be seen as a "learning ground" for enabling a host of skills including the ability to engage in shared decision making in teams.

Take Home Messages

The social game experience could be seen as a "learning ground" for enabling team skills and shared decision making



Game developers are, generally, focused on practical and mechanical aspects of the games, but theoretical foundation aspects are neglected.



13D2 (2889)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:30

Location of presentation: Bellecour 2

Training teamwork skills with a multiplayer serious game: what teamwork principles are applied? A qualitative study

Mary Dankbaar¹, Tjitske Faber¹, Vicki Erasmus², Lara van Peppen³

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Background

In healthcare, teamwork skills are critical for patient safety. Serious games may offer an efficient form of procedural skills training. In our curriculum, interprofessional teamwork skills are trained blended, including a serious game and face-to-face simulation training. We investigated to what extent teamwork principles were used in the game by medical students and teamwork experts. Findings can improve our understanding of the potential of serious games for training these skills.

Kalkman, C. J. (2012). Serious play in the virtual world: can we use games to train young doctors?. *Journal of graduate medical education*, 4, 11.

Summary Of Work

We set up a qualitative study with 144 5th year medical students and 24 healthcare teamwork experts (trainers or experienced doctors). They played the multiplayer game in groups of 4 players and had to communicate, using one-to-one and team chats, in different professional roles in simulated patient cases. Game chat-data from two scenarios was analyzed. We used a deductive approach, based on a framework on Crew Resource Management (CRM) principles, including Shared situational awareness, Decision making, Communication. A coding scheme was developed, tested, discussed, refined; the rest of the data was coded. Game performance data was analyzed.

Gross, B., Rusin, L., Kiesewetter, J., Zottmann, J. M., Fischer, M. R., Prückner, S., & Zech, A. (2019). Crew resource management training in healthcare: a systematic review of intervention design, training conditions and evaluation. *BMJ open*, 9, e025247.

Summary Of Results

Results showed that most teamwork principles, e.g. shared situational awareness, decision making (prioritizing), communication (closed loop) were used in the game. Among students, these principles often were used on a more basic level compared to experts. Some principles were hardly used. We found no relation between the use of teamwork principles and game performance.



Discussion And Conclusion

The game facilitates exercising teamwork skills in important CRM domains, on a basic level. Some teamwork principles were less observed among both students and expert groups, probably caused by the artefacts of the game or scenario characteristics.

Take Home Messages

A multiplayer serious game, aimed at training teamwork skills, is able to facilitate using teamwork principles, providing students a flexible and accessible way of exercising these skills.



13D3 (4499)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:45

Location of presentation: Bellecour 2

Stress responses as indicators of performance in a medical emergency game

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Background

Game-based learning (GBL) can deliver engaging practice opportunities in medical education. Stress in simulation training influences learning and performance (1, 2). As such, stress responses that correlate with performance may indicate opportunities for adaptive scaffolding. We aim to answer the following research question: (RQ2) which physiological and subjective stress measures are valid indicators of performance in a medical emergency game?

Summary Of Work

Thirty medical students played three scenarios. Subjective stress was measured using the State-Trait Anxiety Index-state (STAI-s), valence towards the task, and a pre-task cognitive appraisal, calculated as the ratio between perceived task demands and ability to deal with the task. Physiologic responses (electrocardiography and galvanic skin response (GSR)) were measured using the BioPac MP150 (Biopac Systems, Inc). Heart rate variability (HRV) was calculated using RMSSD. Multiple linear regression was used to test if subjective (STAI-s, valence, cognitive appraisal) and physiological (maximum heart rate, HRV, skin conductance response frequency, and mean skin conductance level (SCL)) stress measures significantly predicted game score (a measure of correct clinical decision making), systematicity in approach, and speed.

Summary Of Results

The overall regression for game score was statistically significant ($R^2 = .41$, $F(7, 73) = 7.22$, $p < .001$). Valence and SCL significantly predicted game score (resp. $\beta = 48.67$, $p < .001$ and $\beta = -34.70$, $p = .02$). The regressions for systematicity in approach and speed were not statistically significant.

Discussion And Conclusion

Valence toward the task predicted game score, implying that students are well-calibrated in estimating their ability to handle a scenario. In addition, changes in skin conductance level predicted game score. These measures may be promising indicators for adaptive support.



Take Home Messages

Subjective and physiological stress responses can predict performance in a medical emergency simulation game. As such, these may be helpful in guiding real-time adaptive support in a game-based learning environment.

References

1. Morris CS et al. Motivational Effects of Adding Context Relevant Stress in PC-Based Game Training. *Military Psychology*. 2004;16(2):135-47.
 2. LeBlanc VR et al. Paramedic Performance in Calculating Drug Dosages Following Stressful Scenarios in a Human Patient Simulator. *Prehospital Emergency Care*. 2005;9(4):439-44.
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13D4 (3915)

Date of presentation: Wednesday 31st August

Time of session: 11:00 - 11:15

Location of presentation: Bellecour 2

BacteriaGame® an educational game on Bacteriology for medical students: what is the student feedback?

Nicolas Pineros¹, Theo Ferreira², Vincent Berry¹, Françoise Jaureguy², Julie Marin³, Etienne Carbonnelle², Mathilde Lescat²

¹ *Université Sorbonne Paris Nord, , Epinay Villetaneuse, France* ² *APHP Avicenne, Bobigny, France* ³ *Université Sorbonne Paris Nord, , Bobigny, France*

Background

The global spread of infections caused by multidrug resistant bacteria is a major public health problem. Insufficient knowledge of bacteria and appropriate antibiotic treatments by a large number of healthcare professionals is one of the major causes of this crisis. Diversification of teaching forms in medical schools, could be a solution. Educational games fulfill a majority of conditions that enhance learners motivation: their instructions and objectives are clear, they pose a challenge, they take place over a short period of time, they allow social interactions, and are meaningful.

Summary Of Work

We have therefore created BacteriaGame® in the University Sorbonne Paris Nord in France. This game is an association game between the main bacteria of medical interest and their essential characteristics. We have used this game in medical training of microbiology at several levels, in small and big groups supervised by one teacher. We then collected the feedback of students (3rd and 4th year of medical school (MS3 and 4) and residents in microbiology, intensive care and infectious diseases).

Summary Of Results

We collected the feedback of 96 students (37 MS3, 41 MS4 and 18 residents). Most of the students considered that the rules of the game were sufficiently clear, the game fluid, fun, not too long and moderately difficult. They also found interesting to integrate it in their training. MS3 students that played in big groups due to teaching organization, gave scores significantly lower compared to others that played in small groups, about the clarity of the rules, the fluidity and fun character of the game.



Discussion And Conclusion

In this study, we present the creation and the feedback of students about BacteriaGame®, that was really positively received by students especially for the olders that played in small groups allowing a better supervision of the teacher. This game is now published by the French Society of Microbiology and an English edition of the game is in progress for international use.

Take Home Messages

In order to improve the teaching of infection management, we created an educational game called BacteriaGame, which was highly rated by 96 students. The game is now being distributed in France and we hope to distribute it abroad.



Point of View 3

13E1 (0233)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:11

Location of presentation: Bellecour 3

Educating Pre-meds about diversity in medicine – whose responsibility is it?

Amrit Kirpalani¹

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Medical schools across the world have admirably sought to promote diversity and reduce the impact of bias in their candidate selection processes. However, it is well established that at the premedical level, there are prominent misconceptions amongst applicants about the benefits of a diverse workforce, and the systemic barriers facing students underrepresented in medicine (UIMs). These misconceptions may subsequently lead to micro- and macro-aggression towards co-applicants and matriculants from UIM groups and contribute to a sense of “otherness” or non-belonging that negatively impacts UIM students throughout their medical training. Many schools now require that applicants submit written statements regarding diversity as part of the application process – but there is limited validity to a single-time assessment to truly identify students who appreciate the value of diversity nor to identify students holding anti-UIM biases.

For many, it is tempting to blame problems on “systemic racism” and accept that there is little more that a medical school can do until a student matriculates to their institution. This mentality suggests that we as medical school educators will continue to advocate and wait for an overhaul of primary and secondary education to better teach children about the value of diversity, and in the meantime, we will aim to introduce anti-bias interventions as soon as adult learners walk through our doors.

However, medical schools must accept some responsibility and invest in taking action against anti-UIM perception *before* students become “medical students.” There is substantial data to support that pre-med students have higher levels of stress, and burnout compared to non-pre-meds. Moreover, recent literature suggests that burnout is associated with higher implicit racial bias scores. Does the pre-med process foster bias? Or does it provide a “pressure-cooker” environment conducive to letting one’s own inner biases boil to the surface? These questions must form the basis of future research. However, what is clear is that these biases exist among pre-meds and medical schools must consider collaborative, data-driven approaches to conceive, fund, and implement educational interventions to promote inclusivity and highlight the benefits of diversity in medicine for *prospective* medical students before they ever walk through our doors.



13E2 (2880)

Date of presentation: Wednesday 31st August

Time of session: 10:11 - 10:22

Location of presentation: Bellecour 3

The patients are our raison d'être – this message must also be delivered clearly during training!

Roar Maagaard¹

¹ Aarhus University, Aarhus, Denmark

Specialist training focuses on the trainees' acquisition of many medical competences – for example organised in a CanMed like framework. Patient centeredness is an important item in some training programs (not all) – but still you hear patients report on their experiences in healthcare with sentences like this: "I felt that I was there for the doctor, and not the other way around".

Doctors' work overload, doctor's burnout and sometimes empathy fatigue are realities in some health care system. This often leads to focusing on doctors' wellbeing – naturally. It also affects specialist training and specialists' CPD. Doctors wellbeing is very important – absolutely – but, it should never cause the loss of caring for the patient as the end goal for training.. *The patients are our raison d'être!*

My point of view is that remembering this mission of our work is not a catalyst to burnout – but reversely it can be an antidote to burnout.

Our specialist training of our young colleagues must deliver this message very clearly: In theory, in practice and by the important role model we trainers can be for our trainees.

I have been a general practitioner (GP) in Denmark for many years – and engaged in GP specialist training for nearly as many years. In my clinical work and work as educator the following quote from Mahatma Gandhi has been essential:

"A patient is the most important person in our hospital. He is not an interruption to our work. He is the purpose of it. He is not an outsider in our hospital, he is part of it. We are not doing him a favour by serving him, he is doing us a favour by giving us an opportunity to do so." This is the motto for Bombay General Hospital.

I will add that it also should go for every GP practice – and certainly could be a landmark for training of doctors.



13E3 (0559)

Date of presentation: Wednesday 31st August

Time of session: 10:22 - 10:33

Location of presentation: Bellecour 3

Medical Students Video Consulting From Home: can we, dare we, must we?

Richard Darnton¹

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In the past, medical students had to be physically located at a health care facility in order to get experience consulting with patients. However nowadays the technology exists for medical students to undertake video consultations from the comfort of their own home. "It might be possible" I hear you ask "but is it allowed ...and is it wise? What if they forget to change out of their pyjamas? What if their house is a mess? What if a housemate walks in or overhears?"

On the other hand what are the consequences if we don't explore this option? Nowadays, healthcare facilities are commonly crammed with medical students and space is often a real issue. Equally, a medical student may be confined to their home needing to isolate for some health-related reason. They can also find themselves commuting large distances, maybe just for one day's experience at a distant healthcare facility.

Perhaps this is a tool that could open up new vistas and possibilities for medical schools and their students. Students dropping in on consultations, endoscopies ... even operations - all from the comfort of their own home. Students accessing clinical teachers and their patients across the country and around the world.

We trialled medical students consulting from home during the first wave of the COVID-19 pandemic - and you can read about that here <https://www.tandfonline.com/doi/full/10.1080/0142159X.2020.1829576>

However, as the pandemic potentially recedes, are we in danger of giving up on this innovation? Should we capitalise on this new way of giving students exposure to clinical teachers and their patients? Might it provide access to new cultural contexts, unlock extra teaching capacity and even reduce our carbon footprint? Or is it best that we forget it ever happened? Come, have a listen and then tell me what you think.



13E4 (1308)

Date of presentation: Wednesday 31st August

Time of session: 10:33 - 10:44

Location of presentation: Bellecour 3

The time for Lifestyle Medicine is now!

Sohaila Cheema¹, Ravinder Mamtani¹

¹ *Weill Cornell Medicine-Qatar, Doha, Qatar*

Chronic non-communicable diseases like heart disease, diabetes, and obesity are responsible for 40 million deaths annually, worldwide. Additionally, they cause significant pain and suffering and account for much of the global healthcare expenditure. Evidence suggests that 80 percent of chronic diseases can be prevented, treated, and often reversed by adopting healthy lifestyle measures like physical activity, healthy nutrition, managing stress, restorative sleep, maintaining healthy relationships and social connectedness, tobacco cessation, and avoiding the use of risky substances. These behaviors form the core pillars of lifestyle medicine (LM), an emerging discipline in healthcare.

Healthcare professions education is traditionally disease focused with a predominant emphasis on pharmacotherapy and interventional/surgical approaches. Health practitioners who utilize LM in their practice report benefits both for their patients and themselves. Even though several published studies report high patient satisfaction with LM and support the benefits of LM for the treatment and prevention of chronic disease, many healthcare providers remain unfamiliar and/or skeptical about its usefulness. In general, professional health school curricula are inadequate in LM education.

Incorporating evidence-based LM into health professions curricula - to allow for better acceptance and familiarity among health professionals - is imperative. LM supports shared decision making between the practitioner and the patient; it encourages practitioners to shift from the mindset of the expert-like approach to a coach-like approach. LM provides significant opportunities to improve patient care and overall patient outcomes. Additionally, it allows professionals to engage in conversations with communities so that they embrace the importance of living a healthy, wholesome lifestyle as opposed to relying only on medication for health and longevity.

Consideration should be given to training all health professionals in LM. The time is now to prioritize and optimize lifestyle health learning to curb the tide of chronic disease and shift the sick and disease care model to a health care model with the ultimate objective of reducing premature mortality, promoting health, and alleviating pain and suffering. Ignoring LM is not an option.



13E5 (1819)

Date of presentation: Wednesday 31st August

Time of session: 10:44 - 10:55

Location of presentation: Bellecour 3

Why are physicians so adverse to admit they are struggling?

Georgina Budd¹

¹ *Swansea University, Swansea, UK*

Medicine is a profession that attracts a certain type of person - driven, high achievers. This need to achieve can make us profoundly sensitive to failure, and indeed to see what some would consider good, as simply not good enough. Many medical students are used to being top of the class but are now surrounded with hundreds of top-class students. I was no different. In college I expected above 80% in all academic endeavours, to find despite my best efforts in my first year I was averaging 60%. This was still a pass, (a respectably average one), but felt like failure. With hindsight I wasn't the only one, but shame came hand-in-hand with an uncanny ability to mask the struggle from 'competitors'.

These traits don't shake off easily and of course, a healthy level of pressure can push us to achieve - but could there also be a link between these personality traits and the trend of mental health problems in medical students and doctors? Moreover, is this a reason why so many feel admitting struggling with mental health difficulties remains a relative taboo in the medical profession? So where are our doctors receiving this message? From my experience, it is that this attitude is embedded in the remnants of a hierarchical system. In combination with exploding workloads and the structurally imposed scarcity in both in resources and staffing, modern healthcare is under extreme and increasing pressure, while patient expectations and needs continue to increase. Social shaming of colleagues for sick-leave, further drives an expectation of relentless productivity, leaving many feeling they must continue regardless of struggling. This drives up risk of burnout and maladaptive coping mechanisms. Care-givers at every level are burning out at a higher rates and earlier in their careers than ever before. It is well documented that burnout reduces capacity for empathy, not only with patients but each other. It is a vicious cycle that directly feeds staff shortages.

We would never dream of telling our patients struggling with mental health problem that this was a weakness. Isn't it about time we recognised this for ourselves?



13E6 (1971)

Date of presentation: Wednesday 31st August

Time of session: 10:55 - 11:06

Location of presentation: Bellecour 3

Learning and leading to collaborate starts with getting one's own house in order

Maura Polansky^{1,2}

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During an interprofessional education (IPE) conference I attended years ago, I found myself engaged in a discussion with another attendee who was a strong advocate for IPE. I was making a case for the role of interprofessional faculty teaching in supporting early learners in understanding the roles and expertise of other healthcare professionals. The IPE advocate was passionate regarding their support of IPE, responding to me “we believe” that students should learn from, about and with other students for interprofessional education to occur. I was left to wonder if I had entered a cult of sorts where what “we believe” matters more than empirical evidence or even common sense.

Years later, and after completing a PhD dissertation focused on interprofessional learning and leadership, I feel more confident than ever that the pedagogical approach of IPE has serious limitations. While I am certainly not opposed to students learning with, from and about other students, I do not “believe” that this is the best approach for transforming clinical practice to one that is collaborative across the health professions. Just as I do not believe the way to reduce burnout in professional practice is to merely teach overworked professionals to be more resilient. Doing so simply avoids the real problem- the underlying culture and systems where professional practice exists.

I have recently designed and now teach a course for current and aspiring clinical and educational leaders entitled “Interprofessional Collaboration in Practice.” During the course, I challenge these professionals, many of whom are faculty, to shift their attention away from teaching others how to be more collaborative and toward an exploration of the opportunities, barriers, and challenges to interprofessional collaboration with their own colleagues. When they identify barriers within their own professional context, I challenge them to reform the context to eliminate those barriers for themselves and others. I am inspired by the opportunity that such professional development courses offer to change systems and cultures within which practice occurs. Isn't it time to look in the mirror and be honest about one's own profession and organizations on the road to a more collaborative practice?



13E7 (1993)

Date of presentation: Wednesday 31st August

Time of session: 11:06 - 11:17

Location of presentation: Bellecour 3

Are the wounded healers good role models?

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It is a well-known fact that the mental health issues among physicians are becoming an increasing trend. The adopted coping mechanisms of the physicians mainly stem from the unaware interaction of their personality traits and experiences of psychological trauma with the attributes of the medical education. These coping mechanisms are carried out through generations via role modeling as one of the highest forms of subconscious teaching and may have two opposing spectra.

The first specter is related to an adequate confrontation with the underlying issue and increased awareness, which results in a positive attitude and a solid ground for support of those who are going through the same process-we name them the "warm" wounded healers. The second specter in contrast, the "cold" wounded healers, adopt dysfunctional models of behavior and promote inadequate guidance. They create a vicious cycle that ends up creating more "cold" wounded healers.

So far, beyond the shadow of the doubt, we have to emphasize that the doctors' mental health matters and that it is crucial to the health care system now more than ever. It is up to the role models to increase awareness and forge a safe network in which the other physicians can figure out the best approach when encountering a mental health issue.



Short Communications - Sustainability & Global Health 2

13F1 (3167)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 1

Digital Health in Medical Education Worldwide

Iris Martine Blom¹, Eglė Janušonytė¹, Christos Papaioannou¹, Mohammed SaifAldeen Abdelrahman²

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark* ² *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

Digital health has been recognized as a tool to accelerate the completion of the United Nations 2030 agenda on Sustainable Development Goals. It is evident that healthcare providers will have a prominent role in the sensitization of communities to digital health as well as the development of digital health services. The World Health Organisation Strategy on digital health 2020-2025 outlines four strategic objectives that require collaboration with healthcare providers. To prepare healthcare providers for the process, modern medical education should include digital health.

Summary Of Work

To understand the current state of digital health in medical curricula and medical students' opinions, an online questionnaire was created and disseminated from January to July 2021 on communication platforms of the International Federation of Medical Students' Associations, aimed at medical students and recent graduates.

Summary Of Results

714 responses were received from 111 countries across all regions, with 67.7% of responses from Low- and Middle-Income Countries. The majority of respondents did not receive digital health education as part of the core curriculum (n=374, 52.4%) nor facilitated by their medical school outside the core curriculum (n=420, 58.8%).

More than 85% of respondents agreed or strongly agreed that digital health can contribute to the efficiency, access, and quality of healthcare. 87.7% of respondents agreed or strongly agreed that future health professionals should receive education on digital health as part of the core medical curriculum to prepare them for their future work as health professionals (n=626).



Discussion And Conclusion

The survey presents a diversified global medical student perspective on digital health. Most medical students do not receive digital health education facilitated by their medical schools, whilst they agree on its importance. Therefore, it is essential to bridge the gap and ensure digital health as part of the core medical curriculum worldwide.

Take Home Messages

This research project demonstrates the lack of digital health education in the professional preparation of medical students and we call for national institutions and stakeholders to address the gap and to consider medical students as valuable partners in digital health advancement.



13F2 (3546)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 1

Sustainable healthcare education: a systematic review of the evidence

Lucy Bray^{1,2}, Katerina Meznikova¹, Paul Crampton¹, Trevor Johnson¹

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Background

Health professions education is failing to prepare students to address sustainable healthcare despite the climate crisis and urgent provision of relevant educational opportunities is required. Thus, this study aimed to synthesise teaching methods applied to sustainable healthcare education across health professions curricula and critically evaluate the evidence. Additionally, barriers for sustainable healthcare education were identified.

Summary Of Work

APA PsycInfo, BEI, CINAHL, Embase, ERIC, Medline, Scopus, Cochrane Library, Web of Science, BASE, DART-Europe, Ethos and Proquest databases were searched, alongside secondary searching techniques. Searching was conducted in October 2021. Eligible studies included healthcare professional students/trainees, exposed to sustainable healthcare education, and evaluated through impact on knowledge, skills or attitudes. Empirical studies of any publication status were included. Non-English language studies were excluded. Eligible studies were quality assessed using JBI© (2020) critical appraisal checklists and synthesised narratively.

Summary Of Results

Twenty-three studies were included, equating to 3,685 participants. Health professions sampled covered medicine, nursing, midwifery, pharmacy, dentistry, paramedicine and podiatry. Studies primarily adopted a quasi-experimental design and exhibited variable quality. Most frequently implemented interventions were workshop (n = 7) and clinical skills session (n = 6), with alternative interventions comprising module (n = 3), seminar (n = 2), simulation-based training (n = 1) and photovoice (n = 1). Three studies implemented a mixed intervention: clinical skills session/case-based learning (n = 2) and student-selected components/quality improvement projects (n = 1). Positive impacts were established across knowledge-, skills- and attitudes-based outcomes, though studies incorporating a control group or long-term outcomes demonstrated minimal effect. Barriers were collated into themes of system and individual, with subthemes of healthcare, educational, social, professional and personal.



Discussion And Conclusion

Findings substantiate the importance of sustainable healthcare education across health professional groups and indicate that diverse teaching modalities can be adopted in its delivery. Specifically, active and passive modalities appear to be acceptable and effective forms of instruction. However, further high-quality research is required to corroborate these findings. Barriers to sustainable healthcare education extend from individual- to system-level factors, indicating that, despite the growing dialogue surrounding the topic, challenges remain.

Take Home Messages

Urgent implementation of sustainable healthcare education is required and this systematic review outlines evidence-based approaches to achieve this.



13F3 (3426)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 1

Medical students mobilization to lead climate actions: reported progress on SDG13

Fatima Elbasri Mohammed¹, Elaine Tan Su Yin², Mikołaj Patalong¹

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark* ² *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

International Federation of Medical Students Association (IFMSA) is the leading youth organization representing 1.3 million medical students. IFMSA undertook three global surveys, spanning 2817 medical schools in 112 countries, showing that climate change is taught only in 15% of medical schools and in 12% of the medical schools, students and not faculty members lead climate health teaching activities. As IFMSA commits to meaningful student mobilization in achieving SDG 13 (climate action), various international and national activities were implemented to capacitate the medical students.

Summary Of Work

IFMSA's activities to mobilize students focused on creating a manual on climate and health, workshops, policies, campaigns, and advocacy strategies during the 74th World Health Assembly (WHA) and United Nations Framework Convention on Climate Change Conference of Parties 26 (UNFCCC COP26) including delivering statements and participating in side events. All these efforts lead to medical students' empowerment and hence the implementation of different campaigns and capacity-building activities about climate change globally and nationally.

Summary Of Results

A total of 43 activities were enrolled under the IFMSA program of environment and health, with 11 activities about climate change, including a public health leadership workshop about climate change. These activities reached 66191 community members and 6734 medical students. Moreover, IFMSA capacitated and sent 10 delegates to COP26 and 54 delegates to the 74th WHA to advocate for climate change and health.

Discussion And Conclusion

IFMSA aspires to capacitate medical students about the necessary knowledge and skills to advocate for climate and health among their peers, communities, medical schools and decision-makers



through different tools including capacity building events, community outreach, medical curriculum consultations and advocacy strategies during high-level external meetings.

Take Home Messages

- Medical students and healthcare workers play essential roles in leading and advancing the agenda of SDG13.
 - IFMSA calls on all relevant stakeholders including medical schools and decision-makers to invest in medical students' capacity building through training, medical curriculum development and to include medical students meaningfully in climate change and health decision-making processes.
-



13F4 (1183)

Date of presentation: Wednesday 31st August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 1

The Global Health Scholarship Community of Practice (CoP) program: forming collective identity through sharing, learning and collaboration

Diane Nguyen¹, Kajal Hirani², Rogers Ssebunya³, Anna Mandalakas¹, [Jennifer Benjamin¹](#), [Satid Thammasitboon¹](#)

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Background

Texas Children's Global Health Network consists of nine foundations with 2,400+ staff across 10 low- and middle-income countries (LMIC). To fulfill the Network's educational mission, we sought opportunities to foster scholarship through collaboration, among multidisciplinary faculty and staff through formation of the Global Health Scholarship Community of Practice (CoP) program.

Summary Of Work

We formed a "community" of scholars governed by guiding principles of a "distributed organization" with a core group of faculty implementing the components of CoP. The tasks included developing a CoP forum to build relationships, identifying shared interests, and utilizing the Virtual Home, an online platform enabling networking by building Community.

Nine, bi-monthly virtual synchronous sessions offered a continuing professional development (CPD) program fostering mutual interest in learning and development, thereby enabling learning using critical inquiry and collaboration – Domain.

The Research, Arts, Innovation, Scholarship and Education (RAISE) Symposium was designed for peer coaching and showcase of varied skills – for Practice. A scholarship competencies inventory described member's skills and identified those with expertise to serve as coaches.

Virtual Home engagement and participant assessments were monitored to ensure achievement of intended learning outcomes and to inform future program improvement.

Summary Of Results

Our CoP has enrolled 203 members from 12 countries over 11 months. Each CPD session had an average attendance of 30 members (range 12-68). The RAISE Symposium consisted of virtual poster exhibits, art galleries, and 10+ hours of live programming that attracted over 500 participants from



20+ countries. Participants rated CPD and RAISE sessions favorably for education, sense of community and collaboration.

Discussion And Conclusion

Healthcare professionals in LMIC offer valuable opportunities for knowledge and clinical experiences but have limited opportunities for scholarship. Educational challenges of limited CPD opportunities, fundamental scholarly skills, access to resources, and conducive scholarship environment, were addressed by creating a CoP promoting interdisciplinary scholarship.

Take Home Messages

Early outcomes indicate CoP members learn, share, and collaborate as scholars. The value of tools and activities developed extended to individuals and systems beyond CoP. CoP serves as a model for fostering collaboration between high-income and LMIC colleagues and reducing educational inequities in LMIC.



13F5 (3367)

Date of presentation: Wednesday 31st August

Time of session: 11:00 - 11:15

Location of presentation: Gratte Ciel 1

Climate Change and Planetary Health in Medical Curricula

Andres Pacherrres-Lopez¹, Tomáš Petras²

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Background

As future health professionals, we have an enormous responsibility in mitigating actions on climate change and adapting health services to the new health needs of populations. The inclusion of climate change in the medical curriculum is of utmost importance for medical students and changing hospital paradigm that exists in some countries. This will allow them to address different current and future health needs caused by climate change, promote more significant involvement in public health advocacy and obtain all competencies possible around planetary health and climate change.

Summary Of Work

Two elements were chosen from a descriptive survey requested from representatives of each NMO (National Member Organization of IFMSA) concerning the teaching of climate change in formal and non-formal medical education. Likewise, a percentage estimate based on the total number of medical schools was made by WFME.

Summary Of Results

It was found that in 362 medical schools of the NMOs, there is some type of education on climate change linked to formal medical education. This includes lectures, case discussions, problem-based learning and other educational strategies, estimating 12.48% of all medical schools. Likewise, it was found that in 294 schools, some type of informal or student-led education on climate change is carried out, estimating 10.13% of all schools.

Discussion And Conclusion

The results correlates research published by IFMSA, who found that only 15% of medical schools included climate change and health within the curriculum. In comparison, in 12% of medical schools there were student-led educational initiatives (non-formal medical education). Medical education systems must be more open to curricular changes to include planetary health. Finally, efforts can be observed by students to complement their education through different educational interventions that their respective medical schools must support. Based on the data obtained, IFMSA is developing the "Climate Change in Medical Curricula Educational Framework".



Take Home Messages

(1) Despite different calls to action, many efforts are still needed to include climate change in formal medical education.

(2) Student-led advocacy and education efforts on climate change and planetary health should be supported

(3) Different frameworks can be contextualized to the needs and resources of each medical education system for inclusion of climate change in curriculum.



Short Communications - Faculty Development 2: Promoting Educator Identity

13G1 (3451)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 2

Negotiating medical teacher identity in the context of major curriculum reform

Mariette Volschenk¹, [Anthea Hansen](#)¹

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Background

Global calls for 21st century healthcare to be more responsive to societal health needs and inequities have catalysed new ways of thinking in medical education. Increasingly, undergraduate medical curricula are veering towards integrated and competency-based educational models, while some are adopting critical pedagogical approaches. Reconceptualising curricula on this level demands that medical teachers move beyond modifying their teaching syllabi and practices towards deeper engagement with the fundamental principles shaping the curriculum renewal process. Ensuing epistemological and ontological shifts may influence the ways in which medical teachers negotiate the construction of their teacher identities. Currently, little is known about medical teacher identity in the context of large-scale educational reform.

Summary Of Work

This paper draws its data from a qualitative study that explored the range of understandings that teachers in the health professions bring to teaching as they interpret the principles underpinning their curricula. Specifically we focus on the implications that these understandings have for the identity construction of medical teachers involved in undergraduate medical curricular reform. Data were generated using focus group discussions and interviews with twenty-six purposively selected medical teachers at a South African university. Data were coded inductively and analysed thematically.

Summary Of Results

Findings show that, although most medical teachers supported the curriculum renewal initiative, their interpretation of what these changes mean for their teaching, as well as their perceived



capacity to implement the philosophy of the new curriculum, were influenced by identities that were formed within the boundaries of the traditional curriculum.

Discussion And Conclusion

Drawing on landscapes of practice theory and identity learning models, this paper offers new insights into the identity tensions experienced by medical teachers as they attempted to make sense of the principles underpinning the new curriculum, while grappling with translating non-traditional forms of knowledge into teaching practice.

Take Home Messages

21st Century educational reform requires medical teachers to straddle the boundaries of epistemologically and ontologically diverse communities of practice. Change management strategies aimed at equipping faculty to implement major educational reform should include a focus on identity learning approaches, boundary crossing competencies and creating spaces for dialogue and reflection supportive of the ongoing identity construction of medical teachers traversing the changing educational landscape.



13G2 (1883)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 2

How learning-centred beliefs relate to awareness of educational identity and mission: An exploratory study among medical educators.

Marleen Ottenhoff¹, Yvonne Steinert², Iris van der Hoeven¹, Anneke Kramer¹, Roeland van der Rijst³

¹ *Leiden University Medical Center, Leiden, The Netherlands* ² *Institute of Health Sciences Education, Faculty of Medicine & Health Sciences, McGill University, Montreal, Canada* ³ *ICLON Leiden University Graduate School of Teaching, Leiden, The Netherlands*

Background

Learning-centred beliefs are important since beliefs drive teaching practice. However, even in learning-centred education many educators still believe that teaching is about transferring factual knowledge rather than facilitating students' learning processes (Ottenhoff-de Jonge et al 2021; PMID:33745444). A previously developed model (Korthagen 2004; <https://doi.org/10.1016/j.tate.2003.10.002>) describes a relationship between beliefs, educational identity, and 'mission' which refers to that which inspires and drives educators and underlies their identity. Little is empirically known about this relationship in medical education context. To increase our understanding about why educators hold certain beliefs, this study aimed to explore the empirical relationship between medical educators' beliefs and their awareness of their educational identity and mission.

Summary Of Work

A qualitative study was conducted using in-depth interviews with 21 physician-educators from two international medical schools with learning-centred curricula. We performed a deductive thematic analysis employing two existing models, the first (Ottenhoff-de Jonge et al 2021) to examine educators' beliefs about teaching and learning, and the second (Ottenhoff-de Jonge et al 2019; PMID:31319835) to examine their awareness of their educational identity and mission. The second model is hierarchically ordered, meaning that awareness of mission is always combined with awareness of identity, but not vice versa. Subsequently we aimed to determine the relationship between these two areas of inquiry.

Summary Of Results

This study revealed an alignment between educators' beliefs and their awareness of their educational identity and mission. While educators unaware of their identity displayed teaching-centred beliefs, educators aware of their mission (and thus also their identity) displayed learning-



centred beliefs. Those who were aware of their identity, but not their mission, displayed either teaching- or learning-centred beliefs.

Discussion And Conclusion

Medical educators' beliefs about teaching and learning are related to their awareness of identity and mission. Our finding that the educators aware of their mission all show learning-centred beliefs underlines the relevance of educators' educational mission awareness in learning-centred education. To develop this awareness we propose reflection, meaningful relationships with others, and addressing the context.

Take Home Messages

- Educators' beliefs influence teaching practice;
 - In learning-centred education learning-centred beliefs are most effective;
 - To develop learning-centred beliefs, faculty development should support educators in becoming aware of their educational identity and mission.
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13G3 (4644)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 2

From ‘doctor who teaches’ to ‘medical educator’: how medical educator professionalism is developed through postgraduate study

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¹ *University of Dundee, Dundee, UK*

Background

Students develop their professionalism through role modelling and reflection guided by medical educators. Therefore, the professionalism lapses of medical educators can lead to students’ professionalism dilemmas. However, little has been investigated about the professionalism of medical educators and their professional development.

Summary Of Work

This longitudinal qualitative research aims to understand how medical educator professionalism develops over time. Fourteen medical educators were purposively recruited: 12 were enrolled in a Postgraduate Medical Education Programme (six full-time in person, six part-time alongside work), and the other two had not gone through any postgraduate qualification course in education. The participants completed reflective research diaries once a week for 12 weeks. Semi-structured interviews were conducted before and after the diary collection. The data were explored by thematic analysis.

Summary Of Results

Five interrelated overarching themes regarding the development of medical educator professionalism were identified: outcomes (what), methods (how), support system (who), environment (where) and motivation factors (why). Four outcomes of development were medical educator identity, educational practice, self-development and awareness of professionalism. The outcomes were different among the participant groups and dependent on the methods of development, e.g., workplace practice strengthened the medical educator identity; having tutors as role models helped the participants conceive the kind of educator they wanted to be. The development was also affected by the support of surrounding people and environment, e.g., hierarchical/organisational culture and the pandemic. Motivational factors identified included exposure to a new culture, a sense of achievement and a sense of connectedness.



Discussion And Conclusion

The findings suggest that the development of medical educator professionalism is multifaceted and complex. It cannot be assumed this will develop naturally. The outcomes can vary depending on the methods, support system, surrounding environment and motivational factors. Therefore, the development of medical educator professionalism should be explicitly considered and supported accordingly by education providers. Well-developed medical educators benefit medical students, institutions and society.

Take Home Messages

Development of medical educators should be explicit and individualised to their context. Outcomes (what), methods (how), support system (who), environment (where) and motivation factors (why) should be considered.



13G4 (2865)

Date of presentation: Wednesday 31st August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 2

Beyond Skin Deep: An Interprofessional Racial Equity Faculty Development Pilot for Healthcare Educators

Caroline Sisson¹, Stacy Schmauss¹, Brenda Latham-Sadler¹, Dave McIntosh²

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Background

Learner initiated discussions about race in medical education highlighted the impact of faculty in the learning environment. We identified a gap in our faculty's preparedness to address racial equity and inclusion. A task force worked to consider how to improve faculty practices to ensure that our learning environment effectively supports not some, but all students, in an inclusive and equitable fashion.

Summary Of Work

We created a discussion-based faculty development program series aimed at engaging faculty in the areas of: history of race in medicine, communication and connection, inclusive learning environments and managing biases. The first and last sessions were in person with all participants to promote connection among participants and reflection. Sessions 2-5 were small-group sessions conducted virtually, with assigned pre-work. The program was piloted with 14 participants from Physician Assistant (PA) education and family medicine with a diverse group of facilitators.

Summary Of Results

Post-program qualitative data was collected from pilot program participants. Themes included 1.) heightened awareness of DEI needs 2.) Improved level of comfort discussing DEI issues and 3.) Importance of dedicated time to share experiences and collaborate. Review of data from participants, facilitators, and program developers reveal strengths of the program to be meaningful pre-work, increased dialogue, and affirming experiences. Opportunities for improvement include decreased group size, increased program length, and in person sessions.

Discussion And Conclusion

Faculty in academic medicine often remain ill-equipped to address long standing, deeply rooted racial inequities in medicine and education. This program's discussion-based format allows participants to integrate new information and perspective while reflecting on, and debriefing, interactions with diverse learners. The pilot program improved participants' confidence in engaging



in dialogue about race and affirms the roles of personal connection and discussion in facilitating these difficult conversations. Next steps include modifying the format to fit schedules of busy practicing medical professionals, including retreat-style sessions. Based on participant feedback and administrative support, this pilot program will serve as a starting point for further engagement and change efforts.

Take Home Messages

Equipping faculty to address racial inequity is imperative and begins with increasing awareness of disparities and increased comfort discussing the difficult topics, which can be facilitated with objective-driven and reflective conversations.



13G5 (3987)**Date of presentation:** Wednesday 31st August**Time of session:** 11:00 - 11:15**Location of presentation:** Gratte Ciel 2

Longitudinal Integrated Clerkships a vehicle for development of multi-professional educators: Collaborative learning, educational continuity and apprenticeship

Katie Webb¹, Stephen Riley¹, Sue Fish¹, Ffion Williams², Rhian Goodfellow¹, Frances Gerrard¹

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Background

Education and training acquired through Longitudinal Integrated Clerkships (LIC) is commonly explored from perspectives of medical students or trainee doctors. There is dearth of literature in regards to the impact upon the multi-professional team of hosting and engaging in the LIC. We discuss educator development through collaborative learning, educational continuity, apprenticeship and professionalism through a dispersed immersed LIC known as the Community and Rural Education Route (CARER) delivered by Cardiff School of Medicine in Wales, UK.

Summary Of Work

Our Longitudinal mixed-methods evaluation follows three cohorts of CARER students (2018/2019/2020) before, during and after their CARER experience. Here we focus upon qualitative data from educators and the wider multi-professional team. Verbatim audio transcripts were analysed inductively via a social constructionist framework and deductively using a theoretical framework synthesising educational continuity and apprenticeship theory.

Summary Of Results

Identified themes related to both overt and covert learning events of educators with or without students. Educator learning was classified into three overarching themes: cognitive/metacognitive development; Problem-solving; Independence. Educators voiced bi-directional integrated learning happening with students and supervision through activities of modelling, coaching, scaffolding, articulation, reflection and exploration. Supported by a set of attributes applied to individuals and organisations required to activate the learning, such as courage, self-discipline, open-mindedness and intellectual responsibility. Activities are interrelated, learning occurs not only in isolation but in collaboration.



Discussion And Conclusion

Current literature focuses on learning acquired by students within the LIC compared to traditional training and medical school curriculum. Recently Strasser and Berry discussed the value of integrated clinical learning where students learn from patients and through peer-to-peer teaching. However, impact upon educators own learning within the LIC remains scarce. Our evaluation highlights learning for educators and the wider team through their supervisory activities and collaborations with students during the LIC.

Take Home Messages

Employing a synthesis of educational continuity and apprenticeship theory, we were able to surface the educational development of educators and the wider multi-professional team, facilitated by the LIC vehicle of sustained collaboration and student engagement.



13G6 (2607)

Date of presentation: Wednesday 31st August

Time of session: 11:15 - 11:30

Location of presentation: Gratte Ciel 2

Agency in careers of clinican educators: three narrative portraitures

Dorene Balmer¹

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Background

Agency is well-studied in social sciences but has not permeated medical education, as it relates to agency in careers of clinical educators (CE). Because academic medicine has been likened to a “run-away train”, agency is obvious in CE who take “left turns”, that is they deviate from expected career paths. Knowing how and why CE enact agency in their careers could help reconstruct academic medicine to better accommodate CE, who consistently report feeling undervalued. We extended a 6-year longitudinal qualitative study of 11 CE and created narrative portraitures of 3 who took “left turns” in their CE careers.

Summary Of Work

Participants were physician-CEs at one academic medical center who completed a Master’s degree in education (MEd) in 2018 and were interviewed yearly from 2016-2021. Recursive data collection fostered reflection and helped participants narrate their career trajectory. For this report, data from 3 exemplar CE were coded and analyzed via narrative portraiture (i.e., attending to repetitive refrains, resonant metaphors, and institutional practices). Portraitures were shared with participants in a final interview in Dec 2021 and revised accordingly.

Summary Of Results

Each of the 3 participants enacted agency by deviating from expected CE careers. Deviations varied but all were prompted by their evolving sense of self-as-educator. One left academic medicine 1 year after his MEd (*it’s unfortunate because educators like me have a lot to contribute just not exactly how academic medicine envisions*). Another reduced his clinical hours 2 years after his MEd so he could have more time for education, albeit unpaid time (*I’m taking a pay cut, essentially, so I can do the education things I enjoy*). Another stayed fully employed in academic medicine but consistently opted out of high-visibility, formal CE roles (*For me, education isn’t an administrative endeavor*).



Discussion And Conclusion

Taken together, these 3 narrative portraits of CE who took “left turns” remind us that academic medicine is made up individuals who enact agency and make career decisions with substantial implications to maintain their sense of self-as-educator.

Take Home Messages

Left turns may be viewed as deviant today, but to retain CE, academic medicine must be reimagined and accommodate CE alternate but equally important sense of self-as-educator.



Short Communications - Equality, Diversity and Inclusivity

13H1 (2671)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:15

Location of presentation: Gratte Ciel 3

Teaching Anti-racism: A Qualitative Evaluation of a Novel, Virtual, and Longitudinal Curriculum on Anti-racism for Resident Physicians

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Background

Explicit education about the impact of racism on health is rarely taught in graduate medical education. We developed a year-long anti-racism curriculum to equip resident physicians in an urban internal medicine program to meet the needs of patients from communities of color in the United States.

Summary Of Work

Content for the Anti-racism Conference (ARC) was informed by prior anti-racism curricula, scholarly readings, and practical experiences. ARC was implemented through eight sixty-minute longitudinal conferences conducted virtually between August 2020 and June 2021. Discussion topics were centered on racial identity, social determinants of health, manifestations of race in medicine, and racial aggressions.

We used focus groups to qualitatively evaluate the impact of ARC. Seven voluntary hour-long focus groups with a total of nineteen participants were held from June 2021 through September 2021. Five researchers utilized grounded theory in the analysis of data, with thematic coding of transcripts to generate overarching themes.

Summary Of Results

Overall, participants reported that the curriculum assisted them in developing awareness of and comfort in thinking about racism in healthcare. They valued multi-media pre-readings for level setting and the resident-led discussion format, both within consistent small groups and the larger group as a whole.

Participants also stressed the tension that exists with regards to a focus on awareness, praxis, and internal progress versus more clearly defined action-oriented content. They also had conflicting



expectations for the role of guest facilitators, with some wanting explicit content delivery and others the sharing of anecdotal experiences.

Discussion And Conclusion

ARC assisted trainees in building individual capacity to identify racism in clinical and institutional spaces. Trainees felt that the structure of the curriculum allowed for the creation of safe spaces in which to engage with the topics around systemic racism and patient care on a virtual platform.

Take Home Messages

A longitudinal antiracism curriculum assisted resident physicians in developing awareness and praxis with discussing interpersonal and structural racism in professional environments. The curriculum facilitated resident self-reflection and processing of individual biases and internal discomfort around the topic of race. Further work is needed to target participant desire for more action-oriented strategies, as well as assess participant impact with other evaluation tools including OSCE.



13H2 (1566)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:30

Location of presentation: Gratte Ciel 3

Are you sure it's not too complicated – exploring the barriers to the inclusion of intersectional diversity within medical education

Joseph Hartland¹, Duncan Shrewsbury², Brigit McWade³

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Background

The integration of marginalised and underrepresented communities into medical curricula is vital not only morally but for patient safety. As the populations we serve grow increasingly diverse medicine must react and represent this within teaching, ensuring students are equipped with the knowledge, skills and professionalism needed to deliver high quality healthcare to any patient. However, literature demonstrates that medical education remains heavily focused on the experiences of patients who are white, cis-gendered, able bodied, heterosexual, affluent and male. When diverse representation does occur it often reinforces unhelpful or stigmatising stereotypes that may do more harm than good. In addition it is frequently simplistic in its implementation and ignores the important reality of intersectional identities.

Summary Of Work

With years of experience in the field of medical education the authors have worked to present their own lived experience of engaging with medical curriculum development and advocating for the inclusion of marginalised and unrepresented communities. Employing the analytical framework 'What is the Problem Represented to be' (WPR), posed by Carol Bacchi (2012), we aim to explore one of the most common barriers we encounter when advocating for intersectional inclusion: "are you sure it's not too complicated?".

Summary Of Results

Using WPR we answer six questions that explore the meaning behind this commonly encountered barrier, the possible assumptions that underpin it, the effects it can have on teaching, and how we can disrupt this pattern of behaviour

Discussion And Conclusion

Intersectional diversity should be the touchstone of curriculum development. By employing the WPR analytical framework we argue for why fears of "complexity" not only damage attempts at creating



diverse curricula but have the potential to inhibit the development of a safe curriculum. Using our experience as educators in this field we share pathways to disrupting this narrative, and ensuring equality, diversity and inclusivity work is not tokenistic, but representative of real world of medicine.

Take Home Messages

First and foremost we hope to demonstrate how barriers that are commonly instituted can be examined, dismantled and in-doing so empower attendees to champion the inclusion of intersectional diversity in their own curriculums



13H3 (1751)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:45

Location of presentation: Gratte Ciel 3

Juggling legibility: Illuminating experiences of Black and Latinx women with disabilities in medical school

Neera Jain¹

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Background

Research into disabled students' experiences has illuminated persistent barriers to medical education. While recognition of intersectionality's importance to understanding inequity exists, disability inclusion research lacks substantive engagement with the framework. Research from other fields demonstrates that racism and ableism are connected, with nuanced implications at their intersection. This paper attends to this concerning gap by exploring disabled Black and Latinx women's experiences in medical education.

Summary Of Work

This paper forms part of a larger study of disability inclusion at four U.S. medical school. Here, I present a focused analysis of semi-structured interviews with 7 Black and Latinx women students from three schools. Following a constructivist grounded theory methodology, I analyzed data using multi-level inductive coding and constant comparison to theorize student experiences. I engaged theories of race and disability, including disability critical race theory (DisCrit) and disability justice, to interpret findings and inform the inductive analysis.

Summary Of Results

Students contended with intertwined forces of racism and ableism, amplified in the high-performance medical education context. Their disability-related experiences were shaped by their racialized and classed positions. However, because their disabilities were largely less visible, students' racialized identities were foregrounded. Student interactions with disability-inclusion systems were hampered by anticipated racial bias. Yet, those participants who appeared to have a critical-race consciousness often more readily recognized their disability experiences as socially constructed. Their understanding of racial injustice fueled a critical-disability consciousness that interpreted disability-related experiences as injustice rather than individual problems. This perspective prompted peer community-building and collective pursuit of change.



Discussion And Conclusion

I theorize that racialized disabled learners must juggle racism *and* ableism when seeking disability access, and the two cannot be separated. These findings demonstrate the necessity of attending to the connected impact of both forces on current educational practices. Making visible prevalent yet hidden barriers illuminates potential for structural and practice change. Including disability in examinations of racism in medicine, and vice-versa, is necessary to enrich our understanding of each and build a conjoined anti-racist and anti-ableist future.

Take Home Messages

- Racialized disabled students contend with nuanced racism and ableism
 - Critical consciousness can fuel collective changemaking efforts
 - Intersectionality is critical to realizing equity, diversity, and inclusion aims
 - RP0405/SC
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13H4 (4405)

Date of presentation: Wednesday 31st August

Time of session: 10:45 - 11:00

Location of presentation: Gratte Ciel 3

New Perspective of Medical Education, Intercultural Competence

Kayra Kapran¹, Umut Yücel², Hadi Sleiman¹, Alexandra-Aurora Dumitra³, Irem Aktar³

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Background

Throughout the years intercultural communication has gained a lot of importance due to globalization and the need for connection. Lack of empathy and false assumptions could be observed if this concept is not fully understood, especially in a healthcare setting, where outcomes can be fatal. Team dynamics and doctor-patient communication can be also damaged, due to different cultural backgrounds.

Summary Of Work

The European Medical Student' Association (EMSA) published a Policy Paper on the topic of "Intercultural Competence in Medical Education". With this, we aimed to create suggestions for the optimal environment in the medical education field to further nourish the importance of intercultural understanding. Moreover, EMSA has kept "intercultural competence" as a priority with the official exchange project of EMSA (i.e. The Twinning Project), helping connect medical students with their peers from various backgrounds and countries. The exchange project provides members from a medical faculty with the opportunity of connecting with other faculties, organizing week-long bilateral exchanges, and experiencing a general sense of culture, medical education, and social life in other European countries.

Summary Of Results

This policy paper aims to provide recommendations to several bodies such as ministries of health, NGO's and medical faculties on how to establish a comprehensive understanding of intercultural competence in medical education. Alongside our policy paper, the Twinning Projects, have been helping medical students gain an immeasurable sense of vision and understanding of the world. People also learn how to collaborate with their international colleagues, which feeds into their intercultural competence; helping them be better equipped for working with and treating people from different cultural/ethnic backgrounds.

Discussion And Conclusion



The subject being very extensive, promoting and gaining awareness about it, especially in the early stages of healthcare is crucial. With this Policy Paper and the Twinning Projects incorporated, EMSA promotes the multicultural identity of our communities and better inclusion of intercultural competence with formal and non-formal training in the medical curriculum.

Take Home Messages

- Having an understanding of intercultural competence would help medical students as doctors dealing with patients from different cultural backgrounds.
 - Collaboration of international organizations, NGOs, medical faculties, and student organizations is crucial in promoting awareness of intercultural understanding.
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13H5 (1302)

Date of presentation: Wednesday 31st August

Time of session: 11:00 - 11:15

Location of presentation: Gratte Ciel 3

Rejecting the imposter label: Exploring the link between workplace discrimination and women trainees' and faculty physicians' perceptions of their competence

Kori LaDonna¹, Emily Field², Lindsay Cowley³, Kimberley Thomas⁴, Shiphra Ginsburg⁵, Chris Watling², Rachael Pack²

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Background

When smart and accomplished people feel like intellectual frauds, their feelings of self-doubt can create barriers to learning, professional development, and well-being. Imposter syndrome (IS) is typically conceptualized as a personal problem requiring individually-focused solutions, yet external forces such as discrimination may explain why women may be disproportionately affected by IS. Our purpose was to explore the link between workplace discrimination and women trainees' and faculty physicians' perceptions of their competence.

Summary Of Work

40 women (n=27 trainees) participated in semi-structured interviews exploring how macro and microaggressions shape self-assessment. We identified codes and categories using the constant comparative approach customary to constructivist grounded theory.

Summary Of Results

Participants recounted multiple instances—both subtle and explicit—where their contributions and capabilities were questioned because of their gender. While some participants endorsed moments of self-doubt, most emphatically denied that discrimination triggered imposter feelings. Instead, participants suggested that incompetence was imposed on them by peers, preceptors, or patients. Consequently, rather than provoking IS, participants recognized that the problem was discrimination, not their competence: “It’s not imposter syndrome, it’s they don’t want me in the field.”



Discussion And Conclusion

The link between workplace discrimination and IS appears tenuous, aligning with recent debates arguing that conversations about IS have not fully accounted for how workplace discrimination shapes internal and external perceptions of women's competence. Applying the imposter label to women may be a form of psychological manipulation that not only puts the onus on women to solve entrenched sociocultural and systematic failings, but also positions arrested professional development as a personal failing.

Take Home Messages

Our findings challenge the assumption that discrimination is a major contributor to women's experiences of IS, reinforcing evidence that anyone at any stage along the medical education continuum may be affected. Although IS and workplace discrimination may be distinct problems, solving them relies on sociocultural change. For change to take root, we need to acknowledge that IS and discrimination are pervasive, we need to normalize talking about them, and we need to recognize how professional values, structures, and practices within medicine and medical education may not only trigger imposter feelings but may also propagate hostile work and learning environments for women physicians and trainees.



13H6 (3747)

Date of presentation: Wednesday 31st August

Time of session: 11:15 - 11:30

Location of presentation: Gratte Ciel 3

Shaping cultural competency through immersive learning: A phenomenological study of medical students' appreciation for First Nations' history, culture, and knowledge systems

Emma Walke¹, Priya Khanna¹, Jodie Bailie ², Candace Angelo¹

¹ *University of Sydney, Sydney, Australia* ² *University Centre for Rural Health, Lismore, Australia*

Background

In context of unacceptable inequities in healthcare access and outcomes among Indigenous populations across the globe, there is an imperative for the inclusion of cultural competency within health profession education curricula. The redesign of the Indigenous Health curriculum within Sydney Medical School's new MD Program provided an opportunity for first year students to experience an authentic exposure into Aboriginal and Torres Strait islander history, cultures and belief systems via a cultural immersion day. Using phenomenological approach that aligns with Indigenous methodologies, we explored the influence of cultural immersion on students' ways of knowing, doing and becoming culturally safe clinicians.

Summary Of Work

In 2019 and 2020, around 300 medical students (in each year) participated in a multi-stationed cultural immersion day, designed and facilitated by local Indigenous community leaders. The purpose was to provide students with authentic exposure to Indigenous history, cultures, food and the impacts of transgenerational trauma on illness. We unpacked the influence of the cultural immersion, based on a qualitative phenomenological approach nested within a research approach that allowed the data to be explored from Indigenous ways of being, knowing, and doing.

Summary Of Results

Our analysis of data highlighted student experiences of 'being' varied across five levels: unconscious privilege; cultural dissonance; welcoming into a 'safe cultural space and being humbled towards acknowledging their privilege. Ways of 'knowing' varied from being reluctant followed by receiving new knowledge (e.g., transgenerational trauma) and finally reframing their own beliefs. Ways of 'doing' the cultural immersion emerged as promoting a decolonisation stance, student engagement, meaningful reflection on their own cultural competence, and finally acknowledging the collective responsibility in addressing the healthcare inequities.



Discussion And Conclusion

Cultural immersion, when co-designed with the Indigenous community leaders, are educationally powerful and culturally safe tools in influencing medical students' understanding and sense of confidence in dealing with Indigenous patients and healthcare issues. Such authentic activities, spirally integrated within the entire program, can positively impact cultural competencies.

Take Home Messages

- Cultural competency can be optimally shaped by authentic immersive activities when designed by community leaders and adequately scaffolded within the program.
 - Such activities need to be designed, implemented and evaluated using the methodologies that resonate with Indigenous research paradigms.
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Workshop 13I (2617)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Tete d'Or 1

Branches from the Same Tree: Beyond Bloom's Taxonomy Using a New Assessment Framework

Constance Tucker¹, Sarah Jacobs¹, Kirstin Moreno¹

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Background

Assessment frameworks are important and helpful because they can help educators inform curricular decision making (i.e., develop curriculum, measure learning outcomes, examine the impact of learning), assess impact over time, identify gaps in ways of knowing, and determine if inequities exist all while aligning to anticipated learning objectives. This proposal explores the value of frameworks, gaps in current frameworks and proposes the Evidence of Learning and Impact Framework as a model for future application.

Familiar curricular assessment frameworks include Bloom's taxonomy, Kirkpatrick's Model, Miller's Framework for Clinical Competence, Moore's Seven-Level Outcomes Model, or a combination of two or more of these frameworks. The current philosophical approach to the assessment of learning in medical education is limited in scope and should be expanded to include interprofessional approaches, diverse ways of knowing, and social justice and equity goals (MacLeod et al, 2020). The proposed super-synthesis framework builds on what is known with an equity lens in an attempt to bridge knowledge, modes of inquiry, pedagogies and address gaps.

Who Should Participate

Participants who want to increase their understanding of how to demonstrate what learners learned along the continuum of medical education.

Structure Of Workshop

- Introduction of Presenters and Participants (5 min)
- Poll everywhere (5min): Frameworks used at our institutions
- Presentation: A literature review (10min)
- Presentation: Introduce new Evidence of Learning Framework (ELF) and examples of applications (15min)
- Q&A –muddiest point (10 min)
- Padlet; five categories of ELF; a few minutes to find or draft an assessment for just of those categories and add to Padlet. 15 min)
- Report back in a larger group (10 min). Guided Discussion: Compliment and Critique



- Equity Considerations in Assessment: Group Discussion (i.e., attendance, satisfaction, etc.) (15 min)
- Final thoughts and Individual Application Exercise (5 min)

Intended Outcomes

- Describe the value of using an educational learning outcomes framework.
- Review and identify gaps in the proposed evidence framework.
- Organize example assessment types within the outcomes assessment framework.
- Critique the proposed framework and reflect how equity considerations could impact/improve it.
- Identify how this framework can be used to guide one's current work



Doctoral Reports 3

13J1 (0260)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:20

Location of presentation: Rhone 2

Learning to work together interprofessionally. Interaction, knowledge construction, and informal learning in clinical education.

Leslie Carstensen Floren¹, Bridget C. O'Brien¹, David M. Irby¹, Olle ten Cate²

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Introduction

Delivering high-quality healthcare requires interprofessional (IP) collaboration and shared understanding of patient care goals. Most health professions (HP) education programs define competencies and deliver IP curricula to support learners' ability to engage in IP collaboration in practice, but few are designed with consideration of the interactive knowledge building processes underpinning collaborative decision-making and effective teamwork. To better equip educators to design and evaluate interventions that support IP learning, we conducted a series of studies related to knowledge construction (KC) in IP interactions to answer the following questions: (Q1) How are shared mental models (SMMs) (a potential outcome of interactive KC) conceptualized, developed, and measured in clinical education? (Q2) Can a model of KC – the Interaction Analysis Model¹ (IAM) – be used to characterize KC behaviors in different IP contexts (e.g., clinical simulation, care planning for real patients)? (Q3) Can an observational tool to assess interactive KC during IP interactions be developed? (Q4) How do IP interactions support KC and informal clinical workplace learning?

Methods

Five studies addressed the four research questions. (Q1) We conducted a scoping review to explore the SMM construct as applied to clinical teamwork involving HP learners. (Q2a) We developed an asynchronous learning module focused on medication management, using the IAM to design dialogue prompts to support KC. Pharmacy-medicine learner pairs were randomized to receive either high- or low-KC guidance prompts. We analyzed dialogue using directed content analysis and evaluated prompt impact on learners' KC behaviors and care plan quality. (Q2b) We developed a simplified IAM framework then determined feasibility and utility by applying it to transcripts of care planning discussions regarding nursing home patients. (3) Using the simplified IAM, we developed and collected validity evidence for an observational tool to support formative assessment of KC behaviors. (4) We administered an international, cross-sectional, online survey to medical residents



at three institutions to explore how interactions with pharmacists support residents' KC and informal clinical workplace learning.

Results

Q1: Our review found that the SMM construct lacked a clear definition; educational interventions to support SMMs and attempts to measure the construct were rare, leading us to clarify the definition of SMMs in clinical practice and select interactive KC as a better construct to guide and analyze IP collaboration. Q2: The two studies addressing this question demonstrated that a simplified IAM could be used to analyze IP interactions and generate valuable insights about the quality of these interactions for learning and collaboration. The labor-intensive nature of the analyses led us to recommend development of an observational tool based on the simplified IAM. Q3: Evaluation of the tool yielded validity evidence that indicated inter-rater reliability and congruence with expert ratings as well as support for its use in practice. Q4: Our survey revealed that interactions with pharmacists supported residents' KC through a variety of mechanisms. Opportunities to interact with pharmacists in the workplace – common among US-based residents, infrequent for Dutch residents – overwhelmingly determined residents' sense and appreciation of IP learning.

Discussion And Conclusion

The body of research from this thesis advances understanding of how to design and evaluate IP interventions to better support the interactive KC processes required for IP collaboration in practice. We demonstrated the utility of a simplified version of the IAM for support and analysis of learners' KC behaviors, designed a tool based on the IAM that can be used to give learners formative feedback on their IP interactions, and demonstrated the importance of IP interaction in informal clinical workplace learning. This work establishes the utility of the KC construct in IP clinical education.

References

[1] Gunawardena CN, Lowe CA, Anderson T. Analysis of a global online debate and the development of an interaction analysis model for examining social construction of knowledge in computer conferencing. *Journal of educational computing research*. 1997 Dec;17(4):397-431.



13J2 (0432)**Date of presentation:** Wednesday 31st August**Time of session:** 10:20 - 10:40**Location of presentation:** Rhone 2

Exploring the broad impacts of continuing professional development in the health professions

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Introduction

Continuing professional development (CPD) is essential for life-long learning of health professionals. Current research and evaluation frameworks take a narrow perspective when assessing the impacts of CPD programs. With increasingly scarce resources for CPD it is important to demonstrate the full range of impacts of CPD programs. This PhD explored the broad impacts of CPD programs in the health professions and determined how to measure these impacts.

Methods

An exploratory sequential mixed methods design, using a pragmatic worldview was employed. Phase 1, a systematic scoping review, utilised conventional qualitative and quantitative content analysis to develop a categorisation of the types of impact of CPD, and to explore how impacts are measured. Phase 2, a qualitative study of 20 interviews, used thematic analysis to gain deeper understandings of the impacts possible from attending CPD programs that foster social learning, and applied theory to explain why these impacts occur. Phase 3, a quantitative study with 292 participants, utilised the phase 1 and 2 findings to develop a survey to measure the broad impacts of CPD using principal components analysis (PCA).

Results

The systematic scoping review¹ defined 12 categories of impact: (i) knowledge; (ii) practice change; (iii) skills, ability, competence and performance; (iv) confidence; (v) attitudes; (vi) career development; (vii) networking, collaborations and relationships; (viii) user outcomes; (ix) intention to change; (x) organisational change; (xi) personal change; and (xii) scholarly accomplishments. It showed qualitative and mixed methods research capture a broader range of impacts than quantitative methods; that non-validated surveys are the most common method for measuring CPD impacts; and that knowledge, behaviour change, skill, confidence and attitudes are measured most frequently. The qualitative study² identified five impact themes: i) growing and utilising a network of like-minded individuals, ii) forming stronger identities, iii) applying learnings to practice, iv) obtaining achievements and recognition, and v) going beyond the scholar. Concepts from Wenger's social theory of learning including reification and multimembership helped to explain why these impacts



occur.³ The survey that was developed using the findings from these two studies contained three components derived from the PCA, '*learnings and self-efficacy*', '*networking and building community*' and '*achievement and validation*', comprising 47, 14, and 13 items, respectively.⁴

Discussion And Conclusion

This research broadly explored the impacts of CPD showing how various impacts of CPD are intertwined, and highlighting the need for a broad as opposed to siloed approach when measuring these impacts. The results of the studies presented in this thesis informed the development of a new framework that facilitates this broad approach. It considers personal impacts, network impacts, and society impacts, including measuring both intended and unintended outcomes, considering enablers and barriers to impacts, and acknowledging that in the complex systems of healthcare and education impacts are likely to be influenced by more than just attending CPD programs. For example through applying new knowledge and perspectives (personal impacts), individuals may make changes to their practice (dependent on barriers and enablers) which can in turn influence further personal impacts such as achievement and recognition, as well as network impacts such as benefits to learners, patients and organisations. These network impacts have the potential to influence society impacts e.g. the quality of health professionals through improved education. This framework will allow future evaluations of CPD programs to more accurately capture return on investment, and direct funding to programs that are providing benefit to health professionals, and ultimately their patients, learners, colleagues, and organisations.

References

- Allen LM, Palermo C, Armstrong E, Hay M. Categorizing the broad impacts of continuing professional development: a scoping review. *Med Educ.* 2019;53(11):1087-99.
- Allen LM, Hay M, Armstrong E, Palermo C. Applying a social theory of learning to explain the possible impacts of continuing professional development (CPD) programs. *Med Teach.* 2020;42(10):1140-7.
- Wenger E. 1998. *Communities of practice: learning, meaning and identity.* New York: Cambridge University Press.
- Allen LM, Palermo C, Armstrong E, Hay M. Measuring impacts of continuing professional development (CPD): The development of the CPD impacts survey (CPDIS). 2021;43(6):677-85.



13J3 (0545)**Date of presentation:** Wednesday 31st August**Time of session:** 10:40 - 11:00**Location of presentation:** Rhone 2

Tying the knot between faculty development and educational change in clinical settings

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Introduction

Clinical workplaces offer important learning experiences for the next generation of health professionals, and clinicians serving as supervisors and educators are critical for the quality of learning in these settings. However, many clinicians are unprepared for their teaching responsibilities, and the complexity and changing nature of health care present substantial challenges that threaten the quality of clinical education. In the endeavour to address these concerns, faculty development has been singled out as fundamental and there is now widespread provision of activities aiming to support teaching clinicians and essentially to improve clinical education. While these initiatives are often appreciated by participants, there are questions regarding their impact on teaching practices and the inadequacy of current research approaches in addressing how faculty development may contribute to change in practice. Yet, such understandings are crucial for faculty development to enhance the quality of teaching.

Methods

The overall aim of this thesis was to explore faculty development and educational change in clinical settings. The thesis employed a socio-cultural perspective and activity theory was applied to emphasise individuals as acting within social and cultural systems. Four qualitative studies were conducted exploring the experiences of clinical educators, here defined as clinicians with designated teaching roles besides their clinical responsibilities. *Study I* explored how clinical educators' engagement in faculty development was affected by the systems they act within. *Study II* applied a multi-institutional collective case study design and explored experiences of working with educational change in clinical workplaces from the perspective of clinical educators from two different countries. *Study III* explored how clinical educators integrated educational innovations developed in a faculty development programme into their clinical workplaces. Building from the same programme, *Study IV* identified aspects of that programme that had supported participants in working with educational change in practice.



Results

The findings suggest that tensions arise between the activities of education, research and patient care as their objects are partially misaligned, and that the activity of education is afforded low value and priority. This is for example manifested in the organisation and management of teaching, the attitudes and beliefs about teaching within the clinical community and the lack of resources and incentives for teaching within clinical settings. The findings illustrate how these tensions limit clinical educators' opportunities for faculty development and educational change beyond individual and administrative dimensions of teaching. Further, the thesis offer insights into how educational change may unfold in the clinical workplace following faculty development and emphasise this as dynamic and collaborative processes that are highly influenced by the workplace context, and thus challenges the widespread idea of linear knowledge transfer. In contrast, collaborative knotworking is put forward to more rightfully conceptualise how faculty development can contribute to educational change in clinical settings, highlighting that both faculty development participants and their workplace communities are active agents influencing processes of change.

Discussion And Conclusion

This thesis contribute to the understanding of educational change as dynamic, interactive and influenced by the context in which it unfolds. The thesis also illustrates how clinical educators' agency and approaches to change are shaped by structures in their workplaces, and that their elbow room to work with educational change is constrained due to the tension between activities in clinical settings. As such, the findings challenge the overreliance on individual approaches in faculty development, and alludes to the limitations of conceptual underpinnings of traditional faculty development emphasising transfer of stable knowledge and skills. In sum, the thesis argues that current faculty development may need rethinking if it is to tie the knot with educational change in clinical settings, and, in essence, if it is to enhance teaching in the health professions.

References

Elmberger, A. (2021). *Tying the knot between faculty development and educational change in clinical settings*. [Doctoral dissertation, Karolinska Institutet, Stockholm, Sweden]. Retrieved from <https://openarchive.ki.se/xmlui/handle/10616/47745>



ePosters - Technology Enhanced Learning

13K01 (4445)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:05

Location of presentation: Tete d'Or 2

ADHD College Students' Acceptance of Learning Management Systems

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Background

The impact of the rapid evolution of information and communication technology has resulted in digital learning as a premier education strategy that has empowered the acquisition of knowledge and skills for effective outcomes in education. The number of college students with Attention Deficit Hyperactivity Disorder ADHD has increased in recent years, according to studies on this population. This underscores the importance of this study's goal of identifying the factors that affect how college students with ADHD accept and use Learning Management Systems LMS.

Summary Of Work

A quantitative research design was used with a theoretical model by Venkatesh et al., 2012 that helped to generate hypotheses. This included collecting data focused on the factors that most influence behavioral intentions of 79 college students with ADHD as the target population to accept LMS in alignment with Venkatesh et al., 2012 model's variables. A detailed data collection plan will be presented that was analyzed using SPSS version 25. Multiple linear regression was used to find the model variables that have the greatest influence on behavioral intention to accept LMS among the target population.

Summary Of Results

According to the findings, performance expectancy, gender, and hedonistic motivation are the main factors in the evidence-based model that have a substantial impact on college students with ADHD who want to utilize LMS to overcome learning difficulties.

Discussion And Conclusion

This study shed light on the factors that influence the use and acceptance of online learning among college students with ADHD. In conclusion, this study highlighted the need for further research on the related issues and wider spectrum of learning disabilities in college students whereby online



learning becomes a means of empowerment aimed at addressing challenges in the education process.

Take Home Messages

Online learning can facilitate and enhance learning for college students with Attention Deficit Hyperactivity Disorder ADHD.



13K02 (4428)

Date of presentation: Wednesday 31st August

Time of session: 10:05 - 10:10

Location of presentation: Tete d'Or 2

Clinical Learning Expedition: from hospitals wards to online platforms, Sudan experience.

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Background

Clinical learning norms have changed during COVID-19 and we had to survive the situation, so E-learning is being used all over the world. Sudanese universities are affected by that change and online clinical learning was unprecedented before the pandemic in Sudan. Our aim is to study medical students' opinions on online clinical learning at Khartoum university, so online clinical learning gives the optimal benefit for them.

Summary Of Work

A qualitative study conducted at Khartoum University, faculty of medicine. We recruited 42 medical students (11 males, 31 females) from different para-clinical and clinical years through purposive sampling. Data were collected through 7 focus groups discussions (FGDs) after a pilot focus group. FGDs were recorded and then transcribed. Thematic analysis was performed to analyze the data using ATLAS.ti9.

Summary Of Results

Two Main themes emerged constituting students' perceptions about online clinical learning experience (OCL); (modality and related satisfaction) and (barriers). Students encountered different models of OCL varying from virtual, pre-recorded videos , google images with voice notes to YouTube videos. Students related their satisfaction to modalities used; they were satisfied with the virtual model; considering it to be informative and good preparation for physical rounds as it made them overcome history-taking hesitance. While the majority weren't satisfied with other modalities viewing them as lecture-like, lacking the practical hands-on experience, with no contact with patients and no space for questions, making them "the worst clinical learning experience" as they stated. Most of the students didn't attend the OCL because of electricity and network issues they faced ;



being medical students in a third world country. Others mentioned lack of motivation as a reasonable barrier.

Discussion And Conclusion

Students debated whether online clinical learning can't substitute face-to-face learning. But they agreed that principles of the online learning model and learning outcomes should be rigorously and regularly evaluated to monitor its effectiveness.

Take Home Messages

- There's a need to assess students' perspectives about online clinical learning.
 - Students must be involved in the evaluation of the E-learning
 - online clinical learning can be used to facilitate the transition to clinical learning environments
-



13K03 (3726)

Date of presentation: Wednesday 31st August

Time of session: 10:10 - 10:15

Location of presentation: Tete d'Or 2

Sound and vision: combining podcasting and tweetorials for effective medical education

Stephen Collins¹

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Background

Medical education has evolved significantly over the past decade with the rapid growth of online platforms such as podcasting and social media. Medical podcasting was initially produced by medical schools and journals, but has now shifted primarily to individuals offering their expertise in a more independent and interactive way.

In addition to podcasting, social media has become more tailored as an educational platform. Tweetorials – collections of 10-15 threaded tweets to teach users on a specific topic – have emerged as a popular method for sharing medical knowledge on Twitter, but questions remain about the best way to structure these tweets and track their impact.

Summary Of Work

Our podcast, the MDTea Podcast, started in 2016 to educate people about ageing and now has more than 100 episodes with over 420,000 downloads. We release podcast episodes fortnightly, and began producing tweetorials at the start of 2022 on the weeks in between. We have found this to be a complementary strategy, as the tweetorials point people to our podcast, while also allowing an educational dialogue with our listeners and followers that wouldn't otherwise be possible.

Summary Of Results

Twitter analytics show evidence of significant audience engagement with our tweetorials. During the first month of publishing tweetorials, our Twitter profile visits increased by 35.8% compared to the previous month, and mentions (when a user tags us in a tweet/reply) went up by 253.8%. At the same time, our podcast listener numbers are climbing at a sharper rate than ever before.

Discussion And Conclusion

These figures indicate that the hybrid approach of podcasting and tweetorials has resulted in audience growth and increased engagement with the topics we are teaching. On this basis, we intend



to continue this strategy and encourage other medical educators to consider it. Further quantitative and qualitative research is needed to evaluate user experience and to assess if learning is reinforced with this method.

Take Home Messages

- Combining audio podcasting and tweetorials can be an effective way of teaching medical education in a way that is interactive and memorable.
 - As well as being a helpful promotional tool, social media has vast potential for multimedia teaching through formats like tweetorials.
-



13K04 (2568)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:20

Location of presentation: Tete d'Or 2

'There's a lot more in videos than just watching!' Designing and developing interactive linker videos for competency-based medical curriculum

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Background

Educational videos are proven to be powerful tools in improving educational outcomes. Videos, when developed, effectively reduce cognitive load and promote learning. Therefore, we aimed to develop interactive linker videos focussing on the key clinical conditions relevant to the first-year medical undergraduates integrating the concepts of basic sciences. We also intended to obtain feedback and willingness of medical students and staff acting in those.

Summary Of Work

We first identified ten key clinical conditions from the organ systems for developing videos (e.g., Stroke for CNS). We then compiled the core competencies of Anatomy, Physiology, and Biochemistry and tagged them to the keywords of the script. The videos were shot in the hospital's triage set-up to simulate a realistic environment. To make them interactive, we included pauses with MCQs, clinical findings, investigations for the students to analyze. Medical students, teaching, and non-teaching staff who were willing acted in them. Their feedback was obtained using a questionnaire.

Summary Of Results

Ten-minute videos were developed using clinical scenarios linking the basic-science concepts in their management. Of the 13 responders to the feedback who acted in those videos, seven were highly comfortable in acting. All opined that the topics were essential and videos would help students to correlate basic sciences with clinics and guide them on how to deal with patients in emergency conditions. Seven were highly interested in acting in the future. The reason was they found it an excellent opportunity to perform as well as to learn, helping students in their learning process, and was a fun learning experience.



Discussion And Conclusion

Developing compelling linker videos require teamwork and expertise. Aligning basic sciences competencies to clinical scenarios enables the integration of concepts. Involving stakeholders such as students and staff while creating videos offers them a chance to contribute to others' learning, making the learning process enjoyable. However, the impact of these videos on students' learning needs to be explored further.

Take Home Messages

Involving stakeholders, one can develop interactive videos linking the basic science competencies with the clinical concepts to enhance curricular delivery. Students and staff expressed extreme willingness to be a part of creating such videos.



13K05 (2798)

Date of presentation: Wednesday 31st August

Time of session: 10:20 - 10:25

Location of presentation: Tete d'Or 2

Introduction of the game-based learning activity in radiology education: How about clinical students' perspectives?

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Background

According to about 15 years of teaching experience, lack of student engagement is one of the problematics in clinical students particularly with lecture-based learning (LBL). Over the past decade, the development of active teaching strategies is primarily for solving learning problems. Thus, game-based learning (GBL) via Kahoot! was innovated in a part of the active teaching methods in radiology education. This study aimed to approach students' attitudes towards GBL and LBL.

Summary Of Work

Sixty fifth-year medical students in Buddhachinaraj Hospital who participated in the radiology elective course in academic year 2021 were included. All students were initially assigned to study in both 3-hour LBL and 3-hour active learning with film reading and Kahoot! regarding gastrointestinal system. After the end of the classes, the questionnaire-based survey performed with 5-point Likert-scale assessment about their attitudes (9 items of positive feedback were interest, enjoyment, learning atmosphere, creativity, motivation, engagement, lifelong learning, English proficiency, and confidence; and one negative feedback was stress) towards each learning method was collected. The qualitative data was analyzed by median and Wilcoxon Rank-Sum Test.

Summary Of Results

The student response was 100%. From their opinions, they had positive attitudes with average high scores in all items (9/9) towards both GBL (median4-5: Q1,3=3,4-4,5) and LBL (median4: Q1,3=3,4-4,5). However, the overall students significantly preferred GBL to LBL especially the issue of interest, enjoyment, learning atmosphere, creativity, motivation, and engagement ($p < 0.05$). Meanwhile, concerning stress as the negative attitude, the students reflected that there was no significant difference in between two teaching methods ($p = 0.262$). Despite greater satisfaction, the GBL sometimes experienced with internet instability that could be barriers for learning.



Discussion And Conclusion

Not surprisingly, the students tended to be more satisfied with GBL because the activities of gamification could enhance their capabilities by using competition, entertainment, and some advantages such as rewards. Moreover, the game also made better instructor-student relationships from in-class participation, two-way communication, and informative feedback.

Take Home Messages

Game-based learning is thoroughly beneficial for teaching medical students in the current era in order to produce more student engagement and suitable learning atmosphere. Therefore, this creative technique should be added in the teaching strategies for the improvement of students' comprehension.



13K06 (2956)

Date of presentation: Wednesday 31st August

Time of session: 10:25 - 10:30

Location of presentation: Tete d'Or 2

Human Anatomy teaching: face-to-face vs distance learning. A longitudinal study of students' perspective at Sapienza University of Rome

Giuseppe Familiari¹, Rosemarie Heyn¹, Francesca Alby², Selenia Miglietta¹, Pietro Familiari³, Cristina Zucchermaglio², Michela Relucenti¹

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Background

The Covid-19 pandemic impacted students causing, for the first time a shift from the face-to-face to the distance learning modality. A class of undergraduate Medicine degree course attended the first part of the human anatomy course online during the lockdown of the first wave of the pandemic, then the same class attended the second part of the anatomy course in face-to-face modality when the face-to-face education was restarted. The sudden transition to distance learning was challenging, online lessons were implemented with the use of a teacher professional Facebook profile and YouTube channel, and with 3-D virtual reality offered by the digital anatomic table (Sectra®). Those instruments allowed active interaction with students.

Summary Of Work

To evaluate the effects of transition between face-to-face and distance learning on the same class of students (n= 182) who attended anatomy modules in the two different modalities, a survey was administered (containing 16 multiple choice questions and 1 open-ended question), concerning students' opinion on classes usefulness, perspective on online course management, and impact on their skill and mood. Answers were collected as a data set and analyzed by descriptive statistical analyses.

Summary Of Results

Students appreciated both education modalities, although with different motivations. In the face-to-face classes, interaction with the teacher (71.1%) was appreciated. In the online classes, the multimedia resources access (23.3%) and the self-organization of study timing according to individual needs (21.4%), was appreciated. Students referred that psychophysical stress suffered during the lockdown period affected the study causing difficulties in concentration (33.6%), time management (19.5%), and reducing productivity in learning (28.3%).



Discussion And Conclusion

In summary, 51.3% of students preferred face-to-face classes, whereas 40.8% preferred online classes, and 7.9% stated that they have no preferences. Face-to-face and distance education have different advantages, integration of some distance learning activities in the usual face-to-face course will enrich the anatomy course with instruments corresponding to the needs of the individual students.

Take Home Messages

Distance interactive education in human anatomy can be an effective integrative tool for face-to-face lessons, by facilitating a personalized learning modality, respecting the times and the individual needs of the students.



13K07 (3264)**Date of presentation:** Wednesday 31st August**Time of session:** 10:30 - 10:35**Location of presentation:** Tete d'Or 2

Microlearning and the Effectiveness of eLearning Instructional Aides compared to Recorded Classroom Lectures

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¹ *Western University of Health Sciences, Pomona, USA*

Background

In the post-COVID-19 environment, students have come to rely on multiple EdTech modalities, with faculty seeking new ways to present asynchronous content focused on enhancing student learning. Microlearning has been demonstrated to be more effective at learning, digesting, and retention. We set out to identify if the implementation of an eLearning module (Instructional Aide/IA), segmented into microlearning chunks, will increase student-perceived learning effectiveness, appeal, and general satisfaction versus that of archived recorded video lectures.

Summary Of Work

391 medical students were provided access to both the microlearning e-module and the recorded lecture. Created using Rise360 software, the microlearning module included short video lectures, text, images, and interactive learning assets. The module was segmented into microlearning chunks. Students were asked to evaluate the IA and compare their experience to previously recorded video lectures, with the same topic for both learning modalities. A feedback survey was provided at the end of the course and included questions to evaluate the IA's effectiveness, appeal, and general satisfaction.

Summary Of Results

305 respondents were included in the final analysis (78%). Those who agreed or strongly agreed in the increased effectiveness of the IA ranged from 24.9%-32%, with 32% of students agreeing they felt more engaged with the chunked chapter content format. 28.6%-42.9% agreed or strongly agreed there was an increased appeal to the IA, with the majority identifying that they were satisfied with the look and visual clarity of the IA. When asked about the overall satisfaction of the IA compared to the archived video recordings, overall satisfaction ranged from 16.9%-49.2% with 49.2% stating that they would prefer future lectures to be structured in a microlearning and chunked chapter content format.



Discussion And Conclusion

Qualitative student feedback supported the quantitative data and identified guidance for further considerations in future IA development. Though the microlearning process was appreciated, some students were not prepared for change. Perhaps in the absence of the recorded lecture students may better appreciate the microlearning process.

Take Home Messages

- Microlearning may enhance the learning effectiveness of medical students.
 - Students appreciate the organization and visual clarity of the microlearning structured lectures.
 - Medical students would prefer that future lectures be structured in a chunked microlearning format.
-



13K08 (3507)

Date of presentation: Wednesday 31st August

Time of session: 10:35 - 10:40

Location of presentation: Tete d'Or 2

Free Text Responses – a comparison of evaluation methods in constructed response items

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Background

Online assessment has increased importance in the context of a pandemic. When assembling cases, quizzes and problems, we have known since McCarthy's work in 1966 that cues provided in selected response items strongly influence candidate performance and item validity. However, case authors avoid constructed responses because of the challenges in evaluating them.

Summary Of Work

Using the OLab education research platform, we compared various approaches in evaluating constructed responses. Based on author needs, the platform has expanded the variety of methods for handling free text, including keyword matching, regular expression parsing, peer-reviewed response assessment, chat-based hybrid conversational interpretation and AI-assisted natural language understanding. We compared the complexity of case design afforded, their use cases and the axiology or value of the various approaches.

Summary Of Results

Emulation of exam environments has been a popular use for the OLab platform. Authors are able to construct cases and patient management problems that closely simulate those seen in high stakes exams. Handling free text inputs is now increasingly feasible and scalable, without a huge increase in assessment effort. But not all response handling methods provide equal value in all contexts - it is important to match the method to the context and to be clear on what construct you are assessing. AI-assisted natural language understanding is very powerful and a useful addition to the authors' quiver but the value proposition is not extensible to all constructs. There is still value in other approaches.

Discussion And Conclusion

Matching the evaluation method with the use case remains important: it is not cost-effective to assume that AI can do everything. Phrasing nuance can be crucial, especially in therapeutic language and critical conversations. These findings apply across a variety of assessment platforms.



Take Home Messages

Consider what you are assessing: communication skills or decision-making

One size does not fit all: variety in how free text inputs are processed is essential



13K09 (1665)

Date of presentation: Wednesday 31st August

Time of session: 10:40 - 10:45

Location of presentation: Tete d'Or 2

Factors increasing pre-clinical medical students' engagement to synchronous online learning in Thailand

Nartthawat Rangsiprakarn¹, Chatsiri Kulramart¹, Surapong Lertthammakiat¹, Pongtong Puranitee¹

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Background

Synchronous online learning (SOL) in the medical curriculum is increasing during COVID-19 pandemics. Engagement of students in SOL results in positive learning outcomes. This study aimed to identify the factors leading to high cognitive engagement (ICAP model) of pre-clinical medical students toward SOL according to the theory of planned behavior framework.

Summary Of Work

This study is a qualitative study using a grounded theory method. The pre-clinical medical students were chosen by purposive sampling and in-depth interviewed individually. The semi-structured interview guide was developed following the theory of planned behavior. The data was collected and analyzed until the saturation was met. The analysis was performed in line with the six steps process of thematic analysis.

Summary Of Results

Fifteen pre-clinical medical students were interviewed. Four themes leading to high engagement in SOL were 1. students' metacognition: understanding their own learning process and preference 2. self-preparedness in both content and equipment before class: increasing students' readiness for SOL and self-confidence to participate more in class 3. positive learning environment: student-teacher and student-peer relatedness initiate engagement and foster social connection in SOL. 4. structure of SOL activities: small group discussion, adequate time-space for preparation before the group activity, organizing the difficulty level of the content appropriate to the learners' prior knowledge and time schedule relevant to students could enhance students' engagement.

Discussion And Conclusion

Components needed in a SOL were not different from those in an onsite interactive session. However, the arrangement of a highly engaged SOL required the cooperation among students and teachers. Students took more responsibility to make them ready for SOL compared to onsite class.



On the other hand, teachers needed acquaintance with the online learning environment, brought about decent course management and knew how to get highly engaged in SOL.

Take Home Messages

Student orientation about how to learn efficiently might fasten the adaptation process in SOL.
Faculty development for understanding the process of students' learning in SOL is also needed.



13K10 (0970)

Date of presentation: Wednesday 31st August

Time of session: 10:45 - 10:50

Location of presentation: Tete d'Or 2

Lines in Intensive care: The creation of an E-learning package as an educational tool during the COVID-19 pandemic

Komal Joshi¹, Alison Li¹, Jonah Powell-Tuck¹

¹ *Guys and St Thomas' NHS trust, London, UK*

Background

The COVID-19 pandemic has changed how medical education is delivered primarily by shifting teaching to virtual platforms. The increase in level 3 COVID-19 patients led to an influx of non-critical care trained staff redeployed to intensive care. These staff require training in the unique skills required to care for ICU patients. Therefore we developed an E-learning package about 'Lines in Intensive Care', made available to all clinical staff and students rotating into the critical care department at Guys and St Thomas' Hospital.

Summary Of Work

The package covers central lines, vascath, PICC lines, midlines and arterial lines. The learning objectives of the module include understanding line equipment, indications, contraindications and aftercare. It also includes procedural demonstration videos and concludes with a quiz to test the users' knowledge. A pre and post module survey was embedded into the programme.

Summary Of Results

22 participants completed the survey. Questions were answered on a scale of 0-10. 0 indicating no understanding at all, and 10 definite understanding. Pre-course, the average score given for understanding how to insert a line and knowing how to confirm correct placement of lines was 2, the post-course score was 7. When asked about understanding how lines are inserted, contraindications and complications for line insertion, the pre-course average score was 3, and the post-course score was 8. An average score of 8 was given to the question 'I found this e-learning package useful in increasing my knowledge of lines and line care'.

Discussion And Conclusion

The results show a clear improvement in users' understanding of the key concepts highlighted. This supports the continued use of virtual learning as a valuable educational tool. Additional benefits for the adult learner such as flexibly, the ability to work from home and saving money on travel costs



should not be underestimated, particularly in healthcare professionals whom often work antisocial hours which can negatively impact their attendance to in person teaching.

Take Home Messages

This project demonstrates the benefits of online e-learning as an educational tool. Even as pandemic pressures ease and face-to-face teaching resumes, educators should appreciate the efficacy of virtual learning as a useful method of teaching.



ePosters - General Practice/Family Medicine

13L01 (1256)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 10:05

Location of presentation: Salon Tete d'Or

Multi-stakeholder validation of Entrustable Professional Activities in Family Medicine

Jose Francois¹, Ben Clendenning¹, Tamara Buchel¹, Derek Fisk¹

¹ *University of Manitoba, Winnipeg, Canada*

Background

The development of Entrustable Professional Activities (EPAs) has generally focused on expert panel approaches, which are often limited to physician stakeholders. Optimally, a much wider group of stakeholders should be consulted and include all people gaining value from trainees' patient care performance. The present study explored the perceptions of a variety of stakeholder groups regarding the relevance and comprehensiveness of EPAs developed for a Canadian Family Medicine Residency program.

Summary Of Work

Through the use of an online survey consisting of dichotomous and open-ended questions, this study explored and compared the perceptions of a variety of stakeholder groups (policy makers, health administrators, health professionals, teachers, and public) regarding the relevance and comprehensiveness of 25 EPAs articulated by a family medicine residency program.

Summary Of Results

Agreement on appropriateness of EPAs ranged from 90% to 100%, displaying a high level of alignment between stakeholders regarding the appropriateness of the 25 articulated EPAs. Stakeholders identify two gap areas within the EPA framework: 1) provision of surgical assistance and 2) addictions care.

Conventional content analysis identified three key themes that cut across multiple areas survey: 1) Interprofessional collaboration (IPC), 2) Inclusivity, and 3) Scope of EPAs.

Comparative analysis consisted of exploring agreements, gaps, and other differences of perspectives between stakeholder groups. Although many of the stakeholder groups made comments regarding IPC and Inclusivity, the patient group in particular was more likely to raise these themes. Comments from patient groups were also overall more general, identifying overarching trends rather than



specific pinpoint issues. Physicians, other health professionals, and resident groups, (ie. health professional groups) on the other hand tended to answer with much more specificity, identifying issues relating to scope of EPAs.

Discussion And Conclusion

A multi-stakeholder approach can feasibly be used to validate an EPA framework. In addition to confirming that a previously articulated set of EPAs largely reflected the range of activities expected of family physicians serving a population, it identified a number of potential area of improvements in the framework.

Take Home Messages

In a social accountable CBME approach, engaging a range of stakeholders in the development and review of EPA frameworks can ensure that outcomes of training align with societal needs.



13L02 (4370)

Date of presentation: Wednesday 31st August

Time of session: 10:05 - 10:10

Location of presentation: Salon Tete d'Or

Family medicine at undergraduate and graduate levels in medical schools at Inspirali, Brazil

Renan Gianotto-Oliveira¹, Lena Vânia Carneiro Peres¹, Flávia Lemos Abade¹, João Carlos Bizário¹, Camila Vieira Sousa¹, Nathan Mendes Souza¹, José Lúcio Machado¹

¹ *Inspirali, Sao Paulo, Brazil*

Background

The national curriculum guidelines for medical course in Brazil determine that, at least, 30% of the workload, provided for the practical internship, be developed in Primary Health Care (PHC).

Summary Of Work

Aiming to value and stimulate performance in PHC, with a focus on family medicine training, Inspirali's faculties of medicine concentrate their efforts in this area both at undergraduate and graduate levels. Student starts his practical internship in family medicine since the beginning of the course, 4 hours per week. Student's performance will have increasing degrees of competence, in knowledge, skills, attitudes, values and ethics, until the completion of the course.

Summary Of Results

Because student has contact with family medicine since the beginning of the course, he/she is much more familiarized when arriving at the exclusively practical internship (5th and 6th year). Students are more confident and even more prepared for centered on the person under care, promoting patient safety, with clinical reasoning that even considers quaternary prevention in the approach and with a longitudinal and integrated experience of patient and family care in primary health care.

Discussion And Conclusion

Although the Inspirali schools emphasize the importance of family medicine for students, culturally, in Brazil, this specialty is still undervalued in the medical environment. Doctors usually look for other medical specialties such as pediatrics, gynecology and obstetrics, general surgery, cardiology, psychiatry, among others. To stimulate the growth of this medical specialty that is so important in our country, Inspirali's faculties of medicine invest in practical internships throughout graduation and in medical residency vacancies in family medicine, mainly in remote regions of Brazil. We currently have 70 scholarship openings per year. It is by valuing and believing in this medical specialty that we hope to contribute to making it more valuable in the medical field and in society in the near future.



Take Home Messages

Teaching and longitudinal learning strategies in Family Medicine, in undergraduate and postgraduate courses in medicine should be more valuable in the medical field.



13L03 (2937)

Date of presentation: Wednesday 31st August

Time of session: 10:10 - 10:15

Location of presentation: Salon Tete d'Or

Simulating continuity of care in general practice: An evaluation of a longitudinal virtual patient pilot in undergraduate medical education

Cornelia Juengst¹, Helen Gabathuler¹, David Harris¹, Catherine Fenn¹, Sue Davies¹, Thomas Dale McLaine¹

¹ *Warwick Medical School, Coventry, UK*

Background

Continuity of care over time is fundamental to General Practice (GP). Virtual patients (VPs) are widely used to simulate one-off patient encounters. To expand on this design and simulate longer-term dynamics of patient care in GP, a longitudinal virtual patient with multiple encounters over time was piloted with 142 second year undergraduate medical students.

Summary Of Work

Seven virtual patient episodes set in GP took place over one academic year, illustrating a patient journey through cardiovascular disease (CVD). Knowledge, expectations and skill enhancement were evaluated pre- and post-activity utilising Likert scales and single answer MCQs. Five semi-structured interviews were conducted.

Inductive thematic analysis was conducted per the six-step framework by Brown & Clarke (2006).

Summary Of Results

Three-quarters (n=142, 75%) of students chose to engage. 120 pre- and 27 post activity questionnaires were completed.

Knowledge of CVD was reported as ok or good pre-activity by 69% of students, rising to 100% post activity and 56% reported benefit to clinical reasoning skills. Student expectations on practicing communication skills were partially met.

Five themes emerged from the interviews:

- Experiencing continuous responsibility with consequences for clinical decisions
- Realism of the representation of patient management in general practice

‘How it will be if we end up being GP’s, that kind of follow up with the patient, ... I really enjoyed.’

- Learning from chronic disease progression over time



'To understand how you work through the journey of someone's illness like this, it makes more sense.'

- Experience of a long-term longitudinal patient-doctor relationship including implications during COVID-19 pandemic
- Role of the virtual patient in addressing individual learning needs

Discussion And Conclusion

The findings are consistent with existing literature on benefits on knowledge and clinical reasoning skills and limitations regarding practicing non-verbal communication skills.

This VP adds a longitudinal element to the classic design, with students reporting positive experience of the dynamics of long-term follow up within general practice, including the long term doctor-patient relationship, experience of chronic disease progression over time and taking responsibility for long-term consequences of clinical management decisions.

Take Home Messages

Longitudinal VPs add value to undergraduate medical education, offering a unique simulation of working in specialties like GP, where continuity of care is fundamental.



13L04 (1367)

Date of presentation: Wednesday 31st August

Time of session: 10:15 - 10:20

Location of presentation: Salon Tete d'Or

Tackling differential attainment amongst GP trainees by introducing 'Culture in Practice' learning sets – An evaluation of the pilot peer support group in Wessex

Sarah Osafo¹, Tessa Lambton², Sharjeel Qureshi³, Camelia Zamfir⁴

¹ HEE Wessex Primary Care Fellow, Poole, UK ² HEE Wessex Primary Care Fellow, Southampton, UK ³ HEE Wessex Primary Care Fellow, Mid Wessex, UK ⁴ HEE Wessex Primary Care Fellow, Portsmouth, UK

Background

Evidence shows that there continues to be differential attainment amongst international medical graduate (IMG) GP trainees compared to their UK counterparts. There has been an increased effort in the Wessex GP speciality training programme to change this narrative. Research suggests there is a benefit to having peer support in medical training. Therefore, a peer support group called the 'Culture in Practice' learning set was introduced in Wessex. The aim of the peer support group was to allow trainees to access support from their peers, promote inclusion and to celebrate differences in cultures amongst GP trainees.

Summary Of Work

All GP trainees in Wessex were invited to attend the 'Culture in Practice' learning set within their patch. The learning sets were held virtually using the online video conferencing platform Zoom. To evaluate the benefit of the sessions feedback was collated at the end of the sessions from trainees and through feedback forms.

Summary Of Results

The GP trainees that attended the sessions appreciated the value of the sessions and all were able to identify learning needs that had been addressed at the end of the sessions.

Discussion And Conclusion

The Culture in Practice learning sets provided an opportunity for GP trainees to share difficult experiences, have open discussion about cultural differences and receive support from each other.



Take Home Messages

Integrating a peer support group into the GP speciality training programme could help to improve the GP training experience for international medical graduates and tackle differential attainment.



13L05 (0112)

Date of presentation: Wednesday 31st August

Time of session: 10:20 - 10:25

Location of presentation: Salon Tete d'Or

Intern physician's perspectives toward medical school's preparation of undergraduate students for general practices in public health system during internship

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Background

Three-year internship is crucial step of transition in a physician's career in Thailand. During this process, interns must transform from students in medical schools to general practitioners in primary or secondary care units. There are several factors which render interns feel unprepared for general practices such as insufficient clinical knowledge, lacks knowledge in medical laws and difficult multidisciplinary communication. This study aimed to explore and compare perspectives regarding medical school preparation of interns graduated from Phramongkutklao College of Medicine for clinical practice.

Summary Of Work

This study focused on first- and second-year interns. The questionnaire included 5-Likert scale covering 6 perspectives of preparation (clinical knowledge, health system knowledge, medical ethics and laws, continuity of medical education, technology usage and communication skills) and commentary section. All 6 perspectives were validated with item objective congruence (IOC) ≥ 0.50 with alpha coefficient 0.939. SPSS 23.0 was used for analysis with One-way ANOVA for comparing all perspectives and t-test for between groups comparison.

Summary Of Results

Of 74 responses, 86.11% were first-year interns. They perceived that medical school's preparation for health system knowledge was significantly lower than other aspects ($F=11.082$, $p=0.001$). First-year intern had higher preparedness on medical ethics and laws than second-year intern ($t=2.066$, $p=0.042$). Male physicians had higher preparation for communication than females ($t=2.412$, $p=0.018$). Most comments were issues about confidence in patient management and knowledge in health system sciences.



Discussion And Conclusion

General practices during internship requires amalgamation of several factors other than clinical knowledge. Health system sciences education is one of these factors, but in interns' perspectives, they were not well prepared for this field by medical schools. All domains of health system sciences should be the third pillar which integrated with basic and clinical sciences in the curriculum from early medical schooling years. Preparation for medical ethics and laws should be focused to prevent ethical defragmentation following working years. Female students should be prepared for multidisciplinary communications in future career.

Take Home Messages

Further studies on preparing students for public health systems and curriculum plans for incorporating health system sciences are recommended, as with medical laws & ethics and communication skills.



13L06 (2986)

Date of presentation: Wednesday 31st August

Time of session: 10:25 - 10:30

Location of presentation: Salon Tete d'Or

Enjoyment as an imperative: a combined observational and video stimulated reflection study on learning from group discussion of health data

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Background

Audit and Feedback (A&F) reports offer a plentiful source of health data for learning in continuing professional development. A&F has a mild positive effect on professional practice, but literature findings show large heterogeneity due to differences in setup of interventions. This raises the question how to design an effective A&F session. A promising type of intervention seems to be group discussion of A&F, although little is known on how this works.

Summary Of Work

In order to understand how learning occurs during A&F group discussion, we conducted a combined observational and video stimulated reflection study on a best practice group. In this best practice, a peer group of general practitioners discusses their individual A&F reports. Two A&F meetings were filmed and eight, video led, interviews conducted. Observations were made from the videos and complemented with logs. Data was analysed thematically.

Summary Of Results

Preconditions necessary for group learning from A&F were: a strongly motivated and robust initiator/moderator, timely data and an atmosphere of trust and 'gezelligheid' (Dutch, no direct translation in English, comparable to Danish 'hygge', meaning sessions should be in all ways enjoyable), to ensure participants to engage. When these preconditions are met, group discussion about A&F facilitates different levels of learning, varying from: exchange of knowledge and experiences, reflection on daily practice, developing a personal stance on a subject not dictated by guidelines, and exposing joined problems within the common context while creating momentum to tackle these.



Discussion And Conclusion

The variety in levels of learning within these meetings shows potential, while also demonstrating the necessity for clarity on the common purpose of the meetings, in order to prevent scattering of the meeting and therefore of the learning impact. An enjoyable atmosphere as a necessity, rather than a pleasantry, is an interesting finding, that may be explained by the voluntarily character of these meetings. Found learning mechanisms could help design of future A&F interventions. Further research is needed to translate these findings into different contexts.

Take Home Messages

Group discussion of A&F is a promising intervention to optimise impact of individual A&F reports due to a large variety of activated learning mechanisms.

Sessions should be enjoyable for optimal learning.



13L07 (4279)

Date of presentation: Wednesday 31st August

Time of session: 10:30 - 10:35

Location of presentation: Salon Tete d'Or

Developing a new combined training pathway in General Practice

Olivia Jagger¹, Jonathan Rial¹

¹ HEE, Working across Wessex, Otterbourne, Winchester, UK

Background

The new Combined Training scheme encourages trainees into general practice from other specialties by counting transferable experience to reduce overall length of GP training by up to 12 months. Improving flexibility in training is a key initiative by Health Education England (HEE) to address the GP workforce crisis. In 2021 applicants to GP training expressed the highest ever interest in Combined Training.

Previously two alternative routes existed into GP training that shortened overall time in training, known as 'flexible training pathways'. Trainees transferring into GP training from other GMC approved specialty training qualified with Certificate of Completion of Training (CCT). Trainees combining alternative UK or overseas training or experience were awarded Certificate of Eligibility for GP Registration (CEGPR) but could not CCT because they hadn't spent a total 3 years in GMC approved training. The application for CEGPR was longer, more expensive and had career implications as some countries do not recognise it as a qualification.

In 2021 the GMC updated guidance awarding all 'flexible trainees' CCT if they demonstrate transferable competencies and successfully complete GP training. Existing 'flexible training pathways' were replaced by one Combined Training scheme. The application was streamlined and costs standardised. All trainees who successfully complete Combined Training are awarded CCT.

Summary Of Work

As an HEE Fellow I worked with the Royal College of General Practitioners and FourteenFish to integrate the Combined Training application into the Training Portfolio, produced website content with key information for interested trainees and step-by-step 'how-to' application guides. I conducted a pilot testing the new application process to inform improvements. I met with Deanery leads across England to introduce and troubleshoot the new scheme.



Summary Of Results

Creating one application process, integrating it into the online Portfolio and highlighting key information makes applying easier and reduces the administrative burden as applications increase.

Discussion And Conclusion

The new Combined Training scheme allows trainees to carry over capabilities more easily if they choose to change specialty and is anticipated to attract more trainees into GP training.

Take Home Messages

Combined Training allows GP trainees to reduce overall length of training by counting transferable competencies. Improving flexibility in training is key to addressing the workforce crisis.



13L08 (4205)

Date of presentation: Wednesday 31st August

Time of session: 10:35 - 10:40

Location of presentation: Salon Tete d'Or

Educational affordances of a virtual COVID-19 clinic: How a pandemic helped residents develop clinical reasoning and practice the principles of family medicine

David Rojas^{1,2}, Samantha Inwood³, Betty Onyura^{2,4,5}, Nicole N Woods^{1,2,6}, Ruth Heisey³, Risa Freeman¹

¹ University of Toronto, Toronto, Canada ² The Wilson Centre, Toronto, Canada ³ Women's College Hospital, Toronto, Canada ⁴ Unity Health Toronto, Toronto, Canada ⁵ Centre for Faculty Development, University of Toronto, Toronto, Canada ⁶ The Institute for Education Research, Toronto, Canada

Background

Although some medical specialties have used virtual care (VC) for decades, few studies have investigated the educational impact of training in a VC environment on residents. Early in the pandemic, the Family Medicine (FM) department at Women's College Hospital, Toronto, Canada rapidly developed a virtual clinic for monitoring and treating patients with mild to moderate COVID-19 symptoms. A multi-disciplinary team of physicians, nurses, social workers and other allied health professionals supported the clinic. FM residents were invited to participate in the care team. The purpose of this study was to identify the educational affordances and limitations of the clinic for residents.

Summary Of Work

We conducted n=12 interviews with FM residents from October - December 2020, and received n=5 completed exit surveys. The interview data were analyzed using inductive coding and thematic analysis.

Summary Of Results

Results showed the perceived educational value of the clinic for trainees, how trainees developed and adapted their clinical reasoning skills, limitations to training and learning in a VC setting and strategies to improve future training in VC. Findings show that the setup of the clinic, combined with the pandemic context, invited residents to practice various principles of FM. Results also show that providing VC required expertise in history taking and physical examination skills in a non-VC environment.



Discussion And Conclusion

Residents were able to further develop skills beyond providing VC. From deeper conceptual understandings of health issues to practicing advocacy, collaboration, continuity of care, and communication skills, this study suggests that training in VC offered learners an opportunity to pivot and build upon previous knowledge. Instead of requiring new skills to deliver VC, this study shows that VC helps further develop previously acquired skills.

This study examined the impact of VC from an educational perspective. We found that training FM residents in a VC environment can contribute to trainee development and skill-building opportunities beyond learning to work with technology.

Take Home Messages

- VC can provide valuable learning opportunities to trainees, the applications of which may extend beyond virtual practice
 - Clinics integrated with a variety of health professionals can provide residents with inter-professional development and an opportunity to practice the principles of family medicine
-



Workshop 13M (2832)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 3A

Effective use of discussion boards - evidence based approaches to faculty development for online teaching environments

Linda Jones¹, Qabirul Abdullah², Abdullah Qazi², Susie Schofield²

¹ *University of Dundee, Centre for Medical Education -, Dundee, UK* ² *University of Dundee, Centre for Medical Education, Dundee, UK*

Background

This workshop draws on research funded through an ASME, Excellence in Medical Education Award. The mixed method study included a scoping review, documentary and discourse analysis of both post graduate medical education and Dundee's undergraduate medical programme. The work began before the pandemic, but as we see significant increases of online and blended courses continuing to be feature of health care education. it is likely to be of significant interest going forward. We believe discussion boards (DBs) are where students develop a sense-of-belonging and our outcomes identify, not only how to design activities which optimise peer interactivity but also frameworks which can enable faculty development and help transfer medical educator skills from face-to-face teaching to online environments.

Who Should Participate

Anyone wishing to enhance the use of discussion boards and gain ideas for transferring skills knowledge and understanding of face to face pedagogy to the online environment.

Structure Of Workshop

A workshop of four parts:

- Exploring evidence based definitions, frameworks, dilemmas
- Consideration of faculty development needs and sharing of hints and tips
- Space for participant reflection on their own experiences incorporating ideas from the workshop
- Personal goal setting

Intended Outcomes

To have Disseminated outcomes of our study, key terms and concepts from the online world



Provided space for participants to recognise and articulate issues experienced and faculty development ideas with international peers

Worked collaboratively to integrate online educational frameworks with their own experiences of online pedagogy

Enabled participants to articulate their own learning needs and ideas for meeting them locally



Workshop 13N (4258)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 3B

Teaching While Training: Developing Trainees as Effective Educators

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Background

Since its earliest days, medical education has been reliant on the concept of near peer teaching. The system of medical education requires junior doctors to educate those that come after them while balancing growing towards competence as a clinician. However, often there are limited outlets to grow as an educator while serving as a clinical trainee. This is particularly challenging in an era where educational skills are increasingly recognized as another competency needed to be gained. This can lead trainees to replicate more traditional didactic teaching methods and feeling lost for where to turn for more innovative, learner-centred strategies. In addition, increasingly pressured clinical environments make finding time to teach challenging, which can make teaching a stressful rather than rewarding experience.

This interactive workshop, organised by the AMEE Postgraduate Committee, will focus on methods of delivering focused, effective teaching for clinical learners 'on the run.' In addition, we will explore ways in which junior doctors can harness teaching opportunities to develop themselves as clinician-educators. We will discuss the challenges of delivering teaching in the clinical environment and achievable ways to overcome these. In particular, we will share experiences of balancing high-quality teaching with effective service provision in practice.

Who Should Participate

This workshop is aimed at trainees such as junior doctors and students, with an interest in improving their clinical teaching.

Structure Of Workshop

Workshop will have a balance between theory and practice, with facilitators sharing real life experiences of developing as a young educator with a lot of practical advice.



Intended Outcomes

Participants will be offered tools to take home, apply to their context and share with their peers. In particular, participants will:

- Learn focused teaching techniques for demanding clinical environments.
 - Develop strategies to balance the demands of clinical training and delivering high-quality teaching.
 - Identify methods to use teaching opportunities to enhance their own development as clinicians and educators.
-



Workshop 130 (2811)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Rhone 4

When applying English grammar rules clashes with your native language: Insights and Tips from the Writer's Craft series

[Christina St-Onge](#)¹, [Sayra Cristancho](#)², [Eva K. Hennel](#)³, [Marije Vanbraak](#)⁴, [Valérie Dory](#)⁵, [Lorelei Lingard](#)²

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Background

The Writer's Craft papers have offered a series of grammar pearls designed to help researchers produce stronger, more memorable manuscripts. However, writers who are not native English speakers may find some of the grammar pearls counter-intuitive and may struggle to consistently apply them. Furthermore, when it comes to collaborative writing in the context of international collaborations, the application of these grammar pearls requires further reflection. For example, it is not uncommon for researchers to encounter grammar or style conventions that clash across languages. Sometimes these clashes can be invisible to co-authors who may interpret a contradictory grammatical convention in the native language as *lack* of grammatical knowledge. This assumption is problematic because it hampers the process of providing and receiving writing feedback that is effective, accurate and respectful.

Facilitators in this workshop recently published a Writer's Craft titled "*When English clashes with other languages: Insights and cautions from the Writer's Craft series*" that uncover and make visible some key grammar contradictions. Using the insights from this publication, in this workshop, we will discuss the nature of common challenges from 4 languages (French, German, Dutch and Spanish) and offer tips to EAL authors and their co-authors to be able to identify and work through some of the nuances of applying the grammar pearls in the Writer's Craft series more successfully.

Who Should Participate

The workshop is designed for EAL authors, and co-authors collaborating with EAL authors, that want help in identifying and untangling potentially misleading grammar choices.



Structure Of Workshop

We will present grammar pearls known to be more difficult to apply by EAL authors. For each pearl discussed in the large group, participants will work through 'vignettes' (problematic writing samples provided by the workshop organisers) in small groups. We will wrap up the session with best practices for providing feedback to EAL authors when it comes to respecting English grammar rules.

Intended Outcomes

- identify common grammar choices made by EAL authors that lead to potential misinterpretation
- practice providing feedback on how to adapt EAL grammar choices to comply with English rules.



Workshop 13S (2030)

Date of presentation: Wednesday 31st August

Time of session: 10:00 - 11:30

Location of presentation: Roseraie 2

Let us flip it together

Nilesh Kumar Mitra¹, Hasnain Zafar Baloch¹

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Background

Flipped class has been defined as a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by the students at home before the class session, while in-class time is devoted to hands-on exercises, projects, or discussions. Flipped (upside down) classrooms focus on active learning and student engagement giving the instructor a better opportunity to deal with mixed levels, student difficulties, and differentiated learning styles during the in-class time. COVID 19 pandemic has forced the academics to incorporate flipped class approach to accommodate the demands of online learning. However students are disengaged in the out-of class learning, often skip the pre-class activities and unable to complete the outcomes. Instructor can not ascertain the students' state of learning in pre-class stage and often lacks the skills to prepare the pre-class teaching material which can be engaging to the students. There is a need for a holistic strategy from the curriculum planner, academic administrators, instructors and learning designers to complete the cycle of flipped class approach

Who Should Participate

Academics teaching the medical and health science courses and tutors assisting in delivery of medical and health science courses. The workshop will be helpful also to the faculty and staff who are associated with training the manpower associated with the healthcare.

Structure Of Workshop

1. Advantages and challenges of teaching a flipped class during COVID 19 pandemic- Presentation 20 Minutes, Group discussion 10 Mins, Presentation 10 Mins
2. Designing the pre-class teaching material --Presentation 30 Minutes, Group discussion based on a template 20 Mins,
Break 10 mins followed by Presentation 20 Mins
3. How to manage group work and feedback during in-class time --Presentation 20 Mins, Group Discussion preparation of a plan 20 Min, Presentation 10 Mins
4. Take home message (summary) 10 mins



Intended Outcomes

At the end of the workshop, the participants will be able to

- prepare online preparatory material effectively for flipped class
- plan the group-work and create a collaborative atmosphere during the class
- assess the effectiveness of the flipped class



Symposium 14A (1140)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Amphitheatre

Assessment in Postgraduate training: from roadblocks to learning support

Paul de Roos¹, Richard Fuller², Linda Snell³, Kenneth Cho⁴, Simon Gregory⁵

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Background

There is a tension between assessment for learning and high stakes examination which functions as a hurdle to take in the long road from being a resident to being a specialist. If our current practices lead to deep learning and better quality specialists, then we are doing the right thing. Are we however doing the right thing? The best evidence in assessment advocates testing often and using a large variety of testing methods, to get a high-resolution view of the trainee, as opposed to the snapshot nature of the board examination.

Topic Importance

We train future specialist colleagues in working according to evidence-based practice and in this context we expect regulators to also obey available evidence while implementing new policies. Licensing bodies, medical educators and residents may have divergent perspectives on what is right and why. With the rapid expansion around the globe of the "competency by design" paradigm of residency training, we need to put tensions between evidence and practice in the use of assessment in the older and newer training paradigms in the spotlight.

Format and Plans

The session kicks off with a combination of personal stories and some reference to literature from the perspective of residents and the impact of high stakes examination on their training and their lives. After this we invite speakers with deep knowledge on resident well being and assessment as well as experience from licensing/regulator perspective to the stage to discuss.

- 1) Are we doing the right thing with regards to assessment to support residents learn?
- 2) Do we really need high stakes board examinations in "a competency by design" paradigm?
- 3) Are high stakes exams in specialist training fit for purpose?



Take Home Messages

Participants will reflect on the strength and weaknesses of their current assessment programs in the training of specialists and gain insight into strengths and weaknesses in current approaches as well as what can help them improve to train high-quality specialists.



Symposium 14B (1120)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Auditorium Lumiere

Community-based medical education in practice

Jeanine Suurmond¹, Katja Lanting², Conny Seeleman³, Suzie Otto⁴, Jeanne Arnold⁴, Winnie Ang⁵,
Liesbeth Verpooten⁵, Janique Oudbier¹

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Background

Community-based medical education (CBME) is medical education that situates the learner's clinical training in a community setting. It exposes students to (future) patients within their social and environmental contexts. Through experiential learning students make a translation from academic knowledge to practical application and students develop more insight into own personal values, professional identity and social responsibility. Despite the importance of CBME, medical schools struggle to implement it in their teaching. In this symposium we will address this gap.

Topic Importance

Currently, students are not sufficiently trained to meet health needs of citizens who live in different social and environmental contexts, and who differ in terms of ethnic background, socio-economic position, or psychological vulnerability. The education of tomorrow's doctors requires teachers and students to understand health as a product of a complex interaction of the person and the social and environmental contexts. CBME is relevant for all CanMEDs roles but particularly relevant for the role of Health Advocate in which care providers contribute their expertise and influence as they work with diverse communities or patient populations to improve health and improve prevention.

Format and Plans

1. Presentations (45 minutes)

In presentations from 4 medical schools and 1 nursing school, from The Netherlands and Belgium, different types of CBME will be highlighted (e.g. as a clinical placement, as an elective, as part of internship) and lessons learned will be shared. Experiences from different perspectives (teacher, student, community-setting) are discussed.

2. Panel discussion (35 min)

The presenters will discuss with each other and the audience the following questions: How and where to integrate CBME in the curriculum? How can you assess it? Can CBME be done online?



Should CBME obligatory or elective? What are barriers and opportunities? The audience is invited to ask additional questions.

3. Wrap-up (10 min)

Summary of the most important do's and don'ts and take home messages to ensure that CBME is optimal for everyone (student, teacher, community setting)

Take Home Messages

CBME can be implemented in any medical / nursing curriculum and can be assessed. We encourage that CBME is obligatory for all students.



Research Papers - Education in Context

14C1 (0544)

Date of presentation: Wednesday 31st August

Time of session: 12:50 - 13:10

Location of presentation: Bellecour 1

The Impact of the COVID19 Curricula on the Future of Anatomy Education: A Systematic Review

Nikolai Gajic¹, Paul Rea¹

¹ *University of Glasgow, Glasgow, UK*

Introduction

Anatomy is the cornerstone of medical education and has been recognized as an essential proponent in facilitating clinicians' functionality in day-to-day practise. [1] In recent decades, the subject has received considerable interest from academics following the curtailment of traditional teaching methodologies, and the pertinence of anatomy's inherently multi-faceted nature to the development of modern teaching modalities. The COVID19 pandemic necessitated anatomy educators across the world to emergently shift entire curricula into a remote format. This inadvertently created a unique opportunity to evaluate the efficacy of online and blended learning methodology. As such, an assortment of literature was published documenting experiences and outcomes observed in anatomical education during the pandemic. However, there is a shortfall of efficacy studies amalgamating this research. The current study aimed to ascertain how anatomy education was implemented during the pandemic, outline strengths and weaknesses of the adjusted curriculum, and how our experiences should inform future pedagogical practise.

Methods

This systematic review was conducted in following the Preferred Reporting Items for Systematic Review and Meta-analyses (PRISMA) guidelines.[2] Key words were contrived and deployed, along with all synonyms, across four electronic databases (Google scholar, Web of Science, PubMed, Embase). Database selection followed guidance prescribed by Bramer et al. [3] Initial searches generated 637 results. After de-duplication, title and abstract screening, full text review and application of outlined exclusion and inclusion criteria, 65 papers were identified and included. The review included articles heterogenous in study design methodology. The literature was appraised using the Quality Assessment Tool for Studies with Diverse Designs (QATSDD), a tool that has demonstrated good agreement in previous medical education research. [3] Data was extracted from the literature from six domains: Publication details, Study design, Technology, Teaching model, Results, and Overall conclusions.



Results

The 65 articles comprised of research from 24 different countries across 6 continents. Most of the research included participants from a solely medical education background (63.1%, n=41), with the remainder stemming from the allied health sciences, stand-alone anatomy, dentistry, and surgery. 65 independent technological resources were described. “Zoom” was the most frequently used software (41.4%, n = 27) reflecting the most utilised mode of technology, video-conferencing software. Anatomy education was delivered through a myriad of online and blended learning approaches. Synchronous methodology, described in 47 studies, included online live lectures, online laboratory teaching and interactive and small group teaching. Asynchronous approaches, described in 50 studies, included the use of pre-recorded videos, online quizzes, and 3D anatomy adjuncts.

Discussion And Conclusion

The papers identified strengths of the novel teaching protocol as improved self-directed student learning, time efficiency, and learner flexibility, as well as prevailing weaknesses such as social isolation, reduced student motivation, and the detrimental impact of losing a ‘hands on’ practical anatomy experience. Notwithstanding, the articles also describe factors that should be considered when optimizing an online learning environment, these include quality assurance of online resources, adequate technological infrastructure, and frequent streams of communication between students and faculty. The findings of the current study imply that educators should seek to encourage student interaction, provide structure, and maintain motivation through face-to-face teaching while supplementing this experience with the flexibility afforded by asynchronous theoretical material. This amalgamation draws upon the strengths of each methodology while mitigating against aspects determined to be less favourable to the learning experience.

References

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14C2 (0843)**Date of presentation:** Wednesday 31st August**Time of session:** 12:50 - 13:10**Location of presentation:** Bellecour 1

Negotiating Humanity: The Invisible Work of Cadaver Based Simulation

Anna MacLeod¹, Paula Cameron¹, Victoria Luong¹, George Kovacs¹, Lucy Patrick¹, Olga Kits¹, Molly Fredeen¹, Jonathan Tummons²

¹ Dalhousie University, Halifax, Canada ² Durham University, Durham, UK

Introduction

Some of the work and workers of medical education are well-known; however, some medical education work happens behind the scenes and is largely invisible, even to embedded members of a medical school community. The complex work of a Human Body Donation (HBD) Program is one such example. The medical education literature has largely overlooked the work associated with HBD and preparing cadavers for educational purposes. The potential of cadaver-based pedagogy, and in particular, cadaver-based simulation (CBS) is striking, particularly with respect to preparing clinicians for High Acuity, Low Occurrence (HALO) events, like emergency intubations. There is a specific expertise associated with preparing cadavers for CBS. Yet, this skill-set is not well-recognized, and has yet to be fulsomely documented.

This is an important gap to address. The promise of CBS relates to the “ontological fidelity” of the cadaver itself. In other words, the essential *humanness* of the cadaver, no matter how much we try, cannot be removed from CBS. This humanness influences, in a positive way, every educational interaction in the simulation, encouraging learners to engage in authentic, patient-centred education, while allowing them to practice invasive procedural skills. Negotiating the humanity of the cadaver as it is transformed into, and then used as, an educational tool, is important education work.

Methods

From September 2018-December 2020, we investigated HBD and CBS activities at Dalhousie University in Halifax, Nova Scotia, Canada. This program is internationally recognized for its state-of-the-art preservation technique, the Halifax Preparation Technique. In this research paper, we make visible the dedication and skill of those who work in the broad areas of HBD and CBS, and honour this ‘invisible’ work which is foundational to medical education.

We conducted a two-year practice-based ethnography (Nicolini, 2017) which involved more than 150 hours of ethnographic immersion in the world of HBD and CBS. This meant spending time in the university morgue, cadaver preparation spaces, and simulation teaching suites. In addition, we collected field notes from formal observations of teaching sessions (n=68 hours), conducted in-depth interviews with anatomy technicians, teachers, learners, and donors (n=24); and analyzed a set of curriculum and policy documents (n=14).



Results

We identified three primary functions of HBD and CBS: 1. Cadaver Intake & Administration, 2. Cadaver Preparation, and 3. Cadaver-Based Pedagogy. We describe how medical educators involved in CBS have developed a unique skillset specific to their role that they apply across each of these roles: Negotiating Humanity. HBD and CBS spans a continuum of work related to negotiating the boundaries of humanity. At one end, the workers are tasked with remembering and honouring donors, which means recalling, respecting, and revering the humanness of the person who offered their body. However, workers are also tasked with the job of storing, transporting, and preparing educational cadavers, which requires a certain degree of detachment from the person who was. The expert ways in which they negotiate this continuum of humanness is an important expertise.

Discussion And Conclusion

This research paper is a testament to the skill of education workers involved in HBD and CBS. As we become more technologically capable, and high-fidelity models become increasingly sophisticated, HBD and CBS is, to some degree, at risk; however, we believe the uniqueness of CBS cannot be reproduced. Having spent hundreds of hours observing and learning about HBD and CBS, what struck us as the unshakable element underscoring all of their practices is *humanness* (MacLeod, 2021). This research paper is a purposeful effort to elucidate the expertise of ‘backstage’ medical educators, appreciating that their careful negotiation of the humanness of cadavers has a meaningful impact on medical education.

References

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14C3 (0552)**Date of presentation:** Wednesday 31st August**Time of session:** 13:10 - 13:30**Location of presentation:** Bellecour 1

An Exploratory Study Of Ethical Concerns During Online Classes Of Undergraduate Medical Students: An Interpretative Phenomenological Analysis

Muhammad Junaid Khan¹, Usman Mahboon², Madiha Gul¹

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Introduction

Ethics is the science of moral principles that govern an individual's behaviors and duties. ¹ It is an umbrella term and focuses on social values and enables an individual to decide what is right and wrong. Ethical concerns are any issues or concerns of individuals beyond the scope of medical ethics. ² The advancement in technology and shift of education to internet-enabled learning give rise to ethical concerns. Many ethical concerns of online learning have been reported for social sciences and distant learning of non-medical education. Yet, little literature is engraved for medical education. These pose a serious dilemma in medical education and strongly needed to fulfil the research gap. ³ By overlooking, it can create unacceptable behavioural traits among students which ultimately can affect patient health. By addressing, it will enable learners, teachers, and policymakers for promoting quality online education. This study explored the ethical concerns of online learning among undergraduate medical students of Pakistan.

Methods

This qualitative study, based on the interpretative phenomenological analysis, was done with undergraduate medical students and their teachers from April to September 2021. Based on the recommendation of Creswell⁴, 13 participants were recruited by homogeneously focused purposive sampling techniques suggested by Smith et al.⁵ after obtaining ethical approval and applying inclusion/exclusion criteria, semi-structured interviews were conducted, Using ATLAS.ti, data was analyzed and presented according to the guidelines of Smith and Osborn. ⁶

Results

Total 13 participants (8 students and 5 teachers) were interviewed for their lived experiences of ethical issues during online learning. Seven master-themes with total 34 emerging themes were abstracted from data. The master-themes were: netiquette & behavioral concerns, competencies, autonomy, trust and safety, justice, digital well-being and respect for diversity. Among the emerging themes, lack of control mechanism over online learning, privacy concerns and students' bullying behaviours were more prevalent.



Discussion And Conclusion

Ethical issues of online classes of undergraduate medical students are multiplex with broader boundaries. The alarming ethical concerns of online learning cognate to the netiquettes of e-users, followed by competencies, autonomy, safety and personal privacy. The sources of origin for these ethical issues are not confined to one but originated from lack of control mechanism or accountability, the ambiguous role of the institute, technical staff, e-learners and e-teacher, absence of real interface, i.e., the virtuality and social norm of students. Responsibility, accountability, academic dishonesty, cyberbullying, and hacking are netted with the e-users' conduct. Whereas privacy concerns, consent taking, training teachers and students for technical and teaching skills are administrative-based ethical concerns of online learning.

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14C4 (0841)

Date of presentation: Wednesday 31st August

Time of session: 13:00 - 13:50

Location of presentation: Bellecour 1

Form and function: How a change in the format of accreditation had functional implications during COVID19

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Introduction

As a high stakes tool that aims to support high quality education, program improvement, population health, and social accountability,¹ accreditation is increasingly becoming a focus of research and scholarly evaluation.² In response to COVID-19, the Committee on Accreditation of Canadian Medical Schools (CACMS) implemented a revised accreditation format for undergraduate medical education programs undergoing accreditation between 2020 and 2021. These revisions included a two-stage virtual meeting schedule, a focused approach for reviewing standards and elements, and the addition of a field secretary to the visiting-team. Our research team conducted a multiple case study to examine and evaluate the implications of this revised format on stakeholders at two schools: the Northern Ontario School of Medicine, and the University of Toronto.

Methods

Forty-six semi-structured interviews were conducted with stakeholders involved in these accreditations. Stakeholders included individuals who prepared for accreditation at each school; faculty members, staff, and leaders who participated in the virtual site visits at each school; members of each of the visiting-teams; and members of the CACMS Secretariat. We applied a sociomateriality lens to analyse ways in which the revised accreditation format reshaped multiple aspects of the accreditation process. From this perspective, materiality is understood as existing beyond artifacts and things, and to be distributed across both physical and social processes.³ In thematically coding the data, we specifically looked for themes that illustrated interconnections between the material changes to accreditation and resulting effects on social and relational processes.



Results

While the revised accreditation process was intended only to alter the format without otherwise affecting the underlying principles of accreditation, our findings suggested that changes to the format had important consequences within and across sites. First, the revised accreditation format introduced new conceptualizations of ways context could best be understood. There was a recognition that students' perspectives about the physical environment may have been more meaningful than the perceptions of a survey team. For stakeholders from distributed settings, the socially distanced format of accreditation also felt more authentic to the way that education was routinely delivered. Secondly, information and knowledge circulated differently within the accreditation system, with the virtual format restructuring conversations in ways that discouraged spontaneous sharing and drew more heavily upon written documentation. Thirdly, power was redistributed across stakeholders, with key leadership voices being more prominent than on-the-ground faculty and teachers. Lastly, the revised format of accreditation allowed for the materialization of hidden purposes and principles of accreditation: stakeholders lamented the lost opportunities for informal learning and sharing that would have traditionally arisen within and between medical education programs; they also drew attention to tensions within the accreditation system that resulted from attempting to impose standards across complex medical education contexts.

Discussion And Conclusion

These findings highlight that the format of an education process has material effects on processes and outcomes and cannot be considered inconsequential. Should changes be made to the format of accreditation in the future, it will be important to continue to evaluate how accreditation functions within a system that is as complex as medical education.

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Symposium - 19th Ibero-American Session: Best practices to maintain the clinical learning process during the Covid-19 pandemic

14D (4826)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Bellecour 2

19th Ibero-American Session: Best practices to maintain the clinical learning process during the Covid-19 pandemic

Marcos A. Núñez Cuervo¹, Jordi Pales², Jorge E Valdez-García³, Luis Podesta⁴

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Background

During this academic encounter 4 representatives from the Panamerican Federation of Associations of Medical Schools and Iberoamerica will present during the AMEE 2022 annual meeting a summary of best practices identify in four different countries and scenarios to maintain the learning process in the clinical set during the critical days of Covid-19 pandemic; when we could not use hospitals and clinical sets to train our students.

Format and Plans

Moderator: Dr. Marcos Nunez C, FICS, M.Ed (PAFAMS President)

Speakers from: North America, Caribbean, South America and Spain (We will send as soon as possible a list with speakers names an CV's

Take Home Messages

We will share with the audience some examples of four successful strategies used during this difficult and challenge time.



Short Communications - Continuing Professional Development 2

14E1 (1165)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:45

Location of presentation: Bellecour 3

Effectiveness of a multifaceted intervention to improve interpersonal skills of physicians in medical consultations (EPECREM): preliminary results of a randomised controlled trial.

Alexandre Bellier^{1,2}, Philippe CHAFFANJON³, Joey FOURNIER³, Meghann GALLOUCHE³, Sylvain Carras³, Lucie BOSMEAN³, José LABARERE^{1,2}

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Background

Interpersonal skills are key components of effective medical consultations. Although many organisations have implemented structured training programs, limited evidence exists on their effectiveness in improving physician interpersonal skills and altering patient outcomes. The aim of the study was to evaluate the effectiveness of a standardised, multifaceted, interpersonal skills development program for hospital physicians.

Summary Of Work

This study was a randomised, controlled, open-label, two parallel arm trial. Physicians were randomised to receive either a multifaceted training program or no intervention. The experimental intervention combined training sessions, dissemination of interactive educational materials and role-playing. In addition to this training, a review of each video-recorded consultations and individual feedback was conducted. Physicians were required to recruit patients in the pre and post-intervention period. The primary outcome measure was the 4-Habits Coding Scheme (HCS) score assessed by two independent raters before and after intervention. The secondary patient-level outcome measures included therapeutic alliance assessed using the Inventory of the Therapeutic Alliance (ITA). The physician-level secondary outcome measures included self-actualisation assessed using the Maslach Burnout Inventory (MBI) scale.

Summary Of Results

We included 20 volunteer physicians with 10 physicians randomised to the intervention group. These inclusions allowed the video recording of 134 initial consultations. Based on preliminary results, the



4-HCS score was not statistically different between the two groups ($p=0.479$) with an increase of 2.6 points between pre-intervention period and post-intervention period for the intervention group, against 7.0 for the control group. The program improved the therapeutic alliance (ITA scale) with an increase in score of 2.6 points for the intervention group, compared to a decrease of 1.7 for the control group ($p=0.292$). The program improved the physician self-actualisation (MBI scale) with an increase in score of 3.6 points for the intervention group, compared to a decrease of 2.2 for the control group ($p=0.131$).

Discussion And Conclusion

The short educational intervention implemented did not allow hospital physicians to increase their interpersonal skills. The educational program has already led to an improvement in the therapeutic alliance for the patient and personal fulfillment for the physician.

Take Home Messages

We have demonstrated the impact of communication training on the patient and the physician in a high-level evidence trial.



14E2 (2934)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 13:00

Location of presentation: Bellecour 3

Clinical skills in OSCEs and operative dental skills within recertification of foreign-trained dentists in Sweden

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Background

Dentists educated outside of EU who wish to become licensed in Sweden can undergo recertification. To ensure patient safety, participants undergo assessments blueprinted against the intended learning outcomes of a Swedish dental degree. Learning outcomes are assessed in a theoretical examination (TE), a clinical skills examination (CSE), and a six-month clinical placement. CSE is an assessment of *clinical and communication skills* by a 4-station Objective Structured Clinical Examination (OSCE) and operative skills on dental manikins. The TE and CSE are important assessments of application of knowledge and clinical skills to identify acceptable dentists, preceding the clinical placement. Whether theoretical and practical skills examinations are sufficiently diverse is however debated. Therefore, the aim of this study is to explore the diversity between TE and CSE, and CSE's ability to identify acceptable participants.

Summary Of Work

Data were collected from participants passing the TE 2018-2019 and participated in the CSE during 2018-2020, n=80. Pearson and Spearman correlation coefficients were used for correlation analysis between results from CSE and TE. Univariable regression was used for differentiation within OSCE and operative dental skills.

Summary Of Results

A higher TE score reduced the risk of failing CSE (OR 0.9 CI 0.81-0.99), but not by much. No correlation was found between results within specific dental disciplines in the TE and CSE. There was a significant difference between participants who passed and those who failed the OSCEs within



learning outcomes and dental disciplines. A higher score in communicational skills within OSCE was associated with a lower risk of failing OSCE and the CSE compared to diagnostic and clinical skills.

Discussion And Conclusion

The current framework of recertification showed a weak association between TE and CSE. This is an indication that the CSE is valid, in the sense that it assesses capabilities not evaluated in the TE. The CSE positively differentiates acceptable candidates with regards to goal fulfillment and dental disciplines.

Take Home Messages

Efforts to construct a framework for assessment to assess diverse competencies for recertification and to explore validity is important to secure patient safety. Communication skills are vital to reduce the risk of not passing the Swedish clinical skills examination for foreign-trained dentists.



14E3 (3228)

Date of presentation: Wednesday 31st August

Time of session: 13:00 - 13:15

Location of presentation: Bellecour 3

The effect of cognitive reasoning tools for the workplace setting on diagnostic accuracy: systematic review and meta-analysis

Justine Staal¹, Jacky Hooftman^{1,2}, Sabrina T. G. Gunput³, Silvia Mamede^{1,4}, Maarten A. Frens⁵, Walter Van Den Broek¹, Jelmer Alsma⁶, Laura Zwaan¹

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Background

Preventable diagnostic errors are a large burden on healthcare. Cognitive reasoning tools, i.e., tools that aim to improve clinical reasoning, are commonly suggested interventions. However, quantitative estimates of tool effectiveness have been aggregated over both workplace and educational settings, leaving the impact of workplace-oriented cognitive reasoning tools alone unclear. This systematic review and meta-analysis aims to estimate the effect of cognitive reasoning tools on improving diagnostic performance among healthcare professionals and students, and to identify factors associated with larger improvements.

Summary Of Work

Controlled experimental studies that assessed whether cognitive reasoning tools improved the diagnostic accuracy of individual healthcare students or professionals in a workplace setting were included. Embase.com, Medline ALL via Ovid, Web of Science Core Collection, Cochrane Central Register of Controlled Trials, and Google Scholar were searched from inception to October 15, 2021, and supplemented with hand searching. Meta-analysis was performed using a random-effects model.

Summary Of Results

The literature search resulted in 4546 articles of which 29 studies with data from 2732 participants were included for meta-analysis. The pooled estimate showed considerable heterogeneity ($I^2 = 70\%$). This was reduced to $I^2 = 38\%$ by removing three studies that offered training with the tool before the



intervention effect was measured. After removing these studies, the pooled estimate indicated that cognitive reasoning tools led to a small improvement in diagnostic accuracy ($g = 0.20$, 95% CI: 0.10-0.29, $p < .001$). There were no significant subgroup differences.

Discussion And Conclusion

Cognitive reasoning tools resulted in small improvements in diagnostic accuracy for healthcare students and professionals. Future research should identify under which conditions cognitive reasoning tools are most beneficial. Going forward, more large scale studies should test the effectiveness of cognitive reasoning tools before these can be recommended for diagnostic error reduction.

Take Home Messages

Cognitive reasoning tools are often recommended in the literature as promising interventions for diagnostic errors and this is corroborated by the overall modest improvement in accuracy we found. Whether this effect can be maximized to increase its potential use in practice will depend on our understanding of the factors that influence tool effectiveness.



14E4 (2401)

Date of presentation: Wednesday 31st August

Time of session: 13:15 - 13:30

Location of presentation: Bellecour 3

Does it get better? Exploring ongoing experiences and acceptance of telemedicine during The COVID pandemic

Jeffrey Wilhite¹, Zoe Phillips¹, Lisa Altshuler¹, Harriet Fisher¹, Colleen Gillespie¹, Tavinder Ark^{1,2}, Eric Goldberg¹, Andrew Wallach^{1,3}, Kathleen Hanley^{1,3}, Sondra Zabar^{1,3}

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Background

COVID-19 forced health systems to convert to telemedicine almost overnight, many without adequate training or standards. Understanding longitudinal experiences will be necessary to inform ongoing integration of telemedicine into practice. We surveyed practicing physicians a year apart to explore ongoing experiences and training needs.

Summary Of Work

Surveys were distributed May-Jul '20 (following the first COVID wave) and in Mar-Jun '21 to internal medicine physicians practicing in two systems: NYU Langone Health (private) and NYC Health + Hospitals (public). 111 participants were included in analyses. Items included physician experiences with and attitudes towards tele-visits. For analyses, 4- and 5- point Likert scale items were dichotomized (Disagree v. Agree) or grouped into three item responses (More Difficult, Roughly the Same, Easier). Chi-square analyses were used to explore differences by site (public v. private) and assessment year (2020 v. 2021). Items on attitudes toward the future of remote-based care were collapsed into a mean 'telemedicine acceptance' score (scaled 1-4). Regression models identified which items are associated with acceptance.

Summary Of Results

Physicians reported less difficulty with: taking history (49% in 2020, 33% in 2021, $p=.015$); maximizing adherence (33% in 2020, 19% in 2021, $p=.028$); maintaining relationships (31% in 2020, 25% in 2021, $p=.009$); and sharing information within teams (31% in 2020, 27% in 2021, $p=.795$) in the follow-up survey. They reported continued challenges with: new patient relationships (75% in 2020, 77% in 2021, $p=.075$). On acceptance measures, physicians reported increased satisfaction with tele-visits over in-person visits (13% in 2020, 27% in 2021, $p=0.006$) and less worry over future tele-visits (45% in 2020, 31% in 2021, $p=.027$). Fewer physicians found telemedicine to be exhausting than previously reported (51% in 2020, 43% in 2021, $p=.247$). Mean acceptance scores were 2.41 for 2020 and 2.53



for 2021 ($p=.130$). The ability to establish relationships with new patients ($B=0.145$, $p=.039$) and take an appropriate patient history ($B=0.154$, $p=.044$) are associated with increased acceptance.

Discussion And Conclusion

Findings identify areas for ongoing training/improvement. Long-term follow-up can build a deeper understanding of ongoing use of telemedicine currently and beyond.

Take Home Messages

Though acceptance increases over time, physicians require targeted training on communication, relationship building, teamwork, and agenda setting.



14E5 (1319)

Date of presentation: Wednesday 31st August

Time of session: 13:30 - 13:45

Location of presentation: Bellecour 3

Launching a formalized software based mentorship pilot program to increase diversity and inclusion

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Background

The benefits of workplace diversity have been proven in terms of productivity, innovation, and financial success. As an international organization, the AO has members worldwide, yet there remains underrepresentation of some groups.

Mentorship works to challenge individuals' perceptions of their potential career options, their roles within an organization, and the culture of the organization as a whole. It provokes contemplation of issues such as culture and diversity in all participants from both under- and overrepresented groups. Effective mentoring provides the tools to enable mentees to progress along their chosen career paths. As the representation of these underrepresented groups improves, and there are more visible role models for others to follow, so too will the diversity of an organization improve and its culture change.

Summary Of Work

In developmental mentoring the mentor facilitates the mentee to explore their own goals and aspirations and empowers them to develop themselves. A formalized mentorship program supports access to networks, and an unbiased matching of mentor and mentee. It empowers mentors and mentees in resolving current issues, developing, coping strategies for the future, and recognizing boundaries to guide and foster personal and professional growth as well as as educational development.

Summary Of Results

Benefits and outcome of a formal mentorship program

- Widens access to mentorship
- Supports unbiased mentorship (gender, ethnicity, region, etc)
- Promotes significant professional, personal and social development (for both mentor and mentee)
- Creates a learning and leadership culture



- Increases engagement and positively influences member satisfaction

Discussion And Conclusion

Launching a formalized mentorship program pilot as a critical next phase to create change at an individual and organizational level for a more diverse and inclusive organization

- Benefits and pitfalls
- Evaluation of positive impact on the organization as members become the drivers of our organization's mission
- Discussion of post-pilot feedback

Take Home Messages

Supporting creating different lived experiences to enable a new future; where younger generations of surgeons, researchers and ORPs can share how to innovate, offering them opportunities that they have not had and allowing them to engage creating thriving communities while increasing our understanding our of diversity, so that everyone benefits from the change.



Short Communications - Technology Enhanced Learning 3

14F1 (2208)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 1

Optimizing Digital Learning Solutions for Strengthening Ethiopia's Health Professions Education: Lessons from the USAID Funded Health Workforce Improvement Program

Daniel Dejene¹

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Background

Digital learning (DL) can transform health professions education through transmitting quality learning contents, enhanced collaborative learning, and improved access to learning even during disruptions caused by COVID-19 pandemic. Despite the need, its utilization in Ethiopia is at an early stage with only 17% of training institutions implemented DL. Nearly 80% of faculty were not confident on DL. To improve competency of health workers, the USAID-funded Health Workforce Improvement Program supported institutions to optimize the use of DL as one strategy to improve quality of preservice education..

Summary Of Work

Baseline assessment, desk reviews, and stakeholder consultations were conducted to understand DL utilization status. It was discovered that the government developed policy and ICT infrastructure. Lack of institutional DL strategies and faculty awareness were gaps. Advocacy sessions were conducted to promote use and academic leaders' commitment. Open-source applications were used to develop digital libraries, and skills lab management systems. Standardized faculty development e-courses were developed. Using a hub and spoke model, virtual collaborations among health training institutions were created. Technical assistance was provided through orientation, training, and onsite coaching

Summary Of Results

Skills lab inventory and scheduling systems were developed at 2 institutions for bettering simulation training. Digital libraries were established at 4 institutions for improved learning resources access. Using newly developed course, 40 faculty from 11 institutions were trained in e-course design, facilitation, and learning management and competency-based curriculum. Five digital courses on TB, malaria, maternal health, and others were finalized and disseminated to institutions and training



providers. More than 630 teaching faculty from 42 institutions were trained on the hub and spoke learning sessions. As the result, the institutions were better prepared to implement competency-based curricula.

Discussion And Conclusion

Institutional capacity to use DL for managing skills labs, providing access to learning resources, and conducting faculty development was improved. However, more activities remain to see the impact. .

Take Home Messages

The favorable national policy and existing technology infrastructure are not maximally utilized. The institutions paid little attention to use DL. Advocacy can ensure buy-ins from leaders. Building the capacity of faculty is a high priority. Deliberate integration of DL into the curricula can facilitate utilization.



14F2 (3139)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 1

Implementation of digital education to increase digital literacy of health care for development of virtual hospital: the opportunity we should seize during COVID-19 pandemic in Taiwan

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Background

COVID-19 pandemic has changed most Taiwanese citizens' behavior in seeking health care and the demand of telemedicine by using various digital modalities also rocketed. Health care workers need more digital literacy about telemedicine and the development of virtual hospital.

Summary Of Work

The Department of Education and Research in Taipei City Hospital had conducted a series online course of digital education for health care workers, including digital health, digital literacy for health care, the usage of various digital modalities, the application of virtual technology, the development of digital health tools, and the skills to perform online training course for medical students. After finishing these online courses, our program director encouraged all health care workers to propose unique ideas for integrating various modes of telemedicine into so-called "virtual hospital", providing more convenient and efficient e-health care for patients and e-health education for students.

Summary Of Results

Over 90% participants were satisfied with these online courses and 82% claimed of gaining increased digital literacy about telemedicine and comprehension of digital education. Several impressive ideas about building the prototype of virtual hospital were proposed by many clinical staffs with different expertise. For example, designing an app called "cloud clinics" for monitoring physiological signs of patients with hypertension at home; a website named "your children's doctor" for performing virtual home-visiting for children with medical need; or a serious game called "virtual consultation" for medical students to practice online interview with virtual patients. Most patients and health care workers, including medical students, had given good feedback after using this "virtual hospital". The



collection of practical ideas still continues, and the function of virtual hospital also becomes more versatile and user-friendly under the support from our IT team in hospital.

Discussion And Conclusion

Our goal is focused on establishing better “virtual hospital” platform for providing more efficient telemedicine service and conducting more comprehensive online training for students. Therefore, we should continue to update these digital education courses and help more health care workers to increase their digital literacy.

Take Home Messages

Promoting digital literacy of health care workers via well-designed digital education helped to set up practical and efficient virtual hospital as platform for e-health and e-education



14F3 (1619)

Date of presentation: Wednesday 31st August

Time of session: 13:00 - 13:15

Location of presentation: Gratte Ciel 1

MOOC BiG - Introduction to Bioinformatics and Genomic Medicine - assessment of the first session and perspectives

Evan Gouy^{1, 2, 3, 4}, Kevin YAUY^{5, 6, 7}, Agata URBANCZYK⁸, Damien SANLAVILLE^{2, 9, 10}, Jean François DELEUZE^{11, 12}, Robert OLASO^{11, 12}, Anne Sophie DENOMME PICHON^{7, 13}, Emmanuelle GENIN¹⁴, François LECOQUIERRE¹⁵, Alban LERMINE^{16, 17}, Sacha SCHUTZ^{7, 18}, Marie DE TAYRAC^{7, 19}, Aurélien TRIMOUILLE²⁰, Guillaume COLLET⁷, Yannis DUFFOURD^{7, 13}, David GENEVIEVE^{21, 22}, Pascal PUJOL^{21, 22}, Caroline SCHLUTH BOLARD^{23, 24}, Olivier PALOMBI^{8, 25}, Laurence FAIVRE^{13, 26}, Anne HUGON²⁷, Alain VERLOES^{27, 28}, Julien THEVENON^{29, 30}

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Background

Genomic medicine aims to integrate the genome for a personalized care pathway. Next-generation sequencing (NGS) now makes it possible to obtain an entire genome in a few hours. The issue is no longer to obtain the data but to interpret this genetic information to adapt the care: training in genomic medicine is one of the challenges to be met. The MOOC "BiG - Introduction to



Bioinformatics and Genomic Medicine" attempts to meet this need by offering a course in bioinformatics and bioanalysis for medical genomics. The objective of this work was to conceive (ADDIE model) and evaluate the first session to identify areas for improvement.

Summary Of Work

Analysis: Audience was health practitioners involved in genomic medicine. The MOOC scenario follows the steps of DNA sequencing. **Design:** 5 pedagogical units (NGS revolution in medical genomics, Interpretation of genetic variation, Variant Calling, Alignment to reference genome, Base calling), 2 paths (classic/advanced). 2 webinars and a forum allowed to exchange. **Development/Implementation:** 1st session took place during spring 2020 on FUN (Open edX). **Evaluation:** online questionnaires and learning analytics.

Summary Of Results

5508 learners. Sex ratio F/M:1.51. Median age: 32 years. 80% had \geq Master's degree. 95.9% satisfaction. 89% would recommend the MOOC. Attrition rate: 83% (940 active learners) Success rate: 7,3% (402 learners). 31% felt they had learned. 85% declare to apply the new skills.

Discussion And Conclusion

Satisfaction shouldn't make us forget the suggestions for improvement. The completion rate is similar to the literature and the attrition rate is higher. **Limitations:** difficulty to collect data about dissatisfied (selection bias of questionnaires) and objectives results (technical impossibility of extracting most of learning analytics).

In conclusion, MOOC BiG is an interesting solution to reach a maximum of learners. Efforts should be made both in instructional design and research (e.g. before/after assessment).

Bilingual French-English version was launched in 07/2021 for one year thanks to ERN ITHACA and UNESS. The data will be presented at the congress.

Take Home Messages

- Genomics is growing in the care pathway: wide-ranging formation is essential
- The MOOC BiG (<https://www.fun-mooc.fr/en/courses/big-introduction-bioinformatics-genomic-medicine/>) seems to be an adapted solution. There is much potential for improvement both in terms of education research and instructional design



14F4 (3459)

Date of presentation: Wednesday 31st August

Time of session: 13:15 - 13:30

Location of presentation: Gratte Ciel 1

Teaching Quality Improvement in the University Setting: Tips from an International, Collaborative Project

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¹ University of Warwick, Coventry, UK ² Monash University, Melbourne, Australia ³ university of colorado, Denver, USA

Background

Quality Improvement (QI) is a crucial aspect of work in the healthcare professions, but training in how to do it may be overlooked by students and academics in favour of more traditional approaches to inquiry, such as generalisable research. This Monash-Warwick Alliance project involves collaborative work between two institutions across Australia and the United Kingdom, co-creating a suite of online training materials to assist students from varying professions to develop knowledge in the theory and practice of QI. As well as a brief showcase of the materials, we will share some reflections on our experiences of helping to improve QI training for healthcare professionals and teaching students to appreciate the value of QI activity.

Summary Of Work

We are an interdisciplinary group that works with both undergraduate and postgraduate students collaboratively across two teams in the University of Warwick in Coventry (United Kingdom) and Monash University in Melbourne (Australia). We have produced an online course comprising several modules, from introductory sections explaining what QI is and its importance, to practical information and tools that will help students (who may themselves be health professionals) understand how to conduct a QI project. Formal evaluation of the course's impact on learning is underway (pre- to post-learning surveys and focus groups).

Summary Of Results

Preliminary analysis shows significant improvements in knowledge of QI and QI skills. Further results will be available by the time of the conference.

Discussion And Conclusion

The asynchronous course, structured into separate modules to allow learners to progress at their own pace, is now in use by students across multiple professions at both universities. Since the onset



of the pandemic has brought the importance of such flexible online learning into the spotlight. This resource may now be even more useful to learners than we originally anticipated. We would be interested to share our materials with a wider audience.

Take Home Messages

Our learning materials may improve learners' skills and attitudes regarding QI work, empowering practitioners to improve healthcare at a local level. We can also share practice and tips on long-distance, collaborative working.



14F5 (0956)

Date of presentation: Wednesday 31st August

Time of session: 13:30 - 13:45

Location of presentation: Gratte Ciel 1

Online Undergraduate Dental Education in Bangladesh demands creativity and training

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¹ Action for Development, Geneva, Switzerland ² Bangladesh Dental college, Dhaka, Bangladesh ³ Mandy Dental College, Dhaka, Bangladesh

Background

During the covid 19 pandemic, the education sector of Bangladesh suffered a lot. To adapt to this uncertain situation the online teaching-learning method was introduced for the first time in the dental colleges for regular classes. The study explored the perception of the students about their online learning experience to find out the scope of improvement of the delivery method.

Summary Of Work

Two online focus group discussions were conducted in August 2021. 16 3rd year dental students participated in those focus group discussions. The sessions were of 90 minutes with 10 minutes of ice breaking in the beginning and a 10 minute break after 45 minutes. During the break, the students participated in a short free hand exercise and stretch. 8 questions were designed to gain an in-depth understanding of the student's experience of learning in the online method.

Summary Of Results

Among the participants 7 were male and 9 were female. For 100 % of the students, this year was their first experience of learning on an online platform and for most of the teachers also it was their first-hand experience of online teaching. The students felt distracted during the online sessions. 70% of the students missed the social interaction and group study and peer discussion. 60% of students preferred technical support, orientation sessions for an online learning platform. Monotonous lesson delivery and boring content were an issue too. They also mentioned failure to interact because of hesitancy and shy feeling over the screen.

Discussion And Conclusion

In Bangladesh, the online teaching-learning method is not a regular practice. Most of the institutions were forced to adopt this method within very short notice because of Covid 19 pandemic lockdown. Online education in a clinical subject like dentistry requires a special training program, online content preparation, and interactive lesson delivery setup. Which are big challenges for developing countries.



Take Home Messages

The focus group discussion unveiled some key issues which indicated that there are scopes of improvement in online teaching method. With the help of medical education department and faculty development the online learning sessions can be made attractive as well as beneficiary for the stake holders.



14F6 (1213)

Date of presentation: Wednesday 31st August

Time of session: 13:45 - 14:00

Location of presentation: Gratte Ciel 1

HeadToToe - Mobile knowledge dissemination for clinical competencies education

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¹ *University of Geneva, Geneva, Switzerland* ² *Johns Hopkins, School of Education, Baltimore, USA* ³ *Geneva University Hospitals, Geneva, Switzerland*

Background

Clinical competencies (CC) are the cornerstone of medical education and prepare learners for clinical practice. CC improve with experience and structured feedback. Both students and trainees rely on references to prepare themselves for clinical practice. Nevertheless, finding readily accessible, validated references is difficult due to a vast number of sources, an overwhelming amount and incompatibility with local practice. As smartphones become ubiquitous, learners may benefit from easy access to validated knowledge. Moreover, stakeholders may benefit from automatic feedback concerning usage patterns to appraise learners' information needs.

Summary Of Work

We have developed a mobile platform for the dissemination of medical knowledge for learners based on the humanistic expertise. The platform provides access to a variety of clinical information. Content is selected by local experts who are responsible for content validation and updating. Each item provides information concerning its curator, revision date and expiration date with planned obsolescence for each item. Automatic statistics are collected to provide data-driven insights.

Summary Of Results

We have performed several mixed methods evaluations. Qualitative assessments gave the platform high scores for usability and quantitative assessments shed light on pre- and post-graduate usage patterns during key periods such as before OSCE examination and during the COVID19 pandemic.

This allowed better understanding of learners' information needs and real-time decisions based on real-world data. The latter allowed to improve COVID19 related knowledge dissemination strategy in our institution. The platform was implemented in five other hospitals.



Discussion And Conclusion

Our approach may provide several advantages. Learners would have an easy access to validated medical knowledge, endorsed by their educators, meeting their expectations in terms of evidence and didactic features. Obsolete content is automatically deleted. Automatic statistics provide knowledge about learners' information needs and permit real-time content adaptation. Students have early exposure to evidence-based content. The main limitation would be the workload of content curating. In conclusion, the mHealth platform was shown to be usable, time-saving and relevant for clinical practice.

Take Home Messages

Accessing validated and locally endorsed medical information is a difficult task

Mobile devices are becoming ubiquitous in clinical practice

mHealth platform to disseminate validated medical knowledge was shown to be usable, time saving and relevant in clinical practice



Short Communications - Faculty Development 3: Developing the next generation of educators

14G1 (0723)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 2

A qualitative approach to study the attitude of junior doctors towards near-peer teaching

Joseph Anderson¹, Eleanor Carton¹, Ana Sergio Da Silva²

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Background

Near-peer teaching (NPT) is where doctors teach medical students or other doctors one or more years junior to themselves. Extensive quantitative evidence reports that doctors enjoy teaching and are motivated to teach juniors, yet only a few junior doctors, actively participate in NPT. This study explores qualitatively the attitude of junior doctors towards NPT using a cognitive-affective-behavioral model.

Summary Of Work

The study was conducted in July 2021, at a tertiary teaching hospital in Ireland where 8 Interns (FY1) who participated in the Intern-Led teaching program were recruited using pragmatic purposive sampling and interviewed using semi-structured questionnaires by the lead peer-researcher which were audiotaped, transcribed, coded using NVIVO, and thematically analyzed using a qualitative design and an Interpretivism paradigm.

Summary Of Results

Four major themes were identified.

NPT as an enjoyable and satisfying role of a clinician

All participants wanted to be more involved in teaching juniors and be a channel for the transfer of clinical knowledge and practical skills from one generation of doctors to the next.

NPT is perceived to be beneficial to both teachers and learners.



Teacher benefits	Learner benefits
<ul style="list-style-type: none"> • Consolidate previous learning • Identify knowledge gaps • Keep up-to-date with EBM • Improve teaching skills • Good experience for CV 	<ul style="list-style-type: none"> • Cognitive congruence • Practical advice from teachers • Improve communication skills • Empowerment to teach • Less intimidating learning milieu

Knowing one’s limitations is vital to safe teaching practice

"Don't teach what you don't know; but that shouldn't keep you from teaching, as long as you're honest, and say you don't know" - participant 8

A structured approach to improve efficiency and participation

Participants echoed the challenges with the lack of time to prepare, deliver and evaluate NPT especially while rotating through busy teams.

Discussion And Conclusion

In contrast to previous quantitative studies, this study qualitatively defines the attitude of junior doctors towards NPT as their individual motivational factors weighed against their challenges:

Overweighing demotivating factors could explain the suboptimal participation of highly motivated junior doctors in NPT.

Take Home Messages

Participation of Junior doctors in NPT must be promoted at individual, team, organizational and college levels.

Peer assessments and having senior clinicians supervise teaching sessions can ensuring safe teaching practice.

Scheduled dedicated time and an agreed-upon structure for NPT can improve participation from learners and near-peer teachers.

Incentivising NPT by making it a part of the medical school and specialty training curriculums was suggested.



14G2 (3492)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 2

Medical students community-based activities: creating health educators

Martha Bravo¹, Kevin Alvaro Handoko¹, Adham Osama¹, Mădălina Mandache¹, Kelvin Emmanuel Gutiérrez Herrera²

¹ *International Federation of Medical Students' Associations, Copenhagen, Denmark* ² *International Federation of Medical Students' Associations, Copenhagen, Denmark*

Background

The educational role of health professionals is essential to promote health, prevent diseases and strengthen primary care in our target populations. This community-based approach offers a basis for efficient knowledge-sharing and a potent means of influencing behaviours, which is why it is essential to train medical students in these skills. IFMSA, as a medical student organization promotes activities in which medical students act as teachers and provides the tools to execute and report them. However, their development varies between regions and target populations, leaving some unattended. Through this abstract, we aim to describe IFMSA's community-based activities led by students and their characteristics.

Summary Of Work

IFMSA members' activities enrolled by Activity Coordinators were reported between the 1st of October 2017 and the 1st of February 2021. The data was collected with the help of the Programs Coordinators through the Enrollment and Reporting Databases.

Summary Of Results

Community-based activities represented 45,5% of the total reports (385/846), while 54,5% were exclusively directed to healthcare students, especially medical students. The number of community-based activities per region was 145 from Asia Pacific (37,7%) , 76 from Eastern Mediterranean (19,7%), 61 from Europe (15,8%), 57 from Americas (14,8%), and 46 from Africa (11,9%). The most addressed population was the general one with 209 activities (54,4%), followed by school students with 46 activities (11,9%), women with 17 activities (4,4%) and other populations like adolescents, immigrants, elderly, rural communities, etc. These activities focused on Healthy Lifestyles & Non-Communicable Diseases (21%), Realizing Sexual and Reproductive Health and Rights (14%), HIV/AIDS & Other STIs (13%), Maternal Health & Access to Safe Abortion (11%), Ethics & Human Rights in Health (10%) among others.



Discussion And Conclusion

As a medical student organization, IFMSA concentrates a significant part of its activities to address its members' needs. However, in order to achieve a positive impact on people's health and improve future professionals skills in health education, it's imperative to develop more community-based activities and research, especially reaching a more diverse population.

Take Home Messages

Health professionals play an essential role in community health education, that's why medical students must exercise these skills continuously through the creation and conduction of community-based activities.



14G3 (3225)**Date of presentation:** Wednesday 31st August**Time of session:** 13:00 - 13:15**Location of presentation:** Gratte Ciel 2

Do medical students prefer theory- or practice-based teaching skills sessions?

Josh Killilea¹, Felyx Wong¹, Meghna Irukulla¹, Daniel Huddart¹, Rayyan Islam¹, Benjamin Preston¹

¹ *Imperial College London, School of Medicine, London, UK*

Background

Although Peer-Assisted Learning (PAL) is an important avenue of study support for medical students, there remains a paucity of formalised teaching programmes designed to improve teaching skills. The 'Teaching Academy' is a student-led pilot scheme at Imperial College London which provides monthly training in fundamental teaching skills to medical students. Teaching sessions consist of theory-based talks on effective pedagogical techniques and interactive workshops enabling extensive teaching practice with real time feedback. Despite the scheme running for 2 years, we have not assessed whether students value theory- or practice-based sessions more. Therefore, in this study, we aim to assess whether students have a preference towards theory- or practice-based sessions.

Summary Of Work

Thirty-six students from years 1 to 4 enrolled in the Teaching Academy. Five theory-based talks and three interactive workshops were delivered addressing the following topics: small and large group teaching, clinical skills teaching, effective slide design, constructive feedback, and question design. Students then completed a post-course questionnaire. Likert-scale and free-text questions were used to assess whether students had any preference towards practice- or theory-based sessions (more theory; more practice; content with current structure; more theory and practice).

Summary Of Results

Of the 32 students, 27 (84.4%) strongly agreed that their teaching skills improved because of the Teaching Academy. Interestingly, no student felt that more theory-based sessions would improve the programme. However, 11 students (34.4%) would prefer more practice sessions, with another 11 students (34.4%) requesting more of both theory and practice-based sessions. 10 students (31.3%) were happy with the current structure of the programme. Upon thematic analysis of free-text responses, 'improved confidence in public speaking' (13 students, 40.6%) and learning how to 'explain concepts in a clear yet concise manner' (12 students, 37.5%) were reported as the main benefits derived from the practical workshops.



Discussion And Conclusion

Future teaching programmes may benefit from placing a larger emphasis on practice-based workshops. Future studies should therefore investigate whether improved outcomes in teaching skills are seen in programmes which incorporate more practice-based sessions.

Take Home Messages

More practical sessions should be incorporated to supplement the traditional didactic methods of training medical students to become better educators.



14G4 (3133)

Date of presentation: Wednesday 31st August

Time of session: 13:15 - 13:30

Location of presentation: Gratte Ciel 3

Residents' experiences of colleague supervision to practice clinical supervision: a qualitative study

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Background

In clinical education, medical students and young doctors need to meet prepared and educated supervisors. In a professional teaching context, Handal and Lauvås developed a structured model of colleague supervision where equal colleagues give each other feedback on a professional activity. We adapted this model into residents' training in clinical supervision of medical students. The aim of this study was to explore residents' experiences of colleague supervision.

Summary Of Work

The context of this study was doctors in specialist training who attended a 4-day course in clinical supervision. Two colleagues observed each other as clinical supervisors of a medical student. After mutual feedback and reflection, an individual structured report was written and discussed on the last day of the course. In the study a qualitative description design was employed. Qualitative semi-structured interviews were performed with course participants and the interviews were analysed with qualitative content analysis. The research team comprised both clinicians, a licenced teacher and medical education researchers.

Summary Of Results

Respondents in this study experienced colleague supervision as an opportunity to safely practice new behaviours as supervisors without time constraints. They valued their colleague's feedback and perceived it as helpful and supportive.

Respondents especially appreciated to observe their colleague in an authentic situation. The act of observing without the burden of making medical decisions allowed for focus on student-supervisor interaction and respondents recounted how specific actions seemed to affect the student.

Respondants gave reported on the medical, curricular and social factors they took into consideration, when formulating feedback to their student and colleague respectively.



The couples of colleagues compared their teaching styles. Respondents articulated individual plans for future teaching which they described as applicable in their own workplace.

Discussion And Conclusion

In this study, colleague supervision seemed like an appropriate valuable activity for residents to develop their clinical supervision. A strength of the method is that it allows doctors to test and evaluate teaching behaviours in their day-to-day clinical environment. Experiencing the roles of both learner and supervisor in the same situation may help supervisors to better understand the perspective of the student.

Take Home Messages

Colleague supervision can be an effective strategy for training clinical supervisors.



14G5 (4472)**Date of presentation:** Wednesday 31st August**Time of session:** 13:30 - 13:45**Location of presentation:** Gratte Ciel 2

Medical Education Toolkits: A User-Friendly Guide for Medical Students, by Medical Students

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Background

Medical education contains many topics and novel methods that help deliver the skills and knowledge that it encompasses. As fascinating as the variety of themes under this umbrella are, students rarely get to discover more about many of them. As the European Medical Students' Association (EMSA), we decided to prepare comprehensive and educational toolkits to help students learn about the different aspects of medical education. With this project, we aimed to create resources to help students understand and spread knowledge about these topics.

Summary Of Work

A Small Working Group call was released to reach medical students all over Europe who were passionate about creating accessible and clear resources about different themes in medical education. Students summarized 13 topics in 7-10 pages, including the core topics of medical education and new trends in medical education, based on evidence. They will be presented in greater detail at the AMEE Conference.

Summary Of Results

The preparation process of the medical education toolkits has shown the importance of student-student collaboration. In these toolkits, important and current topics such as 'medical simulations', 'diversity in medical education', 'curriculum design', 'teaching and learning', and more, have been covered. They include background sections for each topic, as well as examples from around the world, in an effort to exemplify best practices and help readers dive deeper into that specific topic. We aimed to create user-friendly guides for medical students to share the spirit of medical education.



Discussion And Conclusion

We made efforts to cover topics in medical curricula that students might be unfamiliar with and that might encourage them to be more involved in the discussions about medical education. EMSA believes that students should know about the principles of medical education and be up-to-date with current trends in this field, in order to make fruitful contributions. The integration of student ideas is important to ensure that curricula fit the needs of students and are optimized to train physicians ready for the future.

Take Home Messages

The basics and current approach to medical education should be more widely taught to medical students.

Peer-prepared toolkits can be especially useful when introducing new topics that can empower medical students throughout their careers.



14G6 (4323)

Date of presentation: Wednesday 31st August

Time of session: 13:45 - 14:00

Location of presentation: Gratte Ciel 2

The student-physician as PBL-tutor: personal experience as a key factor for expertise development and student satisfaction

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Background

Which combination of backgrounds and skills is most favourable for facilitating problem-based-learning (PBL) sessions is debated. Traditionally, PBL is facilitated by physicians or scientists. However, not all of them have first-hand-experience of the format. This may make it difficult to develop process expertise and cognitive congruence with their students. Students who are enrolled in a PBL-centred curriculum have this experience but lack content expertise from real-world clinical scenarios. We investigated students' preferences regarding PBL-facilitation during the first year of medical school, and tested if personal experience of students can be transformed into expertise in leading groups.

Summary Of Work

We compared student-led and physician-led PBL-groups in a randomized cross-over design. During the first year of medical school, half of the groups were facilitated by a student tutor from a higher year, the other half by a physician who did not study in a PBL-centred curriculum. After one semester, groups were switched. We compared student satisfaction and academic outcome between the two groups and conducted focus-group-interviews with the first year-students. Interviews lasted 60 minutes, were audio-taped, transcribed verbatim and analysis using grounded-theory methods.

Summary Of Results

The groups were comparable regarding age, gender, A-Level-results and prior experience working in paramedical professions. Student-facilitated PBL-groups were non-inferior to physician-lead groups regarding satisfaction measured evaluation or academic outcome. 36 first-year-students (75%) participated in the focus groups. Student-tutors seen as having adequate content expertise. They were more conducive to creating a hierarchy-free learning atmosphere, give better orientation of current learning objectives within the longitudinal curriculum and achieved autonomy with regards to PBL-methodology with their groups earlier.



Discussion And Conclusion

Student-tutors were non-inferior regarding satisfaction and academic outcome of their groups. Their personal experience helped them achieve cognitive congruence with the students, which is a key factor for satisfaction and to come with significant additional benefits for organizing learning and integration of PBL in the curriculum.

Take Home Messages

Student as PBL-tutors are non-inferior to physicians without personal experience with PBL, but come with additional benefits for first-year students.



Short Communications - Stress & Wellbeing 2

14H1 (3217)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:45

Location of presentation: Gratte Ciel 3

Happinometer for motivation and well-being, optimism affect happiness in medical students

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Background

Optimistic medical students tend to have a happy and successful life. Both the physical and mental health of students tends to improve when they get a positive perspective. Many studies have been conducted and proved that optimism made happier than pessimistic. Optimism is a trainable skill. Happiness can enhance their learning process. The aim of the study was to evaluate the optimism and happiness related to the learning process of medical students.

Summary Of Work

This cross-sectional survey study used a self-reflection questionnaire. Evaluate the optimism using the revised life orientation test and happinometer questionnaire. Evaluated in four aspects included physical, psychological, social relationship and environmental. The happiness questionnaire using happinometer consisted of 9 happy components included: body, relaxation, heart, soul, family, society, brain, money, and work-life respectively. The medical students were asked to identify factors that may have improved their learning motivation. We used Spearman's correlation and linear regression for statistical analysis.

Summary Of Results

A total of 95 medical students had self-assessment the questionnaire, 51% were optimistic. In the optimism had the happiness high to 82%. The optimistic medical students gave a significantly higher score of happiness compared to a non-optimism group (7.49 and 2.92 respectively, $P < 0.001$). Optimism had a positive correlation with happiness among medical students ($r = 0.67$, $P < 0.001$) and was independently associated with high learning motivation ($r = 0.73$, $P < 0.001$). Most of the medical students considered that the most influential factor on learning motivation was body, soul, followed by brain, society, and work-life balance. The non-optimism group was supported by the med student



well-being medical team. They had improvement in optimism and more happiness after psychosocial support.

Discussion And Conclusion

The optimistic medical students gave significantly higher happiness and more learning motivation. Body and soul were the important influential factors for learning motivation. This indicated learning skills of optimistic benefit in improving the learning process and happiness. Optimism is a trainable skill that had a positive effect on learning motivation and happiness in medical students.

Take Home Messages

Attaining learned optimism should be encouraged to increase learning motivation and happiness in medical students.



14H2 (0966)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 13:00

Location of presentation: Gratte Ciel 3

Challenge in medical education to hearten our students to aim at the current WHO recommendations through the whole spectrum of physical activity!

David Hupin¹, Amandine Baudot¹, Nathalie Barth¹, Claire Colas¹, Marie Fanget¹, Véronique Chomienne², Marie-Pierre Vericel¹, Léonard Féasson¹, Frédéric Roche¹, Pascal Edouard¹

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Background

Studies from Paffenbarger et al. in the 1980s have stimulated a significant interest in understanding the relationship between physical activity (PA) and influences on length of life of Harvard alumni. Since then, some researchers followed this 20th century visionary with new cohort studies, which have shown that sedentary behaviour (SB) at work and/or physical inactivity during leisure time are major risk factors for morbidity and premature mortality. However, many aspects of these relationships are still poorly known in medical doctors, which probably explains PA remains under-prescribed by them. Despite the new medical education programs promoting health-enhancing PA, there is no evidence to indicate that medical students translate this knowledge into practice.

Consequently, the aim of this study was to assess the PA and SB changes among medical students, and to determine the impact of medical education programs targeting PA and SB on their behaviour modification.

Summary Of Work

A longitudinal online survey was carried out among medical students from Saint-Etienne University (France). The e-Adult Physical Activity Questionnaire (e-APAQ) was sent several times per year between 2018 and nowadays to collect data about PA (h/wk) and SB (h/d).

Summary Of Results

Out of the 3000 medical students of Saint-Etienne, e-APAQ has been currently completed for 828 (28%) of them, aged 18 to 42. Almost 2 in 3 medical students were physically inactive (<2.5h/wk), and all of them reported SB during leisure (>4h/d). Medical students with insufficient PA were more likely to report SB than their counterparts. The odds of insufficient PA were higher among the medical students who did not follow the new medical education program on PA and SB (OR = 1.51; 95% CI = 1.15–6.79, p = 0.01).

Discussion And Conclusion



Insufficient PA and SB are prevalent among medical students in Saint-Etienne University, but this would be limited by the new health-promoting PA and reducing SB interventions. Studies show that physically active medical doctors are more likely to counsel their patients on lifestyle. These findings indicate the importance of establishing tailored policies and medical education programs to encourage young medical doctors to engage in PA.

Take Home Messages

We should hearten our medical students to aim at the current WHO recommendations!



14H3 (1651)

Date of presentation: Wednesday 31st August

Time of session: 13:00 - 13:15

Location of presentation: Gratte Ciel 3

An Interpretative Phenomenological Analysis of Medical Students' Experiences of Impostor Syndrome

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Background

Impostor Syndrome (IS) is experienced by those unable to internalise their own success, leading to feelings of fraudulence. Research suggests that IS among medical students is a reliable indicator of psychological distress, which in turn correlates to a higher likelihood of making clinical errors. This study aims to investigate medical students' lived experiences of IS.

Summary Of Work

Semi-structured online interviews were conducted with 9 medical students; these were transcribed and analysed idiographically using Interpretative Phenomenological Analysis (IPA). IPA mitigates any bias incurred through the researcher's own experiences of IS; in accordance with this approach, the participants' own definitions of Impostor Syndrome were used as a base around which to frame their experiences and the impact of IS on their lives. Descriptive and linguistic features of the interview transcripts were identified, grouped and analysed to provide a multi-faceted interpretation.

Summary Of Results

Participants interpreted IS as feelings of not belonging, either because their achievements and status are undeserved, or simply because they do not fit in. Initial findings indicate students struggle to identify specific events where they experienced IS, explaining that it's something they 'can't really articulate' and is 'in a lot of little moments'.

A consistent thread in their lived experiences is the importance of practical and/or emotional support networks, without which they experience feelings of isolation. However, even when support networks are present, participants admitted an unwillingness to display vulnerability by seeking emotional support.



Discussion And Conclusion

Students demonstrated a battle between logic and emotion, struggling to consolidate evidence of their success with their lack of self-belief, and showing reluctance to open up about their insecurities despite acknowledging that this would be beneficial to both themselves and their peers. This, along with participants' descriptions of their personal and professional networks, suggests that a supportive, stable environment is vital in building students' sense of belonging and self-confidence.

Take Home Messages

This valuable insight into their reality of living with IS will allow for pragmatic, constructive support mechanisms to be considered for future students and cohorts.



14H4 (2400)

Date of presentation: Wednesday 31st August

Time of session: 13:15 - 13:30

Location of presentation: Gratte Ciel 3

Association between quality of breakfast, of sleep and physical activity with sustained attention in 2nd year medical students, during online class modality.

Peter McColl¹, Sofía Dougnac¹, Rocio Galleguillos¹, Faride Jaar¹, Beatriz Merino¹, Sebastian Mok¹, Nicolas Paez¹, Maria Rivera¹, Alexia Zurita¹, Alberto Caro¹

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Background

Attention is a basic an essential psychological process for the information processing of any modality and for the performance of any activity. The COVID 19 pandemic forced the implementation of teaching-learning in an online mode, a methodology that could affect sustained attention. Although several studies have been carried out looking for the association between sustained attention and sleep quality, physical activity and breakfast quality, there are few focused on measuring attention in an online training context.

The objective was to determine the association between breakfast quality, physical activity and sleep quality, with sustained attention, in the context of online classes in medical students at the Andrés Bello University, Viña del Mar.

Summary Of Work

A cross-sectional quantitative design study was carried out with 43 2-year medical students. Attention was measured with the d2 Attention Test. The quality of breakfast with the "ALADINO" questionnaire, which contains 13 qualitative questions, in which information is obtained about the foods that make up breakfast on a regular basis. Sleep quality was measured using the Pittsburgh Sleep Quality Index. Physical activity with the Global Physical Activity Questionnaire GPAQ 2.0

The application of the evaluation instruments was applied in online mode. For the statistical analysis, relative frequency was calculated, the association was measured with odd ratio (OR) and its confidence interval, Chi square test and p value.



Summary Of Results

Results: Sustained attention: low 35.5%, average 45.25 and high 19.4%. Sleep quality poor sleepers 83.8% and good sleepers 16.2%. Physical activity: sedentary 61.3% and active 38.7%. Breakfast quality: insufficient 22.6%, regular 35.5% and good 41.9%.

Estimated risk between sustained attention with sleep quality OR=0.8 (0.1 - 5.7) p=1, physical activity OR=0.4 (0.1 - 1.6) p=0.4 and breakfast quality OR=0.2 (0.1 - 1.1) p= 0.2.

Discussion And Conclusion

In this study, breakfast and sleep quality and physical activity did not show to be risk factors for low sustained attention.

Take Home Messages

Take home messages: It is necessary to carry out further studies to allow for the instruments to be applied face to face.



14H5 (3838)

Date of presentation: Wednesday 31st August

Time of session: 13:30 - 13:45

Location of presentation: Gratte Ciel 3

Pilot of group clinical supervision for medical students in regional and rural Australia

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Background

Clinical supervision is a professional relationship between two or more people in designated roles, which facilitates reflective practice, explores ethical issues, and develops skills. It has been utilised by psychologists, psychiatrists and nurses.

Medical school is recognised as a stressful environment that can lead to mental health problems and burnout, but group clinical supervision has not previously been utilised in this setting.

Summary Of Work

We undertook a pilot study of group clinical supervision for medical student volunteers, at a regional Australian medical school, with supervision delivered by two experienced family physician-medical educators. The purpose of this study was to determine the feasibility and acceptability of clinical group supervision in a graduate medical course, using a Participatory Action Research approach. We conducted two online clinical supervision groups, for six one-hour sessions, over three months.

Evaluation was conducted through mixed methods analyses. Focus groups conducted with participants were audio-recorded, transcribed, and analysed by inductive thematic analysis. Pre-post measures of burnout (Maslach Burnout Inventory) along with perceived utility and satisfaction with the supervision groups were conducted.

Summary Of Results

Thirteen students participated across two groups, one rurally and one regionally based. Attendance was 100% in both sites. Nine participants attended the evaluation focus groups. Students viewed group clinical supervision as a positive experience of dedicated time for reflection on clinical experiences, validation from senior clinicians and peers, and connection to the medical community. They felt safe to discuss critical incidents that had taken place during training. Themes that emerged included strategies to prevent moral injury, encouragement of vulnerability and openness in medical education, honouring the need for self-care, and the need for a trusted clinical supervisor. Thirteen students completed the burnout inventory before, during and after the clinical supervision program, which indicated improvement. Detailed outcomes will be presented.



Discussion And Conclusion

The group clinical supervision model was acceptable to students, with 100% attendance throughout this voluntary activity. This shows promise as an avenue to professionally support medical students as they navigate complex clinical training.

Take Home Messages

The team plans to further trial and evaluate this model, including as students continue their training to become junior doctors.



Workshop 14I (4019)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Tete d'Or 1

Patient Safety Events and Near Misses - Who's to blame?

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Background

Patient Safety Event Analysis (PSEA) is a process which facilitates the mitigation or prevention of the reoccurrence of patient safety events or near misses. The issue of identifying the root cause of a patient safety event or near miss remains a challenge all over the world. Causality is often ascribed to a person rather than organizational policies, circumstances and environment which enable the event (human factors). This “blame” practice creates an environment where people are reluctant to speak up, thus hindering the identification of the true cause(s) and subsequent prevention of reoccurrence. Medical Educators can advance accurate identification of event root causes by teaching their students and residents basic concepts of causation. Equipping educators to teach this subject will promote a future generation of physicians that will seek to identify the systems and human factors contributing to events, rather than identify, “who’s to blame.”

Who Should Participate

Medical Educators- faculty and program directors of undergraduate and post-graduate students, residents, and fellows who wish to better understand and teach the identification of causes of patient safety events and near misses.

Structure Of Workshop

Key concepts of causation of patient safety events and near misses will be reviewed using a combination of case-based role play and tabletop exercises. Participants will practice using tools that facilitate teaching the concept of causation to learners. These tools will be made available for future use by each participant.

Intended Outcomes

This workshop will equip educators with the ability to facilitate skill acquisition of patient safety event and near miss causal identification, thereby increasing the likelihood of eliminating or mitigating future reoccurrence of the patient safety events.



The following will be covered:

- Why don't most PSEAs succeed in preventing and eliminating reoccurrence of patient safety events?
- Tips for teaching how to determine the cause(s) of patient safety events or near misses.

Participants will leave with tools that facilitate instruction of early learners.



Workshop 14J (2928)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Rhone 2

Teaching students to ‘Study Smart’ – Insights from the science of learning

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Background

When entering health professions education, students are required to become self-regulated learners capable of using effective learning strategies that foster long-term learning. Research has shown that 60-90% of the students experience difficulty using effective learning strategies and regularly apply ineffective strategies such as highlighting and rereading. Instead, students should apply learning strategies that create ‘desirable difficulties’ such as taking practice tests and distributing learning. Desirably difficult strategies typically cost more effort, but enhance long-term learning and transfer. Students are barely taught what strategies work and struggle to use the more effective, but also more effortful strategies.

In order to close this gap between research and practice, and funded by the Dutch Science Council, the ‘Study Smart Program’ was developed at Maastricht University and implemented (inter)nationally at higher education institutes. During the workshop, we will share the essentials of the program, which aims to raise students’ awareness of, foster reflection on, and support the practice of effective learning strategies. Research on the effect of Study Smart has been published in several scientific papers and one book chapter.

Who Should Participate

This workshop is aimed at anyone interested in (improving) self-regulated learning behavior of students. We expect student counsellors, faculty, and educationalists to benefit from insights from the science of learning and on how to support students to bring effective learning strategies into practice. No prior knowledge required.

Structure Of Workshop

The workshop uses small group learning, short individual exercises, and moderated discussion (1) to increase participants’ knowledge on the science of effective learning strategies and (2) to discuss how to support students’ use of these strategies. We build on participants’ experiences with effective learning strategies. After an interactive presentation on the science of effective learning strategies, participants discuss how this can be applied to their teaching and/or learning context. Integrated, we discuss scientific findings on developing and implementing the Study Smart program (inter)nationally.



Intended Outcomes

Participants will

- understand the scientific principles of effective learning strategies
 - understand the importance of 'desirable difficulties'
 - understand how to support students in the transition from ineffective to effective learning strategies
-



ePosters - Stress and Wellbeing

14K01 (2813)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:35

Location of presentation: Tete d'Or 2

Identifying struggling students by how they process multiple-choice questions

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Background

To help identify struggling students earlier, we examined how students process multiple-choice questions (MCQs) to identify possible profiles of struggling students.

Summary Of Work

Second-year medical students (n=150) were asked to read aloud and answer Step 1-like MCQs. The question and answer choices were either presented together or, the answer choices were visible only after the student generated a free-recall response. We measured the total number of correct answers, the number correct with answers versus without visible answers; time spent on each item, and time spent reading v. answering each question. Time spent answering the question included generating a free-recall response, reviewing answer choices, or deliberation.

Summary Of Results

We identified three styles of how students process MCQs. Style A (41/150) spent ~70% of the time reading the question, performed equally well whether the answers were visible or not, scored $\geq 70\%$ correct, and typically scored ≥ 220 on Step 1. Style B (53/150) spent ~55% of the time reading the question, performed better when the answer choices were visible, scored $\leq 60\%$ correct, and typically scored ≤ 210 on Step 1. Type C (56/150) spent less than 50% of the time reading the question, performed better when the answers were *not* visible, scored $\leq 60\%$ correct, and typically scored ≤ 210 on Step 1. About 45% of students with style B self-disclosed difficulties with attention; while about 60% with style C self-disclosed difficulties with anxiety.



Discussion And Conclusion

Style A students appear to use information derived from the question before choosing an answer and >50% of the time do not need the answer choices to answer correctly. Style B students appear to rely on word associations between the question and answers and seem to need a prompt to help them answer the test question. Style C students appear anxious and unable to focus on the question when the answer choices are visible and answered 55% more correctly ($p < 0.05$) when the answer choices were removed.

Take Home Messages

Understanding how students process MCQs may help identify struggling students earlier and lead to more personalized remediation strategies.



14K02 (4396)**Date of presentation:** Wednesday 31st August**Time of session:** 12:35 - 12:40**Location of presentation:** Tete d'Or 2

Relationship of Burnout with Screen Time and Self-Perception of Health in Medical Students

Fahad Azam¹, Abida Shaheen¹

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Background

Medical education is a challenging path that may predispose students to an increased risk of developing burnout that may significantly affect their learning capabilities and may cause physical and psychological disturbances. The present study aimed to explore the relationship of burnout symptoms with self-perception of health and screen time in medical students.

Summary Of Work

Two hundred and eighty-four medical students participated in this study. Burnout Clinical Subtype Questionnaire BCSQ-12 was used to measure the burnout prevalence and its three domains namely overload, neglect and lack of development. Pearson correlation test was applied to find the correlation of burnout scores with the number of hours of screen time for educational and non-educational purposes. Students t-test was used to compare the burnout scores of students with the satisfactory and unsatisfactory self-perception of their health.

Summary Of Results

A significant positive correlation was observed between screen time for educational purposes and the overload domain of burnout syndrome ($r=0.157$, $p = 0.039$). Screen time for non-education purpose showed a significant correlation with neglect ($r=0.174$, $p = 0.022$) and lack of development ($r=0.199$, $p=0.009$) domains of the burnout syndrome. Screen time for non-education purposes showed a significant correlation with overall burnout score ($r=0.199$, $p = 0.009$). The mean scores of the burnout syndrome and scores of the neglect, lack of development and overload domains were significantly lower in students with good self-perception of health.

Discussion And Conclusion

Giving medical students an insight into possible reasons for their burnout may improve their academic performance. The identification of a weak positive correlation of screentime for educational purposes with the overload domain of burnout may motivate medical students to reduce their screen time for educational purposes and adopt other strategies for learning. Similarly, the



identification of screentime for the non-educational purpose with a positive correlation with the neglect and lack of development domains of burnout may help students to incorporate healthy lifestyle changes into their daily routine. Possible reasons for unsatisfactory self-perception of health in medical students should be investigated.

Take Home Messages

The acknowledgement of burnout in medical students may draw the attention of medical educationists to design necessary and innovative interventionists to reduce burnout in medical students.



14K03 (1492)

Date of presentation: Wednesday 31st August

Time of session: 12:40 - 12:45

Location of presentation: Tete d'Or 2

Mistreatment and Burnout in The Training Of Medical Students In Chile

Nancy Bastías-Vega¹, Cristhian Pérez-Villalobos¹, Mary Jane Schilling-Norman¹, Maritza Espinoza-Riffo¹, Javiera Ortega-Bastidas¹, Angela Alarcón-Mella¹, Olga Matus-Betancourt¹, Marjorie Baquedano-Rodríguez¹

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Background

Although mistreatment in medical student training is often denied or ignored by teachers and the community, it has been discussed in the scientific literature since 1982. Since then, there is multiple evidence that medical students are mistreated. In Chile, studies show that more than 90% of these students have reported mistreatment and that this is organized in three types: demoralization, unregulated demands and physical violence. Mistreated students report mental health problems and the intention to drop out.

The present study was funded by the ANID FONDECYT 1221913 and seeks to evaluate the relationship between academic mistreatment perceived by medical students and their burnout levels.

Summary Of Work

A total of 264 first to seventh-year medical students, chosen through quota sampling, were surveyed. They answered the Academic Mistreatment Scale validated in Chile by Bastías-Vega et al. and the Emotional Burnout Scale, after signing informed consent. A descriptive, correlational, and multiple linear regression statistical analysis was performed between measurements.

Summary Of Results

The results show that students perceive a higher level of demoralization among all types of mistreatment. They also report moderately elevated levels of burnout. Students' burnout showed a direct relationship with demoralization and unregulated demands ($p < 0.05$), but not with physical violence. Similarly, multiple linear regression analysis showed that among the three forms of mistreatment, the greatest predictor of burnout was unregulated demands.

Discussion And Conclusion

Mistreatment is present in the training of future physicians, being more frequent the attacks against students' self-esteem. Similarly, its presence is associated with higher levels of burnout. The absence



of a relationship between physical violence and burnout may be due to the fact that this form of mistreatment is the most unusual. The stronger relationship with unregulated demands may be due to the fact that burnout is primarily an occupational syndrome that is triggered by the demands associated with a given task.

Take Home Messages

Mistreatment in physician training exists and damages training. The first step to resolve it is to stop denying it.



14K04 (2706)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 12:50

Location of presentation: Tete d'Or 2

My goal is to pass: USMLE Step 1 Score Goals and Medical Student Wellbeing

Hanin Rashid¹, Christopher Runyon², Monica Cuddy², Jesse Burk Rafel³, Liselotte Dyrbye⁴, Katie Arnhart⁵, Ulana Luciw-Dubas², Hilitt Mechaber⁶, Steve Lieberman⁷, Miguel Paniagua²

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Background

Before the change to pass/fail, medical students aimed to achieve a high score on the USMLE Step 1 in order to have the best chance of matching into a residency of choice. No research has explored the relationship between goal score and wellness. This study examines the relationship between Step 1 goal score, gender, and students' self-reported anxiety, stress, and distress to better understand implications for wellness around Step 2 preparation where score will likely have a greater impact on residency match.

Summary Of Work

In June 2019, a random sample of medical students from schools across the United States completed a survey asking about Step 1 score goal and wellness using validated measures of anxiety (PROMIS 4a), stress (Perceived Stress Scale), distress (Medical Student Well-Being Index). T-tests and multiple linear regressions were used to examine the relationships between score goal, demographics, and wellbeing. Thematic analysis was conducted for open-ended responses.

Summary Of Results

Of 574 students, 464 (n=235 female) responded yes to having a goal score. Men reported significantly higher score goals (mean=243.9) than women (mean=238.3), $p < 0.001$. Men reported significantly lower stress (6.2 vs. 7.4), distress (3.5 vs. 4.2), and anxiety (10.3 vs. 2.6) than women, respectively (all $p < 0.001$). When controlling for gender, higher score goal was associated with lower stress ($\beta = -0.14$, $p < 0.003$) and anxiety ($\beta = -0.11$, $p < .02$). Open-ended responses suggested three subpopulations, concerned with (a) just passing (b) scoring around national mean (c) or a competitive score. Analysis by subpopulation will be reported during presentation.



Discussion And Conclusion

Despite pressures associated with aiming for a high score, students with higher score goals were less stressed than those with lower score goals. Although the drive to achieve a high Step 1 score may have an impact on wellbeing, perhaps implications of not passing are so great that students concerned with passing are at greater risk for continued stress and anxiety, even with Step 1 becoming pass/fail.

Take Home Messages

It is likely that wellbeing will be impacted when students are concerned about passing Step 1 and that score goal will have a greater impact on wellbeing during preparation for Step 2, which for many is taken at the final stages of their medical education leaving little time to readjust residency expectations.



14K05 (1475)**Date of presentation:** Wednesday 31st August**Time of session:** 12:50 - 12:55**Location of presentation:** Tete d'Or 2

Academic stop-out in medical students: experiences and challenges

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Background

Stop-out contemplates those students who do not finish their study plan within the expected time, having suspended one semester or more and then have returned to university to complete their studies. Particularly in the case of medicine, worldwide evidence shows that mental health is a determining factor for dropping out of studies. It is observed that as the years progress, the possibility of withdrawing due to mental health problems increases and constitutes a significant factor among the reasons for dropping out.

Summary Of Work

The aim of this study was to comprehend the experiences of medical students during the process of interruption of their university studies. A qualitative study with phenomenological design was conducted. In-depth interviews were applied to 8 medical students from different academic years. Convenience sampling was performed until theoretical saturation was achieved. The analysis was carried out by means of the constant comparison method up to open coding level.

Summary Of Results

The following categories were identified: 1) experiences prior to the interruption of studies, with the subcategories of academic experiences, peer and teacher relationships 2) experiences during the interruption of studies, with the subcategories, reasons leading to the interruption of studies, decision making and process of interruption of studies, and experiences during the time away from the university and 3) experiences upon returning to studies, with the subcategories academic readjustment, social experiences and difficulties faced.

Discussion And Conclusion

Among previous experiences, students reported academic stress, mistreatment among teachers and peers, and time constraints for other activities. During the interruption period, most students decided to stop their studies for mental health reasons and dedicated themselves to taking care of their mental health during this time and prepare emotionally to resume their studies. After returning,



students faced a period of re-adaptation to university, to new classmates and resuming their study rhythms.

Take Home Messages

It is important to consider the influence that college experiences have on the mental health of our students, which can result in interruption of studies and affect the overall mental health and wellbeing of our future health professionals.



14K06 (2439)

Date of presentation: Wednesday 31st August

Time of session: 12:55 - 13:00

Location of presentation: Tete d'Or 2

Suicidal Ideations Among PAs and PA Students

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Background

Suicide and suicidal ideation are particularly prevalent among healthcare providers. The prevalence of suicidal ideation is well studied in other healthcare professions but is unknown among physician assistants (PAs). We set out to understand the degree of depression, anxiety, and suicidal ideations in PAs and PA students.

Summary Of Work

In total, 728 PAs and 322 PA students in the United States took an online survey. The survey utilized the Patient Health Questionnaire-9 and Generalized Anxiety Disorder -7 scales to measure depression and anxiety. Six questions regarding suicidal ideation, attempts and help seeking behavior were included.

Summary Of Results

Depression and anxiety were present at higher levels in PA students than employed PAs. PA students endorsed suicidal ideations occurring several days or more than half the days at more than twice the rate of clinically active PAs (9.6% vs. 4.2%). Just over 9% of PA students endorsed suicidal ideation since the start of their program while 8.6% of clinically practicing PAs reported the same since entering clinical practice. Stressors from work or school contributed to suicidal ideations. One-third of both groups did not reveal their thoughts to anyone, with 16.2% fearing consequences from disclosure.

Discussion And Conclusion

PAs are likely to be at risk for suicidal ideations at rates comparable to physicians.¹ PA students endorsed suicidal ideation at rates similar to that of medical students.² Both groups experience barriers to help. The COVID-19 pandemic may have elevated rates of emotional distress. Longitudinal studies are needed to further understand these issues. PAs and PA students are at risk for suicidal ideations. Suicidal ideation is less studied in PAs than other healthcare providers. Consequently, PAs



and PA students may have less resources to help cope with their depression and suicidality. Increasing awareness of these issues is the first step to increasing resources.

Take Home Messages

- PA students experience depression and anxiety at higher rates than practicing PAs
 - PAs and PA students physicians endorse suicidal ideation at similar rates to their physician and medical student counterparts
 - Frequently, both PAs and PA students do not seek help for their suicidal thoughts
 - Advocating for awareness of these issues in the PA population may help increase resources
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14K07 (3960)**Date of presentation:** Wednesday 31st August**Time of session:** 13:00 - 13:05**Location of presentation:** Tete d'Or 2

Exploring Mistreatment in Medical School: How mistreated students feel, the consequences, and the solution

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Background

Mistreatment in medical schools has been documented for many years despite the demonstration of its negative consequences. In 2021, students from the Faculty of Medicine of Ramathibodi Hospital conducted a study on the prevalence and factors related to mistreatment perception among Ramathibodi medical students, and the results revealed that the majority have experienced mistreatment. We aim to determine the types, sources, consequences of mistreatment in medical students. The solutions are synthesized based on participants' perspectives.

Summary Of Work

We applied a qualitative study by performing an in-depth interview with the mistreated clinical-year students. Voluntarily, the participants were included by a snowball technique until data saturation (n=44). The scenario, feeling from the situation, causes and consequences of mistreatments, as well as the viewpoint regarding the solution, are among the interview questions.

Summary Of Results

Verbal abuse, public humiliation, being graded unjustly, being ignored, being banned, sexual harassment are common types of mistreatment in the institution. The feeling of shock, fear, uncertainty, embarrassment, anger are some of the most typical reactions to mistreatment. Major reasons for mistreatment are lack of effective communication, the irritable mood of personnel, and students' unpreparedness before attending the class. The effects manifest themselves in a variety of ways, including a depressed mood, a negative attitude toward the department, and a desire to avoid being in that situation in the future. Many students stated that the faculty seems unconcerned about the situation because it has been going on for years. Also, mistreatments are frequently caused by the same abusers, indicating that mistreatment is mostly related to the abuser, miscommunication and the establishment of specific rules for certain personnel are the reasons for many mistreatments, and students do not complain because of the repercussions.



Discussion And Conclusion

Conservative cultures in medical school, normalized mistreatment, underestimating the prevalence, a complicated reporting system, and the fact that some past victims went on to become successful students are all reasons for mistreatment to continue. Defining mistreatment, institutional principles, continual education to prevent mistreatment, and a strong report system are all strategies to decrease mistreatment.

Take Home Messages

Accepting that there is mistreatment in medical school is the first step toward resolving this issue.



14K08 (0328)**Date of presentation:** Wednesday 31st August**Time of session:** 13:05 - 13:10**Location of presentation:** Tete d'Or 2

Mistreatment Report, Consequences and Related Factors Among Thai Medical Students in the Faculty of Medicine Ramathibodi Hospital, Mahidol University

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Background

Medical students' mistreatment has devastating consequences including burnout, depression, and unprofessionalism behaviors. However, mistreatment is not effectively reported in Thailand. This study aimed to explore the prevalence and characteristics of mistreatment, reporting channels, related factors, and consequences among Thai medical students in the Faculty of Medicine Ramathibodi Hospital, Mahidol University.

Summary Of Work

A cross-sectional survey with a correlational study was accomplished. Thai version of the Clinical Workplace Learning Negative Acts Questionnaire-Revised (NAQ-R) Scale was translated using the forward-backward process with interrater agreement analysis. The survey consisted of the Thai Clinical Workplace Learning NAQ-R scale, Thai Maslach burnout inventory-Student Survey (MBI-SS), Thai Patient Health Questionnaire (PHQ-9 for depression risk), demographic information, mistreatment characteristics, reporting channels, related factors, and consequences. Descriptive and correlation statistical analysis using multivariate analysis of variance (MANOVA) was applied.

Summary Of Results

681 medical students (52.4% female, 54.6% the clinical year) responded to the survey (56.1% response rate). The reliability of the Thai Clinical Workplace Learning NAQ-R Scale was high (Cronbach's alpha = 0.922), with a degree of agreement of 83.87%. 74.45% of medical students were being mistreated. The most common type of mistreatment was workplace learning-related bullying (67.7%). Attending staff was reported the most common source of mistreatment (31.6%). Burnout affected 34.65%, while 7.05% had a high depression risk. The academic year was the most significant factor associated with medical students' mistreatment especially in workplace learning-related bullying ($r=0.261$, $p<0.001$). Depression and burnout had significant relationship with mistreatment in person-related bullying (depression: $r=0.199$, $p<0.001$, burnout: $r=0.204$, $p=0.012$). Some



unprofessional behavior such as violence with colleagues had a significant relationship person-related bullying ($r=1.633$, $p= 0.002$). Only 8.22% reported mistreatment to someone.

Discussion And Conclusion

The most common type of medical students' mistreatment was workplace learning-related bullying. The mistreatment prevalence was high (74.45%), but the report rate was low (8.22%). The important aspect was the academic year, and the related consequences were depression, burnout, and unprofessionalism behaviors.

Take Home Messages

Medical students' mistreatment was evidenced most in workplaces. Faculty development programs should be addressed more and a reporting system with systematic management should be developed to ensure zero mistreatments in medical school.



14K09 (3246)**Date of presentation:** Wednesday 31st August**Time of session:** 13:10 - 13:15**Location of presentation:** Tete d'Or 2

Mistreatment in medical students: prevalence and coping strategies

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Background

The mistreatment is an ongoing issue in medical school. Mistreatment in medical student affect both learning environment and mental health outcomes. It may lead to burnout and negative impact on students' academic development. Learning and developing positive coping skill will build resilience to effectively manage stressful event and its negative psychological outcome. Higher psychological resilience is associated with a better positive coping style. This study aimed to explore the prevalence of mistreatment in undergraduate medical student during their clinical rotations and their coping strategies.

Summary Of Work

A self-report questionnaire, cross-sectional study was conducted to explore the prevalence of mistreatment in medical student during clinical clerkship and related factors. The Brief-COPE inventory was used to assess the individual's coping strategies.

Summary Of Results

Clinical year undergraduate medical students were randomly enrolled in this study (n=90). Overall, 66.7% of medical students' self-report have experience of mistreatment during clinical clerkship. The common type of mistreatment was verbal (94.2%) and discriminative abuse (55.8%). The common inflictors were medical staff (80.8%) and senior residents (53.8%). Only 32.7% of students reported these incidents to school authorities. The respondent reported their emotional responses as anger (67.3%), decreased self-esteem (57.7%) and burnout (34.6%). Average Brief-COPE inventory scores (total score 4) of problem-focused, emotional-focused, and avoidant coping strategies of abused students were 2.85, 2.58 and 2.06, respectively.

Discussion And Conclusion

Mistreatment may have potentially serious and long-lasting consequences. Although measures to end mistreatment have been implemented in medical school. The prevalence of mistreatment in our



study was higher than expectation. There were a wide range of abusers, not only medical staff but also peers, senior student, and patients. The coping styles and levels of resilience of medical student may reduce the incidence of burnout, as well as psychological consequence of mistreatment. Teaching students cognitive coping strategies may reduce adverse effects. In conclusion, this study shows that the prevalence of mistreatment of medical students remains high. The learner likely to used problem-focused coping to handle the situation.

Take Home Messages

Medical schools should address student mistreatment to diminish its undesirable results on their individual and professional well-being. Safe medical school policy should implement to protect the learners.



14K10 (3992)**Date of presentation:** Wednesday 31st August**Time of session:** 13:15 - 13:20**Location of presentation:** Tete d'Or 2

The association between selection method and medical students' stress level

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Background

A growing concern of medical schools is the high prevalence of mental distress of their students. The current selection-debate focuses on performance and diversity, but selection methods may unintentionally favor students who experience or develop higher stress levels. The present study examined whether there is a difference in stress level of first-year medical students based on the selection method: high pre-university grades (grades), an extensive procedure assessing cognitive and non-cognitive skills (assessment), or lottery.

Summary Of Work

650 first-year medical students at Erasmus MC Medical School (the Netherlands) from cohort 2013 (n=208), cohort 2014 (n=217), and cohort 2018 (n=225) participated. Students in these cohorts were selected by grades (n=261), assessment (n=333) or lottery (n=56; not in cohort 2018). Students completed the Perceived Stress Scale (PSS-14, min=0, max=56) in May in Year-1. The relationship between selection method and stress level in Year-1 was analysed with a multilevel regression model, controlling for gender and cohort-specific effects. Post-hoc analyses for cohort 2018 (grades vs. assessment) included study performance and brooding (questionnaire; Rumination Responses Scale).

Summary Of Results

Compared to students selected by grades, students selected by assessment (B=2.25 [0.80-3.63], p<.01) and lottery (B=3.95 [1.41-6.36], p<.01) showed higher stress levels. Students selected by assessment or lottery did not differ statistically significantly from each other. Post-hoc analyses with cohort 2018 demonstrated that compared to students selected by assessment, students selected by grades show lower levels of brooding (ANOVA: F(1,223)=6.58, p<.05) and better study performance (Chi-square test: X²(1) = 5.82, p<.05). When a linear regression analysis for cohort 2018 included brooding (B=1.63 [1.38-1.89], p<.001) and study performance (B=-2.48 [-4.11 - -0.84], p<.01), the association between selection method and stress level disappeared (B=0.56 [-10.05 - 2.17], p=.49).



Discussion And Conclusion

Students selected by lottery or assessment demonstrated higher stress levels in Year-1 compared to students selected by grades. Results suggest that higher levels of brooding and lower study performance play a role in these higher stress levels. How the relationship between selection method and stress level develops in different stages of medical school, needs further research.

Take Home Messages

Since selection method is linked to students' stress levels, the current selection-debate should include mental health beside performance and diversity.



14K11 (3691)**Date of presentation:** Wednesday 31st August**Time of session:** 13:20 - 13:25**Location of presentation:** Tete d'Or 2

Anticipatory stress generated by the OSCE and coping strategies available for medical students

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Background

Stress generated during the curriculum might have deleterious effects on the wellbeing and the health of medical students. Objective and Structured Clinical Examinations (OSCEs) will be incorporated soon in the certification process as a final national undergraduate ranking examination. This exam will be an additional major stressor for medical students.

Stress coping strategies could be implemented to help them better prepare for this examination. The aim of this study was to compare the efficiency on stress reduction of two different 6-minutes coping interventions in medical student, few minutes prior to the OSCE.

Summary Of Work

Formative OSCE for fourth year medical students was carried out early December 2021 at the University of Lyon. Ethical committee agreement was obtained (IRB2020051201, NCT05136586). After written consent, each student convened to the OSCE was randomized for one intervention: mindfulness, relaxing breathing biofeedback or control. Psychological stress was measured using a self-rated Visual Analogue Scale. For measuring physiological relaxation, heart rate variability was recorded during the intervention by ear pulse device measuring SD of the R–R intervals (SDRR reflecting autonomic nervous system adaptability). The impact of interventions was assessed through ANOVA (for psychological stress).

Summary Of Results

None student declined to participate, 481 students were randomized. All interventions reduced psychophysiological stress ($p=0.001$). Compared to the control group, mindfulness ($p<0.001$) and



biofeedback ($p < 0.001$) reduced psychological stress by an additional 11 and 10%. This psychological stress reduction was attested by higher SDRR scores in the mindfulness and biofeedback as compared with controls ($p < 0.001$ for both). Of note, as compared with mindfulness, biofeedback was associated with greatest physiological relaxation ($p < 0.001$).

Discussion And Conclusion

Short stress coping techniques is effective on stress level reduction of students under exam stress condition. These techniques appear promising as stress coping strategies for students. Reducing deleterious stress level while subsequently improving well-being of students might be an additional step toward performance optimization.

Take Home Messages

- Mindfulness and relaxing breathing biofeedback occurring few minutes prior student OSCE reduced the anticipatory stress level
 - Coping strategies for medical student might help facing the OSCE
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14K12 (2095)

Date of presentation: Wednesday 31st August

Time of session: 13:25 - 13:30

Location of presentation: Tete d'Or 2

Students' perception of mistreatment experienced during medical school upon graduation: A national survey study

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Background

Medical student mistreatment poses an ongoing challenge for medical schools worldwide. Mistreatment experience negatively affects students both personally and professionally. This study reveals students' perceptions upon graduation regarding different aspects of mistreatment at the national level in Iran.

Summary Of Work

We used the Association of American Medical Colleges (AAMC) Graduation Questionnaire (GQ, 2017) following translation, cultural adaptation and validation process. A nationally representative sample of medical students upon graduation completed the web-based questionnaire. Questions related to mistreatment experiences underwent further analysis.

Summary Of Results

398 medical students from 36 medical schools completed the questionnaire. Seventy-eight percent of students were not aware that their school had policies regarding the mistreatment of medical students. More than 50% of students reported that they **never** observed or experienced behaviors such as 'been threatened with physical harm' (53.40%), 'been physically harmed' (66.25%), 'been subjected to unwanted sexual advances' (61.21%), 'been denied opportunities for training or rewards based on race or ethnicity' (62.47%) and 'been subjected to racially or ethnically offensive' (59.19%). The most **frequently** observed or experienced mistreatment was 'been publicly humiliated' (34.51%). Almost one-third of students (30.98%) rated that they **occasionally** observed or experienced 'received lower grades solely because of gender rather than performance'. Seventy-six students answered that they did not report behaviors and the most common reason was that they did not think anything would be done about it. In the case of reporting, students preferred faculty members



as reference individuals. Thematic analysis of response to open-ended questions highlighted similar findings.

Discussion And Conclusion

This is the first study investigating mistreatment experiences in our context at the national level. Although most behaviors were never observed or experienced, students' unawareness of medical school's policies and failure to report mistreatment cases requires more attention.

Take Home Messages

Understanding medical students' perception upon graduation provides additional impetus for medical schools to address student mistreatment to mitigate its adverse consequences on their personal and professional well-being.



14K13 (0589)**Date of presentation:** Wednesday 31st August**Time of session:** 13:30 - 13:35**Location of presentation:** Tete d'Or 2

Relationship between Mindfulness and Test Anxiety in Nursing Students of Nursing and Midwifery School in Shiraz University of Medical Sciences

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Background

We live in an age where, despite advances in technology, disorders such as depression and anxiety, and stress are the most common diseases of the century. Among these, the most common emotional response is anxiety. One of the treatment methods for test stress and anxiety and interventions that can moderate the emotions resulting from test anxiety and negative attitudes toward school is mindfulness training.

Summary Of Work

The present study is a descriptive cross-sectional study that was conducted to investigate the relationship between test anxiety in nursing students and their level of mindfulness at the School of Nursing and Midwifery of Shiraz University of medical sciences. The statistical population of this study includes all nursing students in 2021. The number of samples was calculated based on Cochran's formula of 150 students. Tools for measuring test anxiety is the Sarason Test Anxiety Scale. The short form of Freiburg Mindfulness Inventory_ Short Form mindfulness questionnaire was used to collect data.

Summary Of Results

Pearson correlation coefficient between the level of mindfulness and test anxiety among nursing students ($r = -1.174$, $p = 0.033$) shows that there is an inverse and significant correlation between these two variables. Pearson correlation coefficient and the level of significance between the variable of academic performance and the variable of mindfulness ($r = 0.284$, $p = 0.001$) show that these two variables have a positive and significant correlation with each other.

Discussion And Conclusion

The results of the present study showed that there is a negative and significant correlation between the level of mindfulness and the level of test anxiety among nursing students of Nursing and Midwifery School in Shiraz. As the students 'mindfulness increases and improves, the level of



students' test anxiety decreases, and the students who have a lower level of mindfulness suffer more from the level of test anxiety.

Take Home Messages

In a stress management program, with the help of behavioral strategies such as relaxation, stress and anxiety can be reduced in people and using cognitive strategies and mindfulness to train them to identify irrational and dysfunctional thoughts that cause anxiety and to Insight into the role of these thoughts and replace them with logical thoughts.



ePosters - Teaching and Learning 3/Medical Education Research

14L01 (1164)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 12:35

Location of presentation: Salon Tete d'Or

Using storytelling for qualitative data collection in health education research

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Background

Empirical material is a crucial part of qualitative research, and the primary instrument for such data collection is the researcher her/himself. This study focuses on data collection on a phenomenon that is not stable in time. Methods often used in this situation include, but is not limited to, purposive sampling, retrospection and multiple interviews. The temporal concern, however, raises the question; how can we collect qualitative data at one focal point in time on a phenomenon, being medical specialty choice, that evolves over time? Thus, in this study we aimed to apply a method to focus group interviews that includes the temporal perspective in qualitative data collection.

Summary Of Work

We designed a virtual focus group study built around a fictive case holding the characteristics of a typical future medical specialist. By determining the beginning and ending of the specialty choice process during medical education, we established the time perspective in which specialty choice takes place. It also allowed us to define the crucial transitions that the case and future medical specialists experience underway. We used the transitions as impact points which were visualized to the participants during the interviews. The moderator was supported by a storyboard that allowed her to use the visualizations to facilitate storytelling among the participants.

Summary Of Results

Using storytelling and supporting it visually in focus group interviews produced rich data in a defined time perspective. We found that the participants engaged actively in the interviews relating the story of the case to their personal experiences, understanding and thoughts about the process of specialty choice.



Discussion And Conclusion

Introducing storytelling to the participants enabled them to put themselves in the place of others and reveal their own experiences both retro- and prospectively at one focal point of time. The method has the potential for a researcher to define the time perspective for data collection independently of the given interview's time point and frame.

Take Home Messages

Storytelling offers a method to collect qualitative data that encompasses the temporal concern when the phenomenon of interest evolves over time.



14L02 (1291)

Date of presentation: Wednesday 31st August

Time of session: 12:35 - 12:40

Location of presentation: Salon Tete d'Or

Academics' experience in veterinary educational research: results of a broad international survey and interviews of early leaders

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Background

Veterinary educational research (VER) is critical to continued improvement of educational outcomes. Additionally, some veterinary accrediting bodies (e.g. the American Veterinary Medical Association's Council on Education) require that students be exposed to research, and research productivity is one metric in faculty promotion and tenure decisions.

Summary Of Work

An international survey of 258 veterinary educational researchers collected information about challenges encountered when undertaking VER, how these challenges may be overcome, and tips for success. Semi-structured interviews with 6 very successful veterinary educational researchers in the US and Europe provide a narrative view of VER.

Summary Of Results

Survey respondents had been involved in veterinary education for a mean of 14 years but involved in VER for a mean of 5 years, suggesting a gap of 9 years. The median number of publications was just 2, and a third of researchers had no publications despite spending 1-20 years performing VER. Participants reported barriers including a lack of time, lack of funding, issues related to publishing, and challenges with data collection.

Themes from the interviews included a dual sense of responsibility to the veterinary profession and to education, building a community of practice through conferences and collaborations, the role of veterinary academia in veterinary education, and a mix of bad and good factors in veterinary educational research. Interviews identified needs for funding, increased collaboration, and advanced training and credentialing in education.



Discussion And Conclusion

Overall building an increasing body of evidence will underpin the daily work of veterinary educators, whether at the curriculum design level or as individual teachers. These sources of data were used to create an open access online Veterinary Educational Researcher's Handbook to support the community. In order for high-quality VER to be produced, funding and time must be allotted to VER. Additionally, educators must be offered advanced training for education, along with time allotted to complete that training.

Take Home Messages

VER is accessible to all but requires time, funding, and knowledge and training in methods. Individual educators can advance their careers through collaboration and expanding their community of practice. Institutions can support researchers with protected research time, small grants, writing workshops, mentorship, and connection with other educational researchers.



14L03 (2272)

Date of presentation: Wednesday 31st August

Time of session: 12:40 - 12:45

Location of presentation: Salon Tete d'Or

Educational Innovation Groups Initiative: A proposal to build a MedEd community

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Background

Medical education has grown as an exciting interdisciplinary field where professionals are highly motivated to implement innovation projects and develop research. However, most of the efforts are short-term projects that are individual-driven. As a result, there is little understanding of the complex underlying phenomena by not stating a broader vision, and the projects' impact is limited.

Summary Of Work

The objective of the Educational Innovation Groups Initiative was to build a MedEd community with defined strategic lines that guide research and innovation. The community has undergraduate students, residents, and faculty members that engage in educational projects to improve the quality of education in the School of Medicine and Health Sciences. Although scientific production was one of the designed metrics, others included students' involvement in research, the attraction of funding, and participation in associations. Four groups were established: the smaller had six members and the largest twenty.

Summary Of Results

In 2018, the historic scientific production of the school consisted of 20 papers and 68 citations. Six of the papers were on Scopus indexed journals. In 2019, after only one year of implementation, participants published 17 papers and received 108 citations. Eight papers were on Scopus indexed journals. In 2020, the groups published 27 papers, and their work gathered 212 citations. Thirteen papers were on Scopus indexed journals.

Discussion And Conclusion

Fostering this community has changed the focus from individual-driven implementations to a learning community where projects grow in impact and quality. The next step is to mature into a more collaborative and international MedEd community.



Take Home Messages

A MedEd community needs to have undergraduate students, residents, and faculty members that engage in educational projects to improve the quality of education in the School of Medicine and Health Sciences.

For it to be successful, the focus should change from individual-driven implementations to a learning community where projects grow in impact and quality.



14L04 (2087)

Date of presentation: Wednesday 31st August

Time of session: 12:45 - 12:50

Location of presentation: Salon Tete d'Or

Using theoretical frameworks in ophthalmic medical education: a systematic review and theory of change model

Sophia Song¹, Zane Yu¹, Laura Pavlech², Ingrid Scott³, Paul Greenberg^{1,4}

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Background

Theoretical frameworks provide a lens through which to explore questions, design initiatives, evaluate outcomes, measure impacts, and disseminate findings. There is a dearth of studies on the prevalence of theoretical framework usage in subspecialty medical education.

Summary Of Work

The goal of this study is to systematically review the role of theoretical frameworks in subspecialty medical education, using ophthalmology as an example, and use the findings to construct a theory of change model for guiding the development of theory-based initiatives. Six electronic databases were searched for peer-reviewed, English-language studies published between 01/01/2016 and 1/16/2021 on ophthalmic educational initiatives employing a theoretical framework. Quality of studies was assessed using the Grading of Recommendations, Assessment, Development, and Evaluations (GRADE) approach; risk of bias was assessed using the Medical Education Research Study Quality Instrument (MERSQI) and the Accreditation Council for Graduate Medical Education (ACGME) guidelines for evaluation of assessment methods. Study selection, data extraction, and quality assessment were completed independently and in duplicate by two reviewers.

Summary Of Results

The literature search yielded 1661 studies; 666 were duplicates; 834 studies were excluded after abstract review and 132 after full-text review. Twenty-nine studies (19.2%) that employed a theoretical framework were included. The theories used most frequently were the Dreyfus model of skill acquisition and Messick's contemporary validity framework. GRADE ratings of certainty of study outcomes were predominantly "low," the average MERSQI score was 10.04/18, and the ACGME recommendation for all assessment development studies was "Class 3," the lowest recommendation.



Discussion And Conclusion

Of the few ophthalmic medical education studies that employed a theoretical framework, overall study rigor was low as assessed by GRADE, MERSQI, and ACGME guidelines. We abstracted components of included studies to develop a theory of change model delineating the steps and resources required to select and integrate theoretical frameworks into educational initiatives; we provide an example of a theory-based curriculum initiative.

Take Home Messages

There is a paucity of rigorous studies using theoretical frameworks in ophthalmic medical education. A theory of change model can help guide medical educators in developing initiatives grounded in theory.



14L05 (2107)

Date of presentation: Wednesday 31st August

Time of session: 12:50 - 12:55

Location of presentation: Salon Tete d'Or

Achievement in small group online discussion with facilitator in pre-clinical student during COVID-19 pandemics at SWU, Thailand.

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¹ *Faculty of Medicine, Srinakharinwirot University, Bangkok, Thailand*

Background

In order to achieve skills required for the 21st century, our Faculty of Medicine, SWU curriculum evolved into more active in the form of face-to-face small group discussions. As the COVID-19 pandemic emerged in 2019, we were met with challenges in trying to maintain student competency as well as prevent the spread of the virus. In this retrospective study, we describe an effective method for online teaching by comparing the summative results of small group online discussions between with and without facilitator.

Summary Of Work

In 2021, data were collected from 3 clinical correlation topics in the cardiovascular course used for 3rd year students. Each topic was engaged fully online with small group discussions each of which had 10 fixed members to go through all 3 topics. Teachers or facilitators were assigned to each group for the 3rd topic but not for the 1st and 2nd topics. Student academic achievement was assessed by online examination under cheat-prevention protocol. Acceptable index (AI) assessment was performed by the cardiovascular course committee.

Summary Of Results

170 students were enrolled in the 2021 cardiovascular course. The average AI of each test for the 3 topics were 0.48, 0.44 and 0.50 respectively. A significant difference between mean AI of the 2nd and 3rd topics ($P=0.013$) but not for the first topic was observed. The average score for all 3 topics were 59.41%, 55.18% and 68.74% respectively. The results from the 3rd topic showed significant higher score when compared to the 1st and 2nd topics (mean differences; 9.35 ($p<0.001$, 95% CI = 3.41 - 15.30), 13.56 ($p<0.001$, 95% CI = 7.65 - 19.53) respectively.

Discussion And Conclusion

In summary, as the COVID-19 pandemic continues, the learning environment may vary putting the students' attention in jeopardy. With help from facilitators, however, student engagement has



significantly improved with better examination scores. This result may highlight the importance of having a teacher or facilitator in an online active learning environment.

Take Home Messages

With help from a facilitator, the students can engage better in the activity resulting better examination scores.



14L06 (3930)**Date of presentation:** Wednesday 31st August**Time of session:** 12:55 - 13:00**Location of presentation:** Salon Tete d'Or

Thai medical students' awareness of privacy and security policy on patients' health information

Wachiraporn Arunothong¹¹ *Lampang Regional Hospital, Lampang, Thailand*

Background

Thailand's Personal Data Protection Act BE 2562 (PDPA) will come into full effect on 1 June 2022 and will bring significant changes to the current data protection regulatory environment in Thailand. Patients' health data is regarded highly sensitive information. Medical training institutions must prepare and ensure compliance before the deadline. This study aims to explore the readiness among medical students regarding the issue of privacy concerns and awareness to misuse behaviors to personal health data.

Summary Of Work

An online survey was conducted with undergraduate year 4th to year 6th (UGY) medical students in 37 medical educational centers. The survey covered demographic data, institutions' measures on data privacy and security policy, students' awareness to data privacy and security policy and their data misuse behaviors. Students' awareness and misuse behaviors were asked indirectly through 4 case vignettes.

Summary Of Results

1011 medical students completed the survey. 36% of participants said they have completed data security and policy training in their hospitals. 100% of them have accessed to patient's health data, electronically. Of these, 54.8% had permission to read, 14.9% had permission to read and write and 30.3% used others' password to access to patients' health records. Less than 50% of the students know about data protection and security policy. 52% of the students had misuse behaviors on patients' health records. 36% of them revealed the misuse behaviors of themselves or their colleagues to the chiefs. 47.8% of them report that they had a review of a data misuse incidence in their institutions.

Discussion And Conclusion

Our data suggest that medical training institutions were unaware of the importance of preparing their medical students for the PDPA. The majority of medical students were unaware of data



protection and security policies and were misusing patients' medical records. Medical students should be among the people who medical training institutes pay attention to in order to assure compliance and demonstrate accountability.

Take Home Messages

Medical students, as members of the institute's staff, must be reminded of the need of PDPA compliance, which emphasizes personal health data protection and security.



14L07 (3901)

Date of presentation: Wednesday 31st August

Time of session: 13:00 - 13:45

Location of presentation: Salon Tete d'Or

Evaluation of online versus campus based education

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Background

We provide a course in clinical microbiology for medical students. When the COVID-19 pandemic swept over the world we were, like many other educational institutions, forced to quickly shift from campus-based learning activities including lectures, seminars and laboratory practicals to strictly on-line teaching activities. These rapid changes also brought along new creative educational innovations to solve the lack of possibility to meet face-to-face. Now the campus is opening up again and we need to decide which educational learning activities should be included in the course both based upon what best helps the students to reach the learning objectives and what the students prefer. In this study we evaluated the students' preferences for campus-based versus on-line teaching.

Summary Of Work

The study included course evaluations from 252 medical students who took the course in 2019 before the pandemic and 289 students who have taken the course half a year into the pandemic during autumn 2020 or later. In addition, 91 students responded to an extended course evaluation form that was used to evaluate the students' perception of on-line versus campus-based teaching activities.

Summary Of Results

In total, 66 % of the students preferred a mix of on-line and campus-based teaching activities, 25 % preferred only on-line activities and only 9 % preferred only campus-based activities. The questionnaire showed that the majority of the participating students appreciated the presence of synchronic live-lectures both before and after the arrival of the pandemic when lectures were provided in Zoom.

Discussion And Conclusion

Combining campus-based and on-line teaching activities is preferred by a majority of the students. Despite that all teaching activities have been on-line during the last two years the overall satisfaction with the course has not been much affected. The present results indicate that we can keep some of



the on-line teaching activities and that the lack of social presence during the pandemic has not affected the students' perception of the course.

Take Home Messages

A combination of on-line and campus-based teaching activities is preferred by a majority of students and may be the way to design teaching in the post-pandemic era.



14L08 (1995)

Date of presentation: Wednesday 31st August

Time of session: 13:05 - 13:10

Location of presentation: Salon Tete d'Or

Study of the impact of serious games on marks and motivation : the case of teaching Rheumatology in osteopathic cursus.

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¹ CEESO Lyon, Lyon, France

Background

Serious games are increasingly used as pedagogic tools in medical education (Gorbanev and al, 2019 ; Dankbaar, 2017). The aim of this study is to verify the impact of a serious game on student's motivation and marks in the rheumatology lesson from the osteopathic cursus. This study is part of our final thesis.

Summary Of Work

We created a serious game, with a teacher doctor in rheumatology. We created two groups from the original class composed of 51 students (experimental versus control). We adopted a randomized trial, after a pre-selection based on motivation. The experimental group trained rheumatology with the serious game during 5 sessions through the school year. Both group motivation's were measured (EME: Vallerand and al, 1989, 12 items scale) three times. The marks of the final exam (April 2022) were reported and analyzed.

Summary Of Results

As the study is still in progress we cannot know neither the impact of the serious game nor the evolution of the motivation. The results will be there in August 2022.

Discussion And Conclusion

Based on other studies we can hypothesize that serious games in the rheumatology lesson from the osteopathic cursus will have a positive impact on the motivation and marks.

Take Home Messages

serious games in the rheumatology lesson from the osteopathic cursus will have a positive impact on the motivation and marks.



14L09 (2884)

Date of presentation: Wednesday 31st August

Time of session: 13:10 - 13:15

Location of presentation: Salon Tete d'Or

Virtual medical research mentoring: is metaverse the new meta?

Danny Radford^{1,2}, Teddy Tai Loy Lee², Samahat Ahmed^{1,2}, Jeremy Man Ho Hui², Yan Hiu Athena Lee², Danish Iltaf Satti², Leonardo Roever^{2,3}, Tong Liu⁴, Ana Ciobanu⁵, Elham Mahmoudi⁶, Jeffrey Shi Kai Chan Shi Kai Chan², Gary Tse^{1,2}

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Background

The metaverse, first conceptualised in science fiction, has become a reality. In this study, we share our initial experience of the Cardiovascular Analytics Group, an online mentorship platform with recent innovations in incorporating our activities in the metaverse platform, AltspaceVR.

Summary Of Work

This was a prospective pilot study conducted over two weeks. All participants provided informed consent. Invitations were sent to all group members along with joining instructions. Meet and greet sessions were held weekly for two weeks in a hybrid format involving AltspaceVR with direct streaming to Microsoft Teams. Surveys were sent to solicit their experiences. Questions focused on its roles in facilitating virtual mentorship including communication and internationalisation.

Summary Of Results

Our group consists of 86 members from 20 countries. Of these, 18 members responded to our survey. For the respondents, the mean age was 28 ± 7 years old and 28% were female. Their experience levels ranged from undergraduate students ($n=9$) through to early career graduates ($n=3$) and consultants or those in equivalent academic posts ($n=6$). On a scale of 1 to 5 (from least to most satisfied), members were satisfied with the platform (4.06 ± 0.73). Members found that the metaverse facilitated interactions with new colleagues (3.67 ± 1.14) and with colleagues from other countries (3.73 ± 1.18) compared to Microsoft Teams alone. A total of 15 of 18 colleagues agreed that i) the gamification aspect of the metaverse prompted their interests in medical research, ii) the



metaverse facilitated mentorship, and iii) the metaverse broke down barriers between members with experience levels or seniority.

Discussion And Conclusion

The metaverse provides new opportunities for innovation within medical education and mentorship. In comparison with Microsoft Teams, the metaverse is more effective for collaboration with international colleagues, working on projects and working with new colleagues. Uniquely, the metaverse's gamification drives interest in medical research and breaks down barriers between members with different experience levels/seniority.

Take Home Messages

The metaverse is effective for facilitating and enabling interactions amongst international colleagues, breaking down physical barriers and traditional hierarchies.



14L10 (2432)

Date of presentation: Wednesday 31st August

Time of session: 13:15 - 13:20

Location of presentation: Salon Tete d'Or

Redesigning Resident Education During Pediatric Critical Care Medicine Rotation Using Process-Oriented Guided Inquiry Learning

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Background

Given the complexity of PCCM, residents often acquire knowledge without the ability for practice transfer. An exploratory survey of residents and PCCM fellows revealed suboptimal learner and facilitator engagement and a desire for interactive case-based learning. POGIL is a learner-centered pedagogy that enables learner engagement, knowledge retention, and development of critical thinking skills. We employed POGIL to scaffold complex PCCM concepts through 3 phases (exploration, formulation and application of concepts) to optimize learner engagement among residents rotating through PCCM rotation.

Summary Of Work

We used Educational Design Research (EDR) to develop POGIL modules. Following the National POGIL Project guidelines, we designed a modular prototype which was refined through consensus of the team prior to rapid prototyping by a single fellow facilitator. We triangulated feedback from residents, faculty educators and subject matter experts to finalize the POGIL modules. We administered the MUSIC® inventory, a six point Likert scale, to residents pre- and post-implementation of POGIL modules for evaluation of five key engagement principles: eMpowerment, Usefulness, Success, Interest, and Caring.

Summary Of Results

We created and implemented seven POGIL modules to two groups of residents (n = 17 responses). The pre and post MUSIC® inventory showed a significant increase learner engagement in 4 out of 5 areas: empowerment (3 vs. 5, p = 0), success (5 vs. 6, p = 0.004), interest (5 vs. 6, p = 0), and caring (5 vs. 6, p = 0.007). Qualitative analysis identified five themes related to quality of the POGIL modules used to enhance the modules: Interaction, Resources, Content, Learning Process, and Time Management.



Discussion And Conclusion

Through EDR we developed POGIL modules for resident education during PCCM rotation. Evaluation showed increased engagement in 4 areas. Qualitative analysis identified essential content, showed the residents enjoyed case based learning with highly structured worksheets, and revealed difficulty in protecting resident didactic time.

Take Home Messages

Pediatric residents desire an interactive case-based learning environment.

POGIL can be successfully used to deliver core PCCM content with enhanced learner engagement.

Protected time is the largest barrier to effective delivery of content.



14L11 (2122)

Date of presentation: Wednesday 31st August

Time of session: 13:20 - 13:25

Location of presentation: Salon Tete d'Or

Using flipped classroom to make psychiatry class more comprehensible and enjoyable!

Areerat Siripongpan¹, Sahattaya Niyamosot¹, Paninun Srinuchasart¹

¹ *Institute of Medicine, Suranaree University of Technology, Nakhon Ratchasima, Thailand*

Background

Flipped classroom is a teaching method in which basic concepts are provided to students for pre-class learning so that they can apply and build on them in class. People's attitudes toward psychiatry are generally difficult to comprehend. Therefore, we came up with the notion of using flipped classroom to overcome this barrier.

Summary Of Work

In a large class, students from various institutions (healthcare and non-healthcare professions) willingly attended the "Positive Thinking" online session, which is one of the sessions in an elective course at Suranaree University of Technology. This session is a life skills subject, and student will learn about psychiatric theory. We use "flipped classroom" and electronic media as an instructional medium to achieve our goal of increasing student comprehension. Before class, students watched a 20-minute video that showed lecture materials, which we called "Pre-class activities." Students were divided into groups for in-class activities and discussed their problems or difficulties in studying. This study was a quasi-experimental study in which 684 students filled out questionnaires. Students undertook multiple questions regarding attitudes towards pre- and in-class activities, engagement, and rated their enjoyment (satisfaction).

Summary Of Results

Most students had a positive attitude towards the flipped classroom. Attitudes towards Pre-class activities (16.44 out of 20) and In-class activities (25.33 out of 30) were at their greatest level. Student engagement was at a great level (3.43 out of 5). They also had the greatest level of satisfaction (4.40 out of 5). There were statistically significant differences between the pre-and post-tests (p -value $<0.001^*$).

Discussion And Conclusion

With the flipped classroom approach, students will receive information on available time and learn at their own pace through video content. Students show an openness toward flipped classroom



learning activities. Student engagement with the task allows them to become a delight within the team and stimulates learning. Students who learn from their peers and participate in activities benefit from the flipped classroom.

Take Home Messages

The flipped classroom requires that students work in groups, and they are generally required to engage in group activities in class. The flipped classroom had a powerful effect on students' understanding and enjoyment.



14L12 (3119)

Date of presentation: Wednesday 31st August

Time of session: 13:25 - 13:30

Location of presentation: Salon Tete d'Or

Anterior Nasal Packing: The Number of Times that Medical Students Should Practice to Achieve Optimal Competency

SORRACHA SOPHANATE¹

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Background

Anterior nasal packing (ANP) session for medical students has been conducted at Ratchaburi medical education center. It consists of lecture, demonstration, training with mannequins, and patients under close supervision. However, there is a few information regarding how many times that students should practice ANP to achieve optimal competency. This study aims to identify the number of practicing times that students need to achieve an optimal competency in ANP.

Summary Of Work

Fifth-year medical students during otolaryngology rotation in January-March of 2016-2020 were enrolled in this study. They were divided into three groups: students allowing to practice ANP as frequently as they preferred (Student preference group (SPG)), students requiring to practice at least three times (compulsory group A (CGA)), and students assigning to practice at least five times (compulsory group B (CGB)). A ten-questioned pre-test was done before starting the session and 5-point Likert scale confidence level evaluation questionnaire was collected when the practices finished. After three weeks of training, ANP skills were assessed using the clinical instructors' checklists as their competency scores.

Summary Of Results

Out of the 159 medical students, 95 students were in SPG, 32 students were in CGA, and 32 students were in CGB. The pre-test median scores and interquartile range (IQR) among the three groups was not statistically different ($p=0.98$), (8 (IQR 8.0-9.5), 8 (IQR 8.0-8.5), 8 (IQR 8.0-9.0) in SPG, CGA, and CGB respectively). The median number (IQR) of times that students practiced in SPG was 2 (1-5), CGA was 3 (3-6), and CGB was 6 (5-9). The median competency score, (IQR), and median confidence level were 7.9 (7.5-8.3), 3 in SPG, 9.2 (8.9-9.5), 4 in CGA and 9.5 (8.9-10.0), 5 in CGB. Competency score in CGA and CGB were statistical significant higher than SPG ($p=0.009$ and $p=0.005$). Confidence level was higher in CGB when comparing to SPG ($p=0.042$). However, competency score and confidence level in CGA and CGB were similar ($p=0.55$ and $p=0.34$).



Discussion And Conclusion

From this study's result, medical students should practice three times or more to achieve competency goal in ANP. Moreover, practicing more than 5 times could increase confident level.

Take Home Messages

Encourage and provide adequate study resource for medical students to practice ANP more than 3-5 times whenever they want could help them to achieve competency goal in ANP.



14L13 (2375)

Date of presentation: Wednesday 31st August

Time of session: 13:30 - 13:35

Location of presentation: Salon Tete d'Or

Enhancing dental students' understanding of antibiotic use by small group discussion with integrating serious/dramatic case studies into case-based learning

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¹ *Institute of Medicine, Suranaree University of Technology, Nakhon Ratchasima, Thailand*

Background

Antibiotics are commonly used in dental practice and procedures. Inappropriate use of antibiotic may lead to side effects and antimicrobial resistance. During dental students' training, antibiotic knowledge is included in the training program. The antibiotic class lecture provides knowledge, but not comprehension and skill. Small group learning strategy is an educational approach that focuses on students learning in small groups. We design small group discussion with integrating serious/dramatic case studies into case-based learning for providing students to develop skills in critical thinking and problem solving.

Summary Of Work

Third year dental students at Suranaree University of Technology were divided into five groups, each with eight students per group. Small group learning through case studies and problem solving. There were assigned a relevant case study along with an application and comprehension questions about antibiotic used in dentistry. We also provided 60 minutes to students for brainstorming and discussion. After that, each group presented their solution for case-problems and answered questions from the other groups. Pre-test and post-test were done in class. Student attitudes were examined through questionnaires (using a Likert scale of 1-5), which focused on their understanding and applying. Multiple choice questions (MCQ) were done by students two weeks after class.

Summary Of Results

Post-test scores for the small group case-based learning antibiotic class were significantly higher than pre-test scores, mean (SD) from 5.62 (2.58) to 9.47 (2.2) (p -value <0.001). The MCQ average score was 5 (total score = 6) (SD = 1.04). The mean overall score of pre- and post- understanding were 3.52 and 4.10 (out of 5) respectively. The mean overall score of applied knowledge was 4.31 (out of 5).



Discussion And Conclusion

In an antibiotic class, small group case-based learning is effective for promoting learning, the thinking process, and peer-peer interaction. In particular, integrating serious/dramatic case studies into case-based learning may cause an increase in students' intentions, encourage students to review a real-life situation and explore how to solve it.

Take Home Messages

Small group discussion with integrating serious/dramatic case studies into case-based learning can improve students in the learning process, achieve learning curriculum and knowledge retention.



14L14 (3218)**Date of presentation:** Wednesday 31st August**Time of session:** 13:35 - 13:40**Location of presentation:** Salon Tete d'Or

Assigned or Chosen? : Mentoring in Medical School

Pornsuda Krittigamas¹, Winita Wajatieng¹, Patthamalak Phuagphong¹, Worachet Teacharak¹

¹ *Nakornping Medical Education Center, ChiangMai, Thailand*

Background

Mentoring system plays an important role in the success of medical students; however, students rarely have an opportunity to choose their own mentors. In order to develop better mentoring system to fit student needs, we carried out a questionnaire to develop a model of the mentoring system which students preferred.

Summary Of Work

Eighty clinical years medical students at Nakornping Medical Education center were asked to complete a self-administered questionnaire regarding current and preferred mentor system. Descriptive statistics were used to analyze the data.

Summary Of Results

Thirty-six students (45%) responded to the survey, the majority of whom were female (56%), fifth-year (41.7%), with a median age of 24 (iqr 1; range 21 - 34). Half of students preferred choosing mentor by themselves rather than assigned by institutional staff. The most considerable mentor choices were mentor who can spend time with them (70.6%), followed by expertise (29.4%). Mentor styles in need are nurturing (47.2%), friendship (41.6%), role model (0.05%), apprenticeship (0.05%). Eighty percent of students would like to have mentor under the age of 40. Suggested optimal time to meet with mentor was varied between every 1-3 months and most of students (71.4%) preferred to have mentor meeting outside hospital. The model of mentor that they suggested was a ratio of one mentor per several mentees (65.7%) and 67.6% would like to have a continuation of the same mentor through 3 clinical years. The past advisory system has helped to consult regarding study problems (78.1%), friend problems (21.9%), and family problems (12.5%). Most of students voted moderate to most satisfied with the current mentor system. Unfortunately, 22.9% of students did not meet their mentors and most of them did not dare to ask for a mentor change.



Discussion And Conclusion

This study explores the needs and perceptions of mentoring system in NMEC. Although most students satisfy with the current mentoring system, there are still gaps for improvement. Medical students should be able to express their needs and revise their support system with the help of their institution.

Take Home Messages

Mentoring system should be re-evaluated and organized in relation to the need of medical students to support their learning and professional growth.



Workshop 14M (2826)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Rhone 3A

How to get involved in Health Professions' Education Research: a workshop for early career educators

Katherine Stevenson¹, Robert Cullum², Hannah Gillespie³, Eliot Rees⁴, Kim Sien Choong⁵

¹ University Hospitals Plymouth NHS Trust, Plymouth, UK ² NHSE/I Midlands Team, Nottingham, UK ³ Queen's University Belfast, Belfast, UK ⁴ Keele University, Keele, UK ⁵ Arrowe Park Hospital, Merseyside, UK

Background

Health professions' education research (HPER) is crucial in order to understand and improve the science of learning within health professions, and ultimately enhance the quality of care delivered to patients [1]. Developing careers in HPER can be challenging for early career clinicians [2]. This may be because HPER career pathways remain somewhat overshadowed, and poorly understood, especially within student communities [3]. Indeed, careers in health professions education in general have historically been serendipitous.

In this workshop, members from the Association for the Study of Medical Education's Trainee group (TASME) and Education Research Committee (ASME ERC) will discuss how to embark upon and further develop careers in HPER. In line with our values, we aim to advance the scholarship of application by engaging with, and networking beyond our local communities.

[1] McGaghie, W. Scholarship, publication, and career advancement in health professions education: AMEE Guide No. 43. *Medical Teacher*. 2009. 31(7):574-590.

[2] Rees, E., Guckian, J., Fleming, S. Fostering excellence in medical education career pathways. *Education for Primary Care*. 2021; 32: 66-69.

[3] Alexander, L. How can I get involved in research as a medical student? *British Medical Journal*. 2020; 370.

Who Should Participate

Students, trainees, early career educators seeking to establish careers in HPER.

Structure Of Workshop

This will be an interactive and discursive workshop. We will define the scope of HPER including a whistle-stop tour of some broad overarching HPER research themes, methodological approaches,



and the variety of career pathways into research which exist. We will intersperse reflections from facilitators from a variety of early career researchers designed to cultivate group reflection and learning. We will provide practical top tips for embarking on HPER research careers.

By the end of the workshop, the delegates will work together in small groups to design and develop research ideas, draft project proposals, then construct their own personal development plans on how to make their goals come to fruition.

Intended Outcomes

Participants should be able to:

- Evaluate options to develop HPER careers.
- Construct a personal development plan to enact a potential research project.
- Identify opportunities to commence research in HPER
- Support fellow students, trainees, and early-career educators to engage with HPER.



Workshop 140 (2032)

Date of presentation: Wednesday 31st August

Time of session: 12:30 - 14:00

Location of presentation: Rhone 4

Introduction to OKRs for managing student organization effectively

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Background

Student organizations have many roles as student representatives and activity initiatives. From the concept of student engagement in medical school, student organizations must be the main body of the system that provide space for students to engage with school operations in various areas. So, plenty of work is delivered annually from the student section including extracurricular activities, academic supports, and wellbeing improvement. To set the common goal and evaluate how successful each project is, selection for tools is challenging. In the business sector, Objectives and Key Results, as known as OKRs introduced by Intel, are widely adopted. In the Faculty of Medicine Ramathibodi Hospital, the student organization named Ramathibodi Medical Student Council (RAMSC) has used OKRs as a tool for goal setting for 2 years. This workshop, therefore, aims to introduce OKRs to medical students and simulate how they are formulated and applied.

Who Should Participate

Students who have participated in student organization from broad levels: school level to international level, particularly who are interested in concepts of student engagement and organization development.

Structure Of Workshop

(1) Introduction (15 min)

(2) Sharing sessions – using the structure of Knowledge café and break out into small groups. (15 min)

The focussed topic for discussion includes:

- How did you evaluate the outcomes of student organizations?
- What is the barrier of those tools ?

(3) Brief summary of OKRs (15 min)



(4) Simulation of OKRs formulated: the particular affair will be assigned to a small group i.e. activity affairs, academic affairs etc. (20 min)

(5) Presentation (15 min)

(6) Workshop summary (10 min)

Intended Outcomes

After this workshop, attendees will be able to:-

- (1) understand the concept of OKRs and how to use it,
- (2) implement OKRs to their own organization, and
- (3) create the connection between international organizations.



Plenary 15A (2977)

Date of presentation: Wednesday 31st August

Time of session: 14:15 - 15:00

Location of presentation: Amphitheatre

One way or another: Medical education's irreconcilable ideology

Lara Varpio¹

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Medical education's journals share lessons learned, insights gained, and new knowledge derived from innovations and research. However, often missing from these manuscripts is an examination of the values that are embedded in these efforts. The values embraced in medical education--those embedded in our ideology--are not always aligned. *Care, expertise, collaboration, responsibility, fair, growth*: all are laudable values but, when they stand in opposition, we are ill equipped to manage the irreconcilability. This talk explores moments when our values are not aligned, the implications of working in these spaces of tension, and suggests how we might productively navigate through these misalignments.

Bio

Dr. Lara Varpio is Professor of Medicine at the Uniformed Services University of the Health Sciences in Maryland, USA. Her research uses qualitative methodologies and methods, integrated with theories from the Social Sciences and Humanities. She investigates how individuals (e.g., clinicians, learners) collaborate in and impact on group performances (e.g., interprofessional healthcare teams), and how those groups similarly enable and constrain individuals' efforts. In addition to being an award-winning researcher, editor for several journals, host of KeyLIME podcast, and prolific author, Dr. Varpio passionately supports the next generations of medical educators and researchers. Born and educated in Canada, Dr. Varpio worked in Sweden for three years before moving to the US with her husband and two sons.



Plenary 15B (4815)

Date of presentation: Wednesday 31st August

Time of session: 15:00 - 15:45

Location of presentation: Amphitheatre

Lifelong learning in health - the WHO Academy approach

Tedros Adhanom Ghebreyesus¹ (Recorded presentation), Tana Wuliji², Janusz Janczukowicz³

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This plenary uses the synergy arising from organising the 2022 AMEE Conference in Lyon, being the central hub of the WHO Academy. Lifelong learning is the competence that should be developed and supported through all phases of under- and postgraduate education and training of the global health workforce. The WHO Academy is a key transformation initiative of the World Health Organization that aims to move the organization into the future by placing it on the cutting edge of lifelong learning in health. Working with regional, national and WHO stakeholders and experts the Academy is looking to define and implement a best practice approach in delivering learning that is competency focused, tailored to individual needs, and drives learning to improve patient and population health. Achieving this goal requires working with policy makers and taking into account the regional and local learning needs. Moreover, the inauguration of the WHO Academy is coordinated with the development of the global framework for recognition of learning achievement - a standardised and systematic approach to award credentials flexible enough for any country to adopt or use it according to their needs and as a reference for global standards developed by representatives and qualification experts from around the world.

Biography

Dr Tana Wuliji (PhD, BPharm) led the establishment of the World Health Organization Academy between 2018 - 2021. The Academy will support 10 million people by 2023 with state-of-the-art lifelong learning to achieve health impact, with its first programmes released in 2021. Tana cares deeply about equity and health and is passionate about people. She is a health workforce expert, researcher and policy advisor and has led large-scale international programmes for over 16 years in 15 countries in Africa, Middle East and Asia. As Team Lead of the Working for Health programme from 2017-2019 at the WHO, she established and coordinated the world's first interagency programme with ILO and OECD to address the 18 million health worker shortfall. This programme amplifies health and social workforce investments and intersectoral action for skills, employment and performance to guide and stimulate 40 million new health worker jobs. She received her PhD from the University of London and a BPharm from the University of Otago.

