



AAMC

Tomorrow's Doctors, Tomorrow's Cures®

2020 SGEA Regional Meeting

Abstract Compendium

Contents

Message from the SGEA Chair.....	2
Message from the 2020 SGEA Conference Host	3
Special Thank You and Acknowledgements	4
SGEA Awards.....	5
Innovation Abstracts	6
Research Abstracts.....	135
Small Group, Workshop and Panel Discussion Abstracts	247
List of SGEA Steering Committee Members	324
List of 2020 SGEA Regional Conference Planning Committee Members.....	325
2020 SGEA Reviewers	327

Message from the SGEA Chair

Dear Colleagues,

I am so pleased to join with my peer regional GEA chairs and the AAMC medical education team in offering this important compendium of medical education innovation and scholarship. Though our regional meeting did not take place as planned, I remain so grateful to Dr. Erica Brownfield, 2020 SGEA regional conference meeting planning committee chair, and the planning committee members. They had invested countless hours to plan a terrific Atlanta experience. Their effort has not been in vain. They have uplifted and affirmed that the SGEA and its constituents remain committed and passionate about our learners' continued success and our community's wellbeing.



On behalf of the SGEA steering committee, I thank the AAMC and the medical education team for their tireless efforts to keep us moving forward despite the strong headwinds of the pandemic. I also thank the partnering institutions and their leaders for having graciously offered to host the 2020 SGEA Gathering, Augusta University Medical College of Georgia; Emory University School of Medicine; Mercer University School of Medicine; and Morehouse School of Medicine.

I congratulate our colleagues who contributed to this compendium and the recipients of the SGEA's awards:

- 2020 SGEA Career Educator Award: Dr. Beth Nelson, The University of Texas at Austin Dell Medical School
- 2020 SGEA M. Brownell Anderson Award: Dr. Roy Strowd, Wake Forest School of Medicine

I invite you to review the important works shared in this compendium. I hope that they will catalyze your ongoing thinking and action to advance our important work together.

Very respectfully,
John Luk, MD

Message from the 2020 SGEA Conference Host

Dear Colleagues and Friends,

In many ways, it seems so long ago that we were excitedly preparing for the 2020 SGEA meeting in Atlanta. In early March, I remember picking up last minute signage, double-checking with the hotel on final preparations, sending emails to our plenary speakers, making final edits to the conference app, and purchasing fun gifts for our attendees. And then I got the call from the AAMC - they had made the difficult decision to cancel the meeting. I was heartbroken for the presenters and conference planners who had worked so hard on the 2020 meeting. I was especially crushed to deliver the news to Mrs. Tyrese Hinkins Jones, who spearheaded the creation of a new staff track for the SGEA meeting.



My world, as many of yours, quickly pivoted from anticipating the 2020 meeting to focusing on the disruptions to medical education, PPE refreshers, patient care needs and Zoom dominating the remote work environment. We all did what we had to do in order to take care of patients, learners, each other and ourselves. While the news was gut-wrenching, it was no comparison to the devastation being caused by the pandemic.

While we did not meet for the conference, I am happy that we can share the outstanding medical education innovation and scholarship that was planned. I am also ecstatic that the staff efforts have led to the new SPACE (Staff Professionals Across the Continuum of Education) special interest group. I am truly grateful to the SGEA community, the AAMC, the plenary speakers and to the conference planning members for all of the support and efforts over the last two years. I am honored to have had the opportunity to be the conference chair for the 2020 SGEA meeting. I look forward to seeing everyone in-person (and not on Zoom) hopefully soon!

With sincere gratitude,

Erica Brownfield, MD, MBA

Special Thank You and Acknowledgements

Thanks to Dr. Brownfield and her incredible conference planning team!

Thanks to our 2020 Regional Conference host institutions!

- Augusta University Medical College of Georgia
- Emory University School of Medicine
- Mercer University School of Medicine
- Morehouse School of Medicine

Thanks to the SGEA Steering Committee members and AAMC support team for their incredible efforts and advocacy of our constituents!

Acknowledgements

- Outgoing SGEA Steering Committee Members. Thanks for your service!
 - Nicole Borges, PhD—Chair
 - Andrea Berry, MPA—SIG Coordinator
 - Mohammed Khalil, DVM, MEd, PhD—Newsletter Editor
 - Peggy Hsieh, PhD, MEd—Member at-Large
 - Michael Trainer, MD—OSR Representative
- Welcome incoming SGEA Steering Committee Members!
 - Andrea Berry, MPA—Chair-elect
 - Karina Clemmons, EdD—UME Section Chair-elect
 - Greg Turner, EdD, MBA, MPH—CPD Section Chair-elect
 - Angie Hairrell, PhD—SIG coordinator
 - Andrew Parsons, MD, MPH—Member at-Large
 - Carrie Elzie, PhD—Newsletter Editor
- SGEA Member Roadmap, A Member at—Large Project, Tasha Wyatt, PhD, MA:
<https://www.aamc.org/system/files/2020-03/profdev-affinity-groups-sgea-member-roadmap-030520.pdf>

SGEA Awards

- SGEA Career Educator Award: Elizabeth A. Nelson, MD from The University of Texas at Austin Dell Medical School
- SGEA M. Brownell Anderson Award: Roy Strowd, III, MD, MEd, MS from Wake Forest School of Medicine

Innovation Abstracts

A Case for Humanism in Undergraduate Medical Education using Community Engagement and Reflective Writing.

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

Emory School of Medicine identified a gap in service-based learning in the curriculum. A needs assessment among medical students identified the need for a curriculum to promote understanding and sensitivity around culture, age, physical and socio-economic disadvantage.

Background and/or theoretical framework and importance to the field:

The resulting innovative curriculum, which has now formed the basis of a year-long School of Medicine course, fosters this understanding through team-based learning and community-based participation.

Design: Instructional methods and materials used:

The course begins with students choosing a partner community-based organization that works with elderly, impoverished and/or disabled communities. Thereafter, students spend four months placed at the site learning about the organization's purpose, activities, and challenges and community strengths and needs. The student teams' partner with the community-based organization to develop a simple intervention to meet a specific need.

Throughout the process, students are asked to formally reflect about how they assessed and incorporated community needs and preferences into the intervention (from conceptualization to implementation to evaluation). The periodic reflections enable evaluation of student progress and changes in attitudes toward the vulnerable communities and the issues the communities face.

Outcomes:

Based on student reflections and course evaluations, the theme of shared humanity has been recurrent. Next steps are to analyze and or identify trends in reflective writing over the year by comparing the change in attitudes in regards to (bias and empathy) as the 18 month community experience evolves.

Feasibility and transferability for adoption:

As the curriculum was only initiated in recent years, the longitudinal impact has yet to be realized. However, the course is highly accepted among students and faculty, and the final poster

reflection exercise demonstrates the short-term efficacy of the curriculum in changing attitudes, beliefs, and approach to vulnerable communities and patient care.

References:

1. Thompson, B.M.; Teal, C.R.; Rogers, J.C.; Paterniti, D.A.; Haidet, P. Ideals, activities, dissonance, and processing: A conceptual model to guide educators' efforts to stimulate student reflection. *Acad. Med.* 2010, 85, 902–908.
2. Van Winkle, L.J.; Burdick, P.; Bjork, B.C.; Chandar, N.; Green, J.M.; Lynch, S.M.; La Salle, S.; Viselli, S.M.; Robson, C. Critical thinking and reflection on community service for a medical biochemistry course raise students' empathy, patient-centered orientation, and examination scores. *Med. Sci. Educ.* 2014, 24, 279–290.
3. Hernandez, R.A.; Haidet, P.; Gill, A.C.; Teal, C.R. Fostering students' reflection about bias in healthcare: Cognitive dissonance and the role of personal and normative standards. *Med. Teach.* 2013, 35, e1082–e1089.
4. Cohen, J.J. Linking professionalism to humanism: What it means, why it matters. *Acad. Med.* 2007, 82, 1029–1032.

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A Palliative Care Curriculum for Medical Students

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

Ashima Lal, Emory University School of Medicine

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Abstract Body:

Objective or purpose of innovation:

- 1) Design a palliative care rotation and curriculum for medical students
- 2) Develop competencies in symptoms (pain, etc) and end-of-life management along with communication skills
- 3) Outline approaches to advance care planning

Background and/or theoretical framework and importance to the field:

Medical students are tasked with learning a new language – medicine, and communication skills are of vital importance in the students’ vocabulary. With advances in treatments, patients with chronic/serious illness live longer, resulting in a larger patient population who will benefit from physicians with primary palliative care (PC) skills. In October 2019, the U.S House of Representative passed the Palliative Care and Hospice Education and Training Act. On a local level, we propose this session to develop PC skills within our students.

Design: Instructional methods and materials used:

At Emory University, our third year medical students have a week-long PC rotation (inpatient and outpatient). They obtain experience in caring for seriously ill patients with the goal of gaining basic tools to assist in the development of their primary PC skills. In addition, during their CAPSTONE course as graduating medical students, they practice these learned skills with standardized patients.

In order to achieve the goals and objectives set forth, the students are required to complete a pre and post-test, consult notes, opioid questions and reflective writing exercises. They are provided didactics via pre-recorded lectures made by PC faculty.

Outcomes:

Students have reported significant benefit in incorporating these skills in their subsequent rotations.

Feasibility and transferability for adoption:

One limitation of this approach in education is the availability of a PC interdisciplinary team willing to take on students. Another limitation could be the variability in feedback provided to the students given the brevity of the rotation and a lack of standard of measurement in this regard.

References:

<https://www.congress.gov/bill/116th-congress/house-bill/647>

<https://www.aamc.org/news-insights/let-s-talk-about-death>

Head B, Schapmire T, Shaw M, et al. Improving medical graduates' training in palliative care: advancing education and practice. *Advances in Medical Education and Practice* 2016;7 99-113

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Assessing Teamwork of Medical School Applicants with a Design Challenge

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Matthew Walker, Vanderbilt University School of Medicine
Reed Omary, Vanderbilt University School of Medicine

Abstract Body:

Objective or purpose of innovation:

Successful physicians lead and work within healthcare teams. One-on-one interview techniques used by medical schools do not directly assess the ability of applicants to work in teams. To address this limitation, we studied the feasibility of a Design Challenge (DC) to assess teamwork skills of medical school applicants.

Background and/or theoretical framework and importance to the field:

Teamwork can be assessed across three skill domains: communication, collaboration, and problem-solving. Hackathons are team-based problem-solving competitions that originated in the tech community. Inspired by hackathons, we designed and implemented a DC to assess applicants.

Design: Instructional methods and materials used:

Applicants to Vanderbilt University School of Medicine's Medical Innovators Development Program are screened by videoconference. Teams of four to seven are invited to a DC. Teams are presented their DC and placed in a simulation room for real-time video observation. The DC includes a vignette that is entirely new to the applicants and exemplifies an unmet healthcare need. After 90 minutes, teams "pitch" to an expert panel of faculty and industry leaders. Interviewers score applicants across domains using a rubric. The rubric includes behaviors across the three domains being assessed, which are then summarized in an overall 4-point Likert scale.

Outcomes:

Over five years, nine teams (50 of 99 applicants) were invited for a DC. All teams successfully completed their DC. Interviewers found the DC and three-domain rubric provided insight into applicants' ability to work in teams beyond traditional one-on-one interviews.

Feasibility and transferability for adoption:

Strengths include a direct, real-time assessment of applicants and enabling admissions

committees to improve cohorts by increasing diversity in communication, collaboration, and problem-solving styles. Limitations include the need for simulation center resources and time commitments from applicants and assessors.

References:

Walker, M., Morgan, V.L., King, M.R. et al. *Cel. Mol. Bioeng.* (2018) 11: 157. <https://doi.org/10.1007/s12195-018-0528-9>

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Becoming Active Bystanders and Advocates: Teaching Clinical Students to Respond to Bias and Microaggressions in the Clinical Setting

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

The purpose of this workshop was to teach students a framework to respond to incidents of bias and microaggressions, and to practice these response types using case examples.

Background and/or theoretical framework and importance to the field:

In recent decades, the demographic makeup of medicine has changed significantly.¹ While the diversity of providers has improved the quality of patient care,² unfortunately, extensive data exist to support that certain physicians including underrepresented minorities and women experience substantial bias within the clinical setting, which can contribute to burnout.³⁻¹² The medical literature lacks published educational methods that are successful at targeting this bias by teaching medical professionals how to respond in the moment.¹⁰⁻¹¹

Design: Instructional methods and materials used:

We developed a student-led workshop adapted from the Green Dot Program. We piloted the workshop with 83 clinical medical students. After reviewing the prevalence of bias and microaggressions, students were taught the “3-D’s” (the Green Dot active bystander framework) response types: Distract, Delegate, and Direct. In small groups, students role-played cases to practice direct responses. Future data (available before March 2020) will be collected to identify behavioral changes following completion of additional clerkships.

Outcomes:

Participants indicated a high degree of satisfaction with the workshop and an intention to practice the discussed response framework. Ninety-one percent of attendees agreed or strongly agreed that the workshop was effective. Participants’ confidence in addressing bias and microaggressions significantly improved after completing the workshop (pre 2.42 vs. post 3.01; $p < 0.05$).

Feasibility and transferability for adoption:

Strengths include its application of skill (Kirkpatrick level 3), the range of social dynamics in the sample cases, and the validity of the Green Dot training model. Limitations include data being collected from a single center.

References:

1. AAMC Data Warehouse: Minority Physician Database, AMA Masterfile, and other AAMC data sources. 2014. <http://www.aamcdiversityfactsandfigures.org/section-ii-current-status-of-us-physician-workforce/index.html#fig10>
2. Paul-Emilie K et al. "Dealing with racist patients." *New England Journal of Medicine*. Vol 374; 708-711. 2016. <https://www.nejm.org/doi/full/10.1056/NEJMp1514939#t=article>. DOI: 10.1056/NEJMp1514939.
3. Beagan BL. "Is this worth getting into a big fuss over? Everyday racism in medical school." *Medical Education*. Vol 37; 852-860. 2003.
4. Sharma M et al. "The Elephant in the Room: talking about race in medical education." *Advances in Health Sciences Education*. Vol 22(3):761-764. 2017. DOI: 10.1007/s10459-016-9732-3.
5. Kristoffersson E et al. "Experiences of the gender climate in clinical training - a focus group study among Swedish medical students." *BMC medical education*. Vol. 16,1 283. 2016. DOI:10.1186/s12909-016-0803-1
6. Dayal A et al. "Comparison of Male vs Female Resident Milestone Evaluations by Faculty During Emergency Medicine Residency Training." *JAMA internal medicine*. Vol. 177(5); 651-657. 2017. DOI:10.1001/jamainternmed.2016.9616
7. Silver HK. "Medical students and medical school." *JAMA*. Vol 247; 309-310. 1982.
8. Rees CE, Monrouxe LV. "'A morning since eight of just pure grill': A multischool qualitative study of student abuse." *Acad Med*. Vol 86; 1374-1382. 2011.
9. Whitgob EE et al. "The Discriminatory Patient and Family: Strategies to Address Discrimination Towards Trainees." *Academic Medicine : Journal of the Association of American Medical Colleges*. 2016. www.ncbi.nlm.nih.gov/pubmed/27779512. DOI: 10.1097/ACM.0000000000001357
10. Cook AF et al. "The Prevalence of Medical Student Mistreatment and Its Association with Burnout." *Academic Medicine*. Vol 89(5); 749-754. 2014.
11. Fried JM et al. "Eradicating medical student mistreatment: a longitudinal study of one institution's efforts." *Academic Medicine*. Vol 87(9); 1191-1198. 2012.
12. National Academies of Sciences, Engineering, and Medicine. 2019. *Together We Can Do Better: A Gathering of Leaders in Academia to Prevent Sexual Harassment: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25413>.

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Blended Learning for Social Determinants of Health

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

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Sandra McKay, McGovern Medical School, University of Texas Health Science Center at Houston

Abstract Body:

Objective or purpose of innovation:

- Assess and prioritize the needs of underserved patients
- Identify community-based resources for patient referrals
- Utilize multimedia and on-demand learning to improve the quality and consistency of teaching social determinants in the curriculum

Background and/or theoretical framework and importance to the field:

Addressing health disparities in underserved populations is critical. Despite recognized needs for curricula that teach skills relevant to caring for the underserved, US medical schools are limited by their focus and resources¹. Beginning Academic Year 2019-2020, McGovern Medical School offers two flipped classroom sessions to address “Poverty” and “Immigrant Health” issues for social determinants during the clerkship rotations. A flipped classroom approach and ASSUE instructional design model was applied during the development process.

Design: Instructional methods and materials used:

The sessions consist of three parts:

Part I: Pre-class Students are required to review a highly interactive online self-directed learning module created by using Adobe Captivate, Cidi Design Tool and Module Tools in Canvas Learning Management System (LMS). They are also required to participate in the online discussion board.

Part II: Faculty member presents the key points of the topic, and then break the students into smaller groups for discussions.

Part III: Students answer the questions in Canvas assignment and faculty wrap-up.

Outcomes:

Review of the comments of this discussion board is completed with each cohort. Students are invited to participate in post-program surveys to assess knowledge, attitudes and behaviors. This will be compared with the previous year students who did not have the online module education. Results are being collected and will be analyzed in Spring, 2020.

Feasibility and transferability for adoption:

The pre-class online module allows students to independently learn the concepts, thus allowing faculty to spend less time transmitting knowledge and increased opportunity for skill application. However, online learning is not a substitute for real patient interaction.

References:

1. Cox, E., Kosciak, R., Olson, C., Behrman, A., Hambrecht, M., McIntosh, G., & Kokotailo, P. (2006). Caring for the underserved: blending service learning and a web-based curriculum. *American Journal of Preventive Medicine*, 31(4), 342–349. <https://doi.org/10.1016/j.amepre.2006.06.024>
2. Gostelow, N., Barber, J., Gishen, F., & Berlin, A. (2018). Flipping social determinants on its head: Medical student perspectives on the flipped classroom and simulated patients to teach social determinants of health. *Medical Teacher*, 40(7), 728–735. <https://doi.org/10.1080/0142159X.2018.1436757>

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Bolstering Third Year Medical Student Patient Care Skills and Confidence Through Code Blue Simulation

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

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Lyssa Weatherly, University of Mississippi School of Medicine

Abstract Body:

Objective or purpose of innovation:

Does a one-hour simulation of cardiac arrest resuscitation improve third year medical student familiarity of their functional role as part of the response team?

Background and/or theoretical framework and importance to the field:

Third year medical students (M3's) often play integral roles in team-based patient care, often participating in on-call "Code Blue" resuscitation teams. However, M3's often do not have formal advanced cardiac life support (ACLS) training until late in the third year, leaving them untrained in early rotations with little instruction on their role during resuscitation. In effort to broaden M3 skills in emergent patient care situations, we instituted a simulation-based code blue scenario to all M3's prior to starting rotations.

Design: Instructional methods and materials used:

Prior to simulation, students completed a survey evaluating familiarity with participation at an M3-skill level in a resuscitation encounter. Students then participated in an hour-long code blue scenario in the simulation center with education aimed at improving knowledge of provider roles during code scenarios, equipment available, and differences between code blue resuscitation and rapid response encounters. Students repeated the survey after the simulation encounter.

Outcomes:

All M3's completing a pre-clerkship boot camp participated in the simulation. Of 142 students surveyed, 100% responded. Data from surveys taken prior to simulation revealed 90% of students were unfamiliar with participating in a resuscitation attempt at the level of an M3, and only 3% reported being familiar. After scenario completion, only 7% of students reported feeling unfamiliar, while 93% were now familiar.

Feasibility and transferability for adoption:

While the study's limitations are of subjectivity, the results are excellent and high yield for an opportunity that shows promise for improved direct patient care with increased patient safety.

References:

Éliane Raymond-Dufresne, Simulation for Critical Care, Clinical Simulation, 10.1016/B978-0-12-815657-5.00029-2, (419-430), (2019).

For more information about this abstract please contact: jgrenn@umc.edu

Equipping medical students to manage acutely ill patients through interprofessional collaboration during the transition to residency

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Allison McBride, Wake Forest School of Medicine of Wake Forest Baptist Medical Center
Roy Strowd, Wake Forest School of Medicine of Wake Forest Baptist Medical Center

Abstract Body:

Objective or purpose of innovation:

To improve preparation for interprofessional collaborative practice (ICP) through simulation-based education for senior medical students transitioning to residency, pharmacy students, and recently graduated nurses.

Background and/or theoretical framework and importance to the field:

Our institution requires graduating students to complete a 3-week “Intern Boot Camp (IBC)” capstone course in preparation for the transition to internship. A needs assessment survey of these students showed that a top student generated goal for internship preparation was to “collaborate as a member of an interprofessional team (EPA9)”.¹

Design: Instructional methods and materials used:

To respond to this need, an interprofessional education (IPE) thread was designed including: a didactic seminar on interprofessional team roles, a subspecialty workshop on interdisciplinary pain care and opioid stewardship, and a standardized-patient simulation with pharmacy and nursing learners and preceptors. We assessed: student satisfaction, bedside performance using an entrustability scale, and perceptions of ICP using a pre/post-administered SPICE-R2.

Outcomes:

Since 2016, 469 students participated in IBC. Students “agreed/strongly agreed” that IBC, the team didactic, subspecialty workshop, and IPE simulation all helped to prepare them for day 1 of internship (86%, 81%, 87%, and 88%, respectively). Of the students who participated in the IPE simulation, preceptors entrusted: 82% to stabilize a patient, 88% to lead an interprofessional team, and 91% to facilitate handover of care. SPICE-R2 scores were significantly higher after participation for MD students (4.8 vs 4.4, $p < 0.0001$), nursing learners (4.7 vs. 4.4, $p < 0.001$), and pharmacy students (4.6 vs. 4.4, $p=0.02$) which was not observed in MD students who elected not to participate in Year 1 (4.4 vs 4.1, $p=0.02$).

Feasibility and transferability for adoption:

This innovative IPE simulation equipped students with day 1 skills for leading interprofessional care teams by improving confidence and competence in bedside communication and care. Sustainability limitations include personnel, space, and time resource demands.

References:

1.Strowd, R. E., McBride, A. , Goforth, J. , Cristiano, J. , Hartman, N. , Waters, G. , Beardsley, J. , Johnson, J. E. and Askew, K. (2018), Educational priorities of students in the entrustable professional activity era. Clin Teach, 15: 319-324. doi:10.1111/tct.12688

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Fostering Diversity in Medicine Through an Undergraduate Summer Enrichment Program

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

Barbra Roller, Florida International University Herbert Wertheim College of Medicine

Abstract Body:

Objective or purpose of innovation:

At FIU Herbert Wertheim College of Medicine (HWCOCM), we created the Doctors of Tomorrow (DOT) Program to further diversify our applicant pool. The DOT program is an intensive, six-day free residential summer pipeline program, open to Florida URM undergraduate students.

Background and/or theoretical framework and importance to the field:

Medical education has been slow to diversify as racial/ethnic minorities, students of low socioeconomic status, and first-generation college students are still underrepresented in medicine (URM).¹ Previous research on URM pipeline programs has shown that those programs offering longitudinal mentorship and resources have a positive impact on the number of URM students interested in healthcare careers.^{2,3}

Design: Instructional methods and materials used:

Many entities collaborated to create DOT, including HWCOCM faculty, staff, facilities, IT, medical students, healthcare providers. Furthermore, funds were obtained to support student housing, food, and supplies. Activities are designed to provide the tools students need to be competitive medical school applicants. These activities include academic enrichment (anatomy lab, medical ethics, service learning, research exposure), communication skills (mock interviews, public speaking, writing workshops), learning skills (time management, concept mapping, test-taking strategies), clinical medicine (medical simulation & outpatient clinical experiences), counseling and mentoring (admissions counseling, financial aid counseling, medical student mentoring), and professional/career development (work-life balance, professionalism).

Outcomes:

The program outcome measure is the percentage of students who are accepted to medical school or other healthcare programs. Tracking DOT alumni as they graduate with a bachelor's degree and enter a health-related degree program has proved challenging; however, since the program's inception, approximately 70% of participants who applied to medical school were accepted. Other DOT students have chosen to enter other healthcare fields.

Feasibility and transferability for adoption:

The success rate suggests that students have been provided with the information and skills to make an informed decision about their healthcare careers.

References:

1. AAMC Facts and Figures: <https://www.aamcdiversityfactsandfigures2016.org/report-section/section-3/>

2. Gardner, Olivia, Pipeline Programs and System Reform: A Path to Improving Health Equity

<https://www.aamcdiversityfactsandfigures2016.org/report-section/section-3/>

3. Upshur, C.C., Wrighting, D.M., Bacigalupe, G. et al. The Health Equity Scholars Program: Innovation in the Leaky Pipeline, J. Racial and Ethnic Health Disparities (2018) 5: 342. <https://doi.org/10.1007/s40615-017-0376-7>

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High-Yield Fundamentals of Medicine: A Pre-Matriculation Kick-Start Course

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

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Abstract Body:

Objective or purpose of innovation:

This pilot study evaluated a pre-matriculation academic support course for reducing academic difficulty, for the feasibility of a hybrid in-person and online offering, and for the utility of Lecturio, a commercial e-learning platform for course use.

Background and/or theoretical framework and importance to the field:

Students enter medical school with varying educational backgrounds and experience utilizing effective learning strategies. Factors contributing to academic difficulty include passive learning behaviors, and difficulty with time and stress management, with test-taking skills, and with integrating large amounts of material. Students at risk for academic underperformance may benefit from a pre-matriculation course.

Design: Instructional methods and materials used:

The course was designed as a mentored learning experience around four weekly content themes mapped to topics in the Fundamentals of Medicine course. The course utilized the School of Medicine's learning management system. It was not graded to foster a community of learning. Weekly themed basic science review, learning strategy, and post exam review sessions were offered live in-person or online and were recorded for asynchronous engagement. Basic science content was delivered via Lecturio. Weekly exams were constructed and delivered in the same format as the Fundamentals course.

Outcomes:

Participants (n=16) were surveyed at course end and the end of Fundamentals Block 1. Post-course survey respondents (n=11) rated the course very to extremely effective and Lecturio slightly to moderately effective. Course and Lecturio ratings decreased in the Post Fundamentals Block 1 survey (n=11) largely due to lack of depth in Lecturio content compared to the Fundamentals course content. Academic outcome data collection continues throughout the Fundamentals course ending December 2019.

Feasibility and transferability for adoption:

Strengths include representative exams, the flexibility of on-demand or in-person course options, and early student engagement with SOM software, facilities, faculty and staff. Limitations include small study size and a disconnect between Lecturio and exams.

References:

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Inclusive Health Education for Residents: Standardized Patient Encounters with Adults with Intellectual/Developmental Disabilities

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

The objective of this educational intervention was to provide Physical Medicine & Rehabilitation (PM&R) residents experience working with people with intellectual/developmental disabilities (PWIDD). We built capacity among community partners by training PWIDD to serve as standardized patients (SPs) at the University of Louisville School of Medicine.

Background and/or theoretical framework and importance to the field:

PWIDD are a priority population for reducing health disparities, as the population is at increased risk for poor health outcomes and¹⁻³. One modifiable cause of the cumulative health disparities experienced by PWIDD⁴ is lack of healthcare provider training^{1-3,5,6}. Interventions to improve physicians' competency are needed, and such efforts should include PWIDD as experts on their lived experiences^{1-3,7}.

Design: Instructional methods and materials used:

SPs with IDD were recruited from Down Syndrome Louisville's (DSL) Actor Program and trained to portray patients with knee/shoulder pain. The encounters focused on communication and patient education. Residents were evaluated by a DSL staff member with a standardized clinical skills assessment, and by SPs with a modified assessment. SPs (n=4), DSL staff (n=2), and residents (n=6) participated in debrief focus groups.

Outcomes:

Participants were positive in their assessment of the experience. SPs reported on the verbal and nonverbal actions that produced positive encounters: "We did eye contact and...talking about my favorite cartoon...my family, my stupid pet, and my house." Residents agreed: "[S]he had a Hogwarts shirt on. I was joking with her about it during the encounter...so just finding common ground with your patient in any way." Participants reported that the act of writing down care instructions encouraged patient understanding.

Feasibility and transferability for adoption:

The strength of this intervention is its meaningful application of inclusive health, by intentionally including PWIDD in a resident educational activity and by adapting assessment methods to be accessible to those with IDD. Limitations include small sample size.

References:

1. Office of the Surgeon General (US), National Institute of Child Health and Human Development (US), Centers for Disease Control and Prevention (US). Closing the Gap: A National blueprint to improve the health of persons with mental retardation: Report of the Surgeon General's Conference on Health Disparities and Mental Retardation. Washington (DC): US Department of Health and Human Services; 2002. <http://www.ncbi.nlm.nih.gov/books/NBK44346/>. Accessed December 1, 2017.

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InstaHisto: Utilizing Instagram as a Medium for Disseminating Visual Educational Resources

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To create a standardized process for medical educators to establish Instagram as a study tool for histology

Background and/or theoretical framework and importance to the field:

Applying active recall during studying vexes medical students¹. The integration of social media into medical education is rapidly expanding; however, there is minimal use of Instagram in medical education². Histology is a visually dominant subject, and pairs well with the image based social media outlet that is Instagram.

Design: Instructional methods and materials used:

An Instagram account accessible to MS1s was created. Histology images in the course syllabus along with questions and explanations for each image were organized and posted to Instagram in a question and answer format. Students received increased exposure to histology images and study topics aligned with the curriculum. Instagram analytics on student engagement were gathered along with student survey responses.

Outcomes:

75% (141/189) of the class followed the account. Images had an average of 442 total views. Images had an average of 3.5 views per user (VPUs), ranging from 2.6 to 4.3 VPUs suggesting that students are viewing images multiple times. 100% of survey responders found the account easy to use with 100% also recommending their classmates use the account to study. 95% said studying the account increased their confidence when answering histology questions on exams, and 75% said the account led to decreased stress when studying histology.

Feasibility and transferability for adoption:

Instagram is a platform that the majority of our medical students are already using daily. There was strong evidence of student engagement via Instagram analytics. Some students may not want educational resources in their social media domain.

References:

1. Augustin, M. How to Learn Effectively in Medical School: Test Yourself, Learn Actively, and Repeat in Intervals. *Yale J Biol Med* 2014; 87(2):207-212.
2. Douglas, N.K.M., Scholz, M., Myers, M.A. et al. Reviewing the Role of Instagram in Education: Can a Photo Sharing Application Deliver Benefits to Medical and Dental Anatomy Education? *Med Sci Educ* 2019. <https://doi.org/10.1007/s40670-019-00767-5>.

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Integrating the use of MedEd-COTS with clinical cases to enhance student engagement and innovate medical education

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To innovate medical education by integrating MedED-COTS with clinical cases to address students' near term goals for passing STEP and long term goals for providing patient care.

Background and/or theoretical framework and importance to the field:

Students' use of commercial-off-the-shelf learning platforms, such as UWorld and Boards & Beyond (hereby referred to as MedED-COTS) outside class to prepare for the United State Medical Licensing Examinations has raised substantive concerns among medical school faculty. To address these concerns, schools are beginning to purchase and examine the use MedED-COTS as a formal part of the curriculum.^{1,2,3} However, such studies incorporate MedED-COTS as a separate parallel curriculum to prepare students for STEP.

Design: Instructional methods and materials used:

To design and continuously improve the clinical cases and case-based learning exercises, we applied principles of experiential learning,⁴ and completed a series of iterative design-based research (DBR) studies⁵ that included defining outcomes, aligning assessments, creating cases and case exercises, curating and integrating MedED COTS, and completing expert reviews, one-to-one and small group evaluations, before pilot-testing the innovation.

Outcomes:

Outcomes are being evaluated using an extended version of Kirkpatrick's framework⁶ to measure students': (a) use of materials; (b) reactions to materials based on Keller's ARCS Model for Motivational Design⁷; (c) learning with quizzes, exams, and assignments; and (d) transfer using assignments and observations in successive modules.

Feasibility and transferability for adoption:

Strengths:

- Reduce time preparing and delivering content information;
- Concentrate more time formulating cases and advancing critical thinking and clinical reasoning skills; and
- Relate class work (career prep) with out-of-class work (STEP prep).

Limitations:

- The capacity of MedED-COTS to meet module objectives and faculty requirements;
- Time and resource necessary to curate courses; and

- Cost and licensing of MedED-COTS.

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Integration of focused ultrasound teaching (eFAST exam) using ultrasound simulator in the third-year surgical clerkship.

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To evaluate the feasibility and satisfaction of a short course of eFAST examination using ultrasound simulator during the third-year surgical clerkship.

Background and/or theoretical framework and importance to the field:

Point of care ultrasound (POCUS) examination has been part of the clinical evaluations in trauma patients. The opportunity for students to gain experience with POCUS in trauma patients, however, is limited by the fast pace of care and higher acuity of patients. Integrating ultrasound simulation in trauma rotation can provide a safe training environment for medical students.

Design: Instructional methods and materials used:

Morehouse School of Medicine Simulation Center integrated eFAST, a focused ultrasound simulation teaching during the eight-weeks surgical clerkship. The students received one hour of formal interactive didactic from a single instructor followed by one hour of self-proctored hands-on ultrasound simulation. Students received feedback from the instructor on technique and image quality intermittently. Both pathologic and normal images were included during this training session.

Outcomes:

Fifty-eight students completed the eFAST training from January 2019 till September 2019. An 8-question five-point Likert-scale perception survey was administered before and after training. Paired-t test showed significantly improved students' confidence in overall ability to evaluate a trauma patient ($t = -11.661$, $p < .000$), and particularly, their ability of evaluating the heart, right upper quadrant, left upper quadrant, abdomen /pelvis, and lung ($t = -12.899$, $p < .000$; $t = -12.367$, $p < .000$; $t = -9.368$, $p < .000$; $t = -9.170$, $p < .000$; $t = -7.335$, $p < .000$). Students' qualitative comments confirmed the usefulness and improved perception of performance. Suggestions included lengthening the hands-on practice session.

Feasibility and transferability for adoption:

As continued curriculum development, the limitations to the present study included a relatively small sample size, training on a simulation model, and the need of data on clinical outcomes and long-term retention of knowledge.

References:

1. Blackstock U, Munson J, Szyld D. Bedside ultrasound curriculum for medical students: report of a blended learning curriculum implementation and validation. *Journal of Clinical Ultrasound* 2015, 43:139-144.
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Longitudinal Leadership Development Reduces Empathy Loss in UME

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

The SELECT program was created to fill a gap in leadership education in UME to create empathetic and emotionally intelligent physicians.

Background and/or theoretical framework and importance to the field:

The University of South Florida Morsani College of Medicine (USFMCOM) has a unique UME longitudinal leadership program. It has been noted that medical students show a decline in empathy after the third year in US medical schools¹⁻³, yet our students maintain empathy.

Design: Instructional methods and materials used:

In addition to the traditional medical school curriculum, SELECT students participate in courses covering leadership, values-based patient-centered care and health systems, with an overarching theme of emotional intelligence. Students receive professional development coaching provided by two faculty coaches across all four years. Throughout the program the students complete the Jefferson Scale of Empathy (JSE).

Outcomes:

Results from longitudinal data collection (2019 class) show that SELECT students did not lose empathy during their third year of medical school. The year 3 average JSE score was not significantly different compared to both the second and first year scores, with an average of 115.42 ± 13.32 , ($p > 0.05$). A subsection of scores were matched and remained constant from year 1 to year 3, 115.74 ± 11.50 vs. 115.89 ± 14.00 respectively, ($p = 0.91$).

Feasibility and transferability for adoption:

The USFMCOM innovation provides positive results on how leadership development may impact medical students as they professionalize into clinicians who will be called upon to lead in the future. That empathy is maintained through UME clerkship training suggests the impact of the SELECT curriculum. These results are from a single program with a small sample (approx. 50/cohort), and students move from the main campus in Tampa to the regional campus in Allentown, PA during this period and the impact of the climate and culture are difficult to measure.

References:

1. Neumann M, Edelhäuser F, Tauschel D, Fischer MR, Wirtz M, Wooten C, et al. Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Acad. Med.* 2011 Aug;86(8):996–1009.
2. Kimmelman M, Giacobbe J, Faden J, Kumar G, Pinckney CC, Steer R. Empathy in osteopathic medical students: a cross-sectional analysis. *J. Am. Osteopath. Assoc.* 2012 Jun;112(6):347–55.

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Making Healthcare SAFER – Safety Room Task Identification

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To teach new residents patient room safety awareness.

Background and/or theoretical framework and importance to the field:

An important aspect of orienting new resident physicians is teaching them about patient room safety. To address this, a new course, Making Healthcare SAFER, was designed to teach residents about preventable medical errors and how to integrate safety awareness into daily hospital activities. One of the modules included a Safety Room Task Identification simulation which assessed what residents learned in the module.

Design: Instructional methods and materials used:

160 incoming house staff were asked individually to enter a simulated hospital patient room and verbalize 16 safety concerns or errors within 90 seconds. Examples included needles at the bedside, bedside rails down, bed in high position, inadequate dressings on a central line, and improper hand hygiene. Residents were assessed by a trained observer with a standardized checklist and received credit for each concern or error they verbalized.

Outcomes:

The most common concerns identified were an oxygen tank left on the bed (N=141, 88%), trash on the floor (N=138, 86%), and medications in the sink (N=136, 85%). The most commonly missed safety concerns were no antimicrobial caps on the central line (N=24, 15%), no staff introduction (N=28, 18%), and medication administered prior to confirmation of allergies (N=39, 24%). Only one resident identified 15 of 16 safety concerns.

Feasibility and transferability for adoption:

The simulation provided a creative way for residents to learn about safety issues in an interactive way, including a nurse entering the room to administer a medication during the scenario. Given the time limitation and number of learners, no one was able to identify all of the safety issues they learned about during the course.

References:

Aggarwal, R., et al. (2010). "Training and simulation for patient safety." *Quality & Safety in Health Care* 19 Suppl 2(4): i34-i43.
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Goolsarran, N., et al. (2018). "Effectiveness of an interprofessional patient safety team-based learning simulation experience on healthcare professional trainees." *BMC Medical Education* 18(1): 192.

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Mandatory LGBTQ+ Allies Training Implementation in Medical School Curriculum

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

Within a newly constructed beginning first year medical student course, a mandatory “allies training” was instituted. The objectives of the training include: educating first year medical students on the particular health needs and vulnerability of the gender and sexual minority (LGBTQI+) patient population and providing a framework for approaching and discussing difficult situations (including sexual history taking) with patients from diverse socio-cultural backgrounds in an open, empathetic, and non-traumatizing manner.

Background and/or theoretical framework and importance to the field:

This topic is essential for future physicians to understand because of the historical role of both implicit and explicit bias toward LGBTQI+ patients and other minority groups in healthcare settings.

Design: Instructional methods and materials used:

A powerpoint presentation was developed to highlight the history of the LGBTQI+ community in healthcare and how to conduct a sexual history that is relevant and inclusive. Hands on patient cases were created for students to role play with their peers to gain experience in LGBTQI+ specific situations and sexual history taking. Two surveys were developed and administered before the training and after the training to assess the effectiveness of the training.

Outcomes:

Overall feedback for the training was very positive. Students demonstrated increased comfort in their understanding and awareness of the gender and sexual minority community and taking a sexual history from patients.

Feasibility and transferability for adoption:

Strengths of this innovation included the opportunity to practice sexual histories and the applicability to working with any patient population. Limitations of this innovation primarily related to time constraints. It is difficult to fit teaching about a topic that is new to many students as well as interactive role play activities in two hours.

References:

Bonvicini KA. LGBT healthcare disparities: What progress have we made? *Patient Education and Counseling*. 2017;100(12):2357-2361. doi: 10.1016/j.pec.2017.06.003.

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Lindberg BM, Fulleborn ST, Semelrath KM, Lee RC, Nguyen DR. Steps to Improving Sexual and Gender Diversity Curricula in Undergraduate Medical Education. *Military Medicine*. 2018. doi:10.1093/milmed/usy190.

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Ng H. Lesbian, Gay, Bisexual, and Transgender Health and Medical Education. *Jama*. 2011;306(21):2326. doi:10.1001/jama.2011.1782.

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Novel MS4 Course Assessing EPA 10 through Mock Paging Curriculum

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

Morsani COM at USF is piloting a course designed to prepare MS4's for Intern Year through completion of several core Entrustable Professional Activities (EPAs), as defined by the AAMC. One particularly innovative segment of the course will use mock paging to assess EPA 10: recognizing a patient requiring urgent or emergent care and initiating evaluation and management.

Background and/or theoretical framework and importance to the field:

Interns are often the first physicians paged about critically ill patients. It is therefore essential that graduating medical students are capable of answering pages and initiating basic workup and management of these patients. Mock paging has been used throughout the nation as preparation for intern year. Through mock pages, students at USF will learn interprofessional communication skills in conjunction with the tenets of EPA 10.

Design: Instructional methods and materials used:

For background material, students will have access to faculty and resident-led podcasts addressing interprofessional communication, as well as approaches to urgent/emergent clinical situations. In practice sessions, students will respond to pages over the phone regarding patients requiring urgent/emergent care. Students will have a final mock page evaluation assessing several patients with urgent/emergent clinical scenarios.

Outcomes:

Students will be graded on evaluation, management, and overall entrustability for each clinical scenario. Students' comfort in responding to pages about urgent situations will be surveyed pre- and post-course with a Likert scale. Students will be surveyed again during intern year to assess comfort in responding to pages, and to assess if the course prepared them for residency.

Feasibility and transferability for adoption:

This course provides students with crucial skills for entering residency. It is a low-cost, easily transferable way of measuring EPA 10. As students conduct workup and management over the phone, however, they will not see the full breadth of a high fidelity clinical scenario.

References:

Boehler ML, Schwind CJ, Markwell SJ, Minter RM. Mock pages are a valid construct for assessment of clinical decision making and interprofessional communication. *Ann Surg.* 2017;265(1):116-121.

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Tischendorf J, O'Connor C, Alvarez M, Johnson S. Mock paging and consult curriculum to prepare fourth-year medical students for medical internship. *MedEdPORTAL.* 2018;14:10708.

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Professional Identity and Education (PIE): Teaching practical professionalism to medical students in a longitudinal, goal-directed program

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To create a program to teach practical professionalism and professional behavior to medical students.

Background and/or theoretical framework and importance to the field:

Professionalism is one of the most important competencies, but can be one challenging to teach and to assess. Professionalism arises from attitudes and internal values but can only be judged by actions. Many medical students struggle with professionalism and suffer academic or interpersonal challenges or even dismissal, as a result.

Design: Instructional methods and materials used:

We designed a program to teach practical professionalism (which includes things such as how to communicate in a respectful manner, the importance of being early and prepared to class session, and social media professionalism) and to help develop the students' identities as a medical professional. We first performed a needs assessment with course directors and educational leaders to determine the highest priority areas where deficiencies in professionalism existed. We reviewed the existing literature and recommendations regarding the most important domains of professionalism that. With this input, we developed an educational program that provides developmentally appropriate material to students in the pre-clinical, clinical, and 4th years, covering 10 key areas.

Outcomes:

All students now receive brief didactics on each practical professionalism topic in each phase of their education, and the material is reinforced through case-based discussions in smaller groups.

Feasibility and transferability for adoption:

A strength of our innovation is its practical focus, providing concrete actions that students can take to demonstrate their professional identity, and explaining how other actions will be perceived as unprofessional. A limitation is the lack of objective assessment of its effectiveness at this time.

References:

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Tricco et al. Prevention and management of unprofessional behavior among adults in the workplace: a scoping review, PLOS ONE 2018, vol 13(7) p e0201187

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Program evaluation for continuous improvement: Lessons from new simulation program

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To evaluate a new and developing simulation program for the process of continuous improvement.

Background and/or theoretical framework and importance to the field:

Program evaluation is integral to improvement. It is difficult to embed evaluation into nascent activities, though they often need the most targeted development.

Design: Instructional methods and materials used:

As a new medical simulation program was developed, a program evaluation instrument was designed to capture real-time feedback from both learners and facilitators. After a paper-based pilot, a single evaluation for all participants was designed in Qualtrics™ using branch logic. The evaluation was designed to identify immediate needs and inform future curriculum design.

Outcomes:

The web-based program evaluation instrument was implemented in January 2019 with over 1100 responses recorded. Learners reported excellent or good experiences (95%), level of instruction (97%), and value (90%). Most learners (93%) felt their activity should be offered in the curriculum again. Technical issues were identified by 28% of learners. Faculty reported consistently high levels of learner engagement (99%). Faculty expectations were met for equipment functionality (88%), equipment availability (86%), and room setup (88%). While 35% of faculty identified technical issues, only 15% reported that the issue affected the case.

Feasibility and transferability for adoption:

Embedding an inclusive program evaluation early in the development of a new simulation program allowed for the resolution of immediate needs, responsive improvements, and accurate reporting. As the program continues to grow, the evaluation data will be used in curriculum design, and additional data will be collected. Lessons were learned from the development of the evaluation, including a consideration of a wider range of stakeholders, measurement of additional learner characteristics, and activity differentiation.

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Graham, A. C. and S. McAleer (2018). "An overview of realist evaluation for simulation-based education." *Advances in Simulation* 3(1): 13.

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Quality and Safety in Health Care, Health Systems Science, Interprofessional Engagement: A One-Week Intensive Experience for Second-Year Medical Students

*Submission Type: Innovations Abstract
Accepted as: Oral Abstract Presentation*

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Lara Johnson, Texas Tech University Health Sciences Center

Abstract Body:

Objective or purpose of innovation:

Within the context of our longitudinal doctoring course, we developed a 1-week experience for M2 students that focuses on quality and safety in health care, health systems, transitions of care, medical error, and IPE with P2 pharmacy students. Key objectives include preparing students to learn in clinical settings, interact with other professionals, recognize ethical challenges, and work safely within modern health care systems.

Background and/or theoretical framework and importance to the field:

The National Academy of Medicine and others, including IHI and ARHQ, have highlighted the continuing need for attention to patient safety, a culture of improvement, and collaboration across disciplines, beginning with undergraduate medical education, as do the EPAs and LCME standards.

Design: Instructional methods and materials used:

Our 1-week experience includes both required large-group and selective small-group sessions such as an introduction to quality/safety measures, medication errors, surgical safety, and transitions of care. Students must choose one “CMO Keynote” such as physician leadership, hospital culture, the EHR, and models of payment. Students can choose to observe inpatient team handoffs in FM, IM, Pedi and Ortho. Working with P2 students, they participate in a medication error simulation activity. A small group session includes discussion of root cause analysis and practice with medication preparation.

Outcomes:

Pre- and post-week assessments show significant improvement in students’ knowledge about issues covered in the week, even though not all students attend the same sessions. Overall evaluation for the week is strong as well, especially its flexibility in scheduling and the opportunity to meet physician leaders and work with students from other fields.

Feasibility and transferability for adoption:

Strengths include the ability to call on expertise from across the academic health system, student interest in topics otherwise poorly covered, and the ability to target EPAs and LCME standards that may be challenging. Limitations include curricular time.

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ES. Building a Framework of Entrustable Professional Activities.

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Mar;92(3):324-330. doi: 10.1097/ACM.0000000000001141. PubMed PMID: 26959225.

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Regression analysis and a prediction model for earlier academic intervention to improve USMLE Step 1 performance.

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

The purpose was to create a roster of predicted United States Medical Licensing Examination (USMLE) Step 1 scores to support the academic coach in providing timely, data-driven and individualized academic assistance.

Background and/or theoretical framework and importance to the field:

USMLE Step 1 performance is often heavily weighted by residency programs.¹ Regression models have identified factors correlated to performance, yet, how to longitudinally assist students to achieve their personal best was not discussed.²

Design: Instructional methods and materials used:

The WakeReady! curriculum is comprised of Clinical Anatomy and Physiology, Metabolism and Disease, and three System Pathophysiology courses (Neuroscience and Gastroenterology; Hematology, Pulmonology, and Cardiovascular; Renal, Musculoskeletal and Endocrinology). Each has an in-house examination (faculty written questions) and sundry assignments. An “early model” regression equation calculated a roster of predicted scores after the renal block, which is eight weeks prior to the conclusion of the curriculum.

Outcomes:

The early model identified n = 18 students at risk of failing Step 1. Longitudinal academic coaching assisted these students to identify knowledge gaps and test-taking deficiencies, using missed questions from in-house examinations and third party question banks. In partnership, the coach and student set up feasible goals and measureable outcomes, which provided accountability with the process. Step 1 results revealed that n = 11 passed (77%), n = 2 failed (11%) with n = 2 (11%) pending.

Feasibility and transferability for adoption:

Implementing the early prediction model informed realistic, data and outcome-driven studying plans. For students not at academic risk, but availing themselves of coaching, the predicted score provided the coach with a frame of reference to assist the students in reaching their potential. The limitation of this early prediction model is that it does not include the performance of the systems towards the end of the curriculum.

References:

1. Prober C, Kolars J, First L, Melnick, D. A plea to reassess the role of United States Medical Licensing Examination Step 1 scores in residency selection. *Acad Med.* 2016;91:12-15.
2. Giordano C, Hutchinson D, Pepler R. A predictive model for USMLE Step 1 scores. *Cureus.* 2016 Sep 7;8(9):e769.

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Supporting Students Across Time and Space: Creation of an Office of Academic Excellence (OAE) to provide longitudinal, integrated, state-wide student support at a multi-campus institution

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentatio

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Abstract Body:

Objective or purpose of innovation:

Create unified system of longitudinal academic student support across all years at a multi-campus medical school.

Background and/or theoretical framework and importance to the field:

UNC SOM educates medical students at one location during the pre-clinical years then at six different sites across the state for their clinical training. Students who are underperforming based on course grades, clinical evaluations, course assessments (shelf exam scores), or personal concerns require support and coaching. Historically, support services were concentrated at Central campus. The framework for expansion was based on increasing student exposure to learning sciences.

Design: Instructional methods and materials used:

Developed as an integrated team of educators and clinicians. Assist students longitudinally and across campuses. Each campus has at least one representative. Services include group and individual coaching on study strategies, licensing exam preparation, mindset, individual error analysis, and clinical skills such as history-taking, physical exam, medical decision making, and oral presentations. The OAE team meets twice monthly to discuss systemic issues as well as individual student concerns, share best practices, coordinate planning for students remediating courses or re-taking exams. We meet regularly for journal club to review available evidence and apply it to our program. We train senior students as tutors for course, licensing, and shelf exams, who meet with students utilizing video conferencing.

Outcomes:

All students meet with OAE members in groups or individually during the pre-clinical and clinical years to provide coaching on learning, test-taking, and clinical skills. This system is designed so that students can be supported longitudinally at any site across the state. A similar model could be adopted by other multi-campus training programs.

Feasibility and transferability for adoption:

Strengths: Cooperative among a diverse group, not siloed; Based in learning theory; Monitors student along developmental pathways.

Limitations: Large number needed for larger schools; Complications of trying to meet the needs of all students (those struggling and those doing well)

References:

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Supporting the transition into the systems-based curriculum

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

The purpose of the innovation was to create and modify an intervention to better support first-year medical students' transition into their systems-based learning.

Background and/or theoretical framework and importance to the field:

The systems-based curriculum is the most recognize medical education curriculum in the United States. While the transition from pre-clinical to clinical education is a significant transition for medical students^{1,2}, the transition from foundational courses to a systems-based curriculum precedes this milestone. Although there is documentation of transitional support in medical education, there is a paucity of formal support for medical students approaching systems-based learning³.

Design: Instructional methods and materials used:

An online intervention was designed for first-year students at a single institution, to expose them to practical information in preparation for their systems-based modules. The intervention included study resources used by previous students, a note-taking guide, and organization strategies to improve learning and test-taking abilities. The intervention was created using SoftChalk™ (www.SoftChalk.com), due to students' familiarity with and the user-friendly aspects of the program.

Outcomes:

Fifteen students from the graduating Class of 2022 completed a survey. Ten students reported the intervention influenced their study habits, 9 students reported feeling better prepared, and 8 students reported better understanding of how to break down question vignettes. One reported "a nice preparation of knowing what is to come" and another "liked how it gave suggestions on how to study and classify information."

Feasibility and transferability for adoption:

The need and creation of this innovation was grounded in both research and individual student's needs. However, the innovation has only been used and evaluated by one student cohort.

References:

1. Prince KJ, Boshuizen HP, van der Vleuten CPM, et al. Students' opinions about their preparation for clinical practice. *Med Educ* 2005;39 (7):704–12.
2. Teunissen PW, Westerman M. Opportunity or threat: the ambiguity of the consequences of transitions in medical education. *Med Educ* 2011;45:51-59.
3. Morgan H, Skinner B, Marzano D, et al. Improving the medical school–residency transition. *Clin Teach* 2017;14:340-343.

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Teaching health system science (HSS) and preventative care in medical school curriculum via a virtual patient continuity clinic

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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David Weber, University of South Alabama College of Medicine

Abstract Body:

Objective or purpose of innovation:

Our objective was to enhance medical student learning by developing the skills needed to navigate current healthcare complexities including insurance, referrals, and patient wellness.

Background and/or theoretical framework and importance to the field:

Lifestyle changes combined with proper utilization of available healthcare resources provides an opportunity to improve patient outcomes, while lowering costs. Preventative care is frequently overlooked in curricula and a challenge for practicing physicians. The integration of HSS into our curriculum provides an opportunity to promote awareness and shift future provider mindset.

Design: Instructional methods and materials used:

Virtual patients and families were introduced on the first day of medical school. Teams of students utilized ACA guidelines to select cost and coverage appropriate insurance plans. While developing an initial patient chart, students developed patient-specific preventative care plans using evidence-based resources (i.e. nutrition, exercise, stress management, lifestyle choices, preventative screening). During our curriculum these patients and/or family members return for treatment of issues aligning with course content. Students diagnose multisystem medical concerns, while updating preventative care plans and addressing insurance issues.

Outcomes:

For each patient scenario, students work in groups to assess, diagnose, and treat the patients. Students are provided rubrics that guide development of content and for assessment. Small groups then design presentations that are shared with colleagues and faculty. Individual students submit a reflection regarding preventative care after each session. Upon graduation, each student has a portfolio of presentations emphasizing treatments and preventative care/wellness plans.

Feasibility and transferability for adoption:

Limited knowledge of preventative care and navigating the healthcare system are major impediments to providing comprehensive patient outcome-based care. Emphasis of these concepts via HSS during medical training promotes increased student awareness and working knowledge in these areas.

References:

Adams KM, Butsch WS and Kohlmeier M. The State of Nutrition Education in US Medical School. *Journal of Biomedical Education*. 2015;2015:357627.

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American Medical Association. Code of Medical Ethics: Physicians & the Health of the Community. Section 8.11: Health Promotion and Preventive Care.

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Teaching Transgender care using LGBTQ community resources

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

This innovation was instituted to broaden our pre-clerkship students experience with transgender healthcare.

Background and/or theoretical framework and importance to the field:

Sparsity of transgender-specific health competencies in traditional medical education has contributed to unique and well-characterized health inequities faced by transgender individuals. Despite evidence of increasing interest in transgender-specific medical education, little guidance exists as to best practice initiatives. Didactic sessions often present LGBTQ health in aggregate without tailoring to transgender-specific topics. Furthermore, many interventions fail to incorporate interaction with patients, as indicated by one study in which roughly half of reviewed initiatives were lecture-based rather than standardized patient or panel experiences.

Design: Instructional methods and materials used:

Our intervention utilized a standardized patient (SP) encounter to allow pre-clinical students to work directly with transgender patients in a safe and structured environment. Through collaboration with a local LGBTQ+ resource center, SP volunteers were recruited to include members of the transgender community. Formative feedback was provided to each student by the sSP with regard to communication and interpersonal skills.

Outcomes:

Success of the exercise was evaluated using anonymous post-encounter surveys in which students indicated improved confidence in negotiating pronouns as well as eliciting sexual and substance use history. In narrative evaluation, students positively reviewed the exercise, citing opportunities to learn and receive feedback from transgender individuals as among the most valuable aspects of the experience.

Feasibility and transferability for adoption:

The utilization of standardized patients that have a lived experience related to the script provided veracity and authenticity to the student experience. By using a script, the SP was also protected from sharing personal information as might be asked of them on a panel. An area for improvement is standardizing what feedback is provided by the SP to the student.

References:

I. Rider GN, et al. Health and Care utilization of transgender and gender nonconforming youth: A population-based study. *Pediatrics*. 2018;141(3):e20171683

2. Safer JD, Coleman E, Feldman J, et al. Barriers to healthcare for transgender individuals. *Curr Opin Endocrinol Diabetes Obes.* 2016;23(2):168–171.
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4. Safer JD, Coleman E, Feldman J, et al. Barriers to healthcare for transgender individuals. *Curr Opin Endocrinol Diabetes Obes.* 2016;23(2):168–171.
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The Antibiotic Approval Pager RODEO: an inter-professional preauthorization simulation improves resident physician understanding of antibiotic stewardship

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To determine whether an inter-professional antibiotic stewardship (AS) preauthorization simulation can improve resident physician understanding of specific AS activities.

Background and/or theoretical framework and importance to the field:

AS is an important strategy to improve antibiotic use and combat antibiotic resistance. Education for healthcare professionals is essential for effective AS, but traditional approaches are marginally effective. Simulation can enhance clinical competence, but few examples are available for AS education in resident physicians.

Design: Instructional methods and materials used:

PGY 1-3 internal medicine residents participated in an interactive simulation. Residents were presented with 5 clinical scenarios commonly encountered in AS preauthorization. They were oriented to possible actions that can be performed in response to a requested antibiotic using a “RODEO” mnemonic: Release the antibiotic, suggest an Other antibiotic, Deny the approval, Elaboration required, Obtain an infectious diseases (ID) consult. Residents worked in teams to determine how they would manage the AS preauthorization request. An inter-professional panel of ID physicians and pharmacists explained how they would manage each scenario. Residents kept track of how often their decisions matched with the expert panel. Upon conclusion of the simulation, residents completed a brief survey.

Outcomes:

33 residents completed the simulation. Resident management approaches matched the panel 40-60% of the time. Twenty-seven (82%) residents agreed or strongly agreed that the RODEO simulation improved their understanding of AS, select infectious diseases, and their comfort with requesting an antibiotic from the preauthorization pager; 26 (79%) agreed or strongly agreed that the RODEO simulation improved their understanding of when restricted antibiotics are likely to be approved; and 25 (76%) agreed or strongly agreed that the RODEO simulation improved their understanding of select antibiotic regimens.

Feasibility and transferability for adoption:

Strengths: unique, inter-professional, case-based cognitive simulation to improve understanding of AS among residents

Limitations: single institution, impact on prescribing practices not assessed

References:

1. Al-Elq AH. Simulation-based medical teaching and learning. *J Family Community Med.* 2010;17(1):35–40. doi:10.4103/1319-1683.68787
2. Dellit TH, Owens RC, McGowan JE Jr, et al. Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship. *Clin Infect Dis.* 2007 Jan 15;44(2):159-77. Epub 2006 Dec 13.
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The Medical Innovators Development Program: A PhD-to-MD Training Path for Engineers and Applied Scientists to Become Physician Innovators

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To design a medical school curriculum tailored to PhD engineers and applied scientists who seek to become empathic physician innovators.

Background and/or theoretical framework and importance to the field:

Nationally since 2015, a mean of 368 individuals with PhDs applied to medical school each year. The Vanderbilt Medical Innovators Development Program (MIDP) targets the subset of PhD applicants who are engineers and applied scientists and would like to use their expertise to create innovative solutions to large unmet problems in medicine.

Design: Instructional methods and materials used:

The MIDP is a four-year program that grants an MD to enrolled students. For MIDP, we created new courses in innovation to train medical students in entrepreneurship, design thinking, and navigating the Food and Drug Administration. During their second year, students use engineering constructs to explore unsolved problems within the clinical realm. Rather than completing a research block during their third year, MIDP students design a product, process, or system to address one of the problems they identified. In the fourth year, students participate in a two-month immersion within industry. The MIDP curriculum also offers opportunities to attend courses in the business or law schools, participate in pitch competitions, and engage with the Nashville startup community. The MIDP curriculum was iteratively designed in collaboration between the MIDP leadership team and enrolled students.

Outcomes:

We have successfully implemented the MIDP curriculum. A total of 12 students are enrolled, spread across the four years of medical school. This training has spurred student-led innovation in a wide range of disciplines within medicine.

Feasibility and transferability for adoption:

The MIDP models a new curriculum to meet the needs of engineers and scientists wishing to pursue careers in medical innovation. Implementation of this model requires flexibility in the structure of the last two years of medical school.

References:

1 Walker, M., Morgan, V.L., King, M.R. et al. *Cel. Mol. Bioeng.* (2018) 11: 157. <https://doi.org/10.1007/s12195-018-0528-9>

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Training and assessment of knowledge, attitudes and perceptions of second year medical students in Shared Decision Making

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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April Brown, University of South Carolina School of Medicine Greenville

Abstract Body:

Objective or purpose of innovation:

The patient-physician relationship has evolved from a paternal model into a collaborative Shared Decision Making (SDM) relationship where the patient and the physician discuss treatment options and consider various factors to reach the best decision. Widespread implementation of SDM requires detailed understanding of the concept of shared decision making, as well as the practice of SDM. Initiating this training in medical school is of paramount importance and could lead to long term adoption in routine practice of future clinicians.

Background and/or theoretical framework and importance to the field:

Research into the knowledge, attitude and perception of medical students in regards to SDM is limited as are the successful strategies for integration of SDM training and practice in to medical school curricula. We proposed to incorporate education and experience regarding SDM in to the preclinical medical education curricula, identify the best strategy to deliver SDM training and assess medical students' knowledge, perception and attitude towards SDM.

Design: Instructional methods and materials used:

Our clinical exercise comprised of providing students with brief presentation on the principles of SDM, followed by role play exercises between students, including grading each other on a rubric of 'SHARE' approach for SDM. We assessed medical students' knowledge, attitudes and perception regarding SDM on a survey delivered to them after this exercise.

Outcomes:

Our primary survey outcomes for second year medical students indicated excellent response to knowledge questions regarding SDM. Our students also felt that tools such as decision aids will be very helpful in their learning as well as in the application of SDM in clinical settings.

Feasibility and transferability for adoption:

Our innovation adds to the teaching strategies for important communication skill of Shared Decision Making. Limitations of our project include lack of data from the clerkship students.

References:

1. Assessing medical student knowledge and attitudes about shared decision making across the curriculum: protocol for an international online survey and stakeholder analysis Marie-Anne Durand, Renata Yen, Paul J Barr, Nan Cochran, Johanna Aarts, France Légaré, Malcolm Reed, A James O'Malley, Peter Scalia, Geneviève Painchaud Guérard, and Glyn Elwyn *BMJ Open*. 2017; 7(6): e015945. PMID: 28645974
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Transforming the Transition: The Establishment of a Student Success and Wellness Center

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

Authors:

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Abstract Body:

Objective or purpose of innovation:

To assist students with making the transition to medical school, in developing effective study plans, and with maintaining a healthy balance.

Background and/or theoretical framework and importance to the field:

We sought a proactive approach to anticipating student needs and serving the whole student. Following the proven positive impact of academic support and counseling on undergraduate retention and degree completion, we developed a Student Success and Wellness Center for centralized counseling and support of all medical students.

Design: Instructional methods and materials used:

Designated space for individual conferences, study and meditation. Academic Support Leaders (tutors) were hired for each of the MD basic science courses. Services included individual counseling for study skills based on student request and based on test performance, study skill speed dating (peer/peer student support), counseling intake sessions, Step Prep sessions, and a lending library.

Outcomes:

Year 1:

- 86 Academic Support Sessions: 720 attendees
- Step Prep Sessions attended by 50% of the class. Average score for those who attended at least 10 sessions was four points higher than the average score for those who did not attend sessions.
- Twelve students completed Counseling On-boarding Sessions
- Study Skills Speed Dating for content areas
- Test Anxiety support, finals week stress relief, mindfulness, and therapy pets

Feasibility and transferability for adoption:

The Student Success and Wellness Center supports cognitive learning theory (interleaved practice, retrieval, elaboration) and wellness of the whole student with proactive programs and targeted support. This happens in conjunction with the Basic Science Course Directors. Our Academic Support Leader selection process and training supports basic pedagogical practices (directed instruction on the most difficult concepts).

The limitation is that we are in our second year and still collecting data.

References:

Brown, P. C., Roediger, H. L. III, & McDaniel, M. A. (2014). Make it stick: The science of successful learning. Cambridge, MA, US: Belknap Press of Harvard University Press.

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Using Learning Analytics to Transform Medical Education

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To transform the use of educational data using automated learning analytics to:

- Provide students formative feedback on patient-physician interaction in a low-stakes environment prior to beginning clerkships
- Leverage data to inform decision-making¹
- Monitor student progression toward competence and Entrustment
- Identify at-risk students early

Background and/or theoretical framework and importance to the field:

We used a multi-pronged approach to monitor student performance incorporating program competencies, alignment of competencies to AAMC Entrustable Professional Activities (EPAs) and entrustment levels². However, we were challenged with integrating multiple data sources for comprehensive insight about learner and curricular performance.

Scholars outside of medical education have used learning analytics (LA) for years; however, medicine has been slower to embrace LA¹. Medical education lags behind other fields because of implementation challenges requiring advanced technical and analytical skills, ethical and privacy issues, and lack of awareness about the benefits of LA³. The foundational theories and applications of LA can inform implementation of CBME, and medical education is lingering behind.

Design: Instructional methods and materials used:

The Cincinnati Medicine Student Performance System combines a central repository for education data, advanced analytical tools, and business intelligence software. It empowers stakeholders to manage, visualize, and interpret large quantities of data to inform decision-making, curricular improvements, and support student success.

Outcomes:

1. Curricular interventions that improved student performance
2. Early identification of at-risk students
3. Improved interrater reliability and objectivity on workplace-based assessments

Feasibility and transferability for adoption:

The Cincinnati Medicine Student Performance System fosters curricular innovation through technology-enhanced quality improvement processes ensuring medical education efforts are

leading to intended outcomes. Stakeholders are empowered to transform educational data into insight, thus informing decision-making, student success, and curricular improvements^{4,5}.

References:

1. Chan, T., et al., Learning Analytics in Medical Education Assessment: The Past, the Present, and the Future. *AEM Education and Training*, 2018. 2(2): p. 178-187.
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3. Saqr, M., A literature review of empirical research on learning analytics in medical education. *International journal of health sciences*, 2018. 12(2): p. 80.
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5. Olmos, M. and L. Corrin, *Academic analytics in a medical curriculum: enabling educational excellence*. 2012.

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Using Professional Identity Formation and the Kegan Model of Adult Development as a Foundation for an Implicit Bias Curriculum

Submission Type: Innovations Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Objective or purpose of innovation:

To improve a curriculum on Implicit Bias by anchoring it to a conceptual model of professional identity formation (PIF).

Background and/or theoretical framework and importance to the field:

Implicit bias adversely affects patient care, and medical schools are required to teach medical students to recognize and address bias. However, without a coherent conceptual model of how this topic is “learned” it is difficult to know to best deliver such a curriculum, and student feedback demonstrated that our curriculum was falling short of expectations.

Design: Instructional methods and materials used:

We developed a small group curriculum on implicit bias for first year medical students, including case vignettes and personal essays by faculty members concentrating on the professional responsibility of physicians to address bias. Supporting faculty development materials and 90 minute in-person training focused on PIF and the Kegan Model of Adult Development. The model describes students at different developmental stages as seeing the world through different lenses: the Instrumental lens, focused on meeting concrete requirements, the Socialized lens, attuned to fitting in and taking on community values, and the Self-Authored lens, concerned with meeting self-defined expectations. Students and faculty facilitators completed feedback surveys following the session.

Outcomes:

We found that 1) PIF was a useful framework for creating a curriculum on implicit bias; 2) collecting feedback from previous participants helped us create more relevant teaching materials; and 3) faculty appreciated training in the Kegan model, but noted that more practice would help them to better apply the model in real time.

Feasibility and transferability for adoption:

This project’s strength was the use of a strong conceptual model to create the curriculum and faculty development materials. The major limitation was the small number of faculty facilitators involved.

References:

FitzGerald C, Hurst S. Implicit bias in healthcare professionals: a systematic review. *BMC Medical Ethics*. 2017;18:19.

Hall WJ, et al. Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: a systematic review. *Am J Public Health*. 2015; 105:e60–e76.

Liason Committee on Medical Education, Functions and Structure of a medical school, www.lcme.org, March 2019

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“Just-in-time” faculty development to enhance skills in assessment and create a community of practice amongst faculty educators

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

This "just-in-time" faculty development innovation ensures the quality of pre-clerkship written exams and builds institutional capacity for assessment by creating and sustaining a faculty community of practice related to learner assessment.

Background and/or theoretical framework and importance to the field:

UME assessments should align with curricular vision and adhere to best educational practices. However, developing faculty skills in assessment can be challenging.

Design: Instructional methods and materials used:

Before and after each high-stakes written exam in a pre-clerkship course, course leaders and key instructors must meet with faculty members who have expertise in assessment. At each pre-exam meeting these 4-6 member “assessment teams” collaborate to develop and revise MCQ questions for the upcoming exam. At each post-exam meeting the team collaboratively interprets the assessment data in order to guide the continuous quality improvement of both the assessments and the curriculum.

Outcomes:

This innovation supports a mutually accountable community of practice in which members provide and receive professional development with the shared goal of achieving institutional standards and best practices related to learner assessment. In the 2017-2018 academic year, 35 faculty members associated with the 12 pre-clerkship courses participated in assessment teams that met pre-exam to vet an aggregate total of 2073 exam questions used in 29 exams. All teams also met post-exam to review student exam performance.

Feasibility and transferability for adoption:

Structuring faculty development as an iterative team activity cultivates a robust community of practice that continuously improves the quality of exams and helps improve teaching and learning in pre-clerkship courses. In addition, this initiative promotes curricular and organizational goals by continually expanding institutional capacity for high-quality learner assessment.

References:

Abigail, L. K. M. (2016). Do communities of practice enhance faculty development? *Health Professions Education*, 2, 61-74.
O'Sullivan, P. S., & Irby, D. M. (2011). Reframing research on faculty development. *Academic Medicine : Journal of the Association of American Medical Colleges*, 86(4), 421-428. doi:10.1097/ACM.0b013e31820dc058 [doi]

Thorndyke, L. E., Gusic, M. E., & Milner, R. J. (2008). Functional mentoring: A practical approach with multilevel outcomes. *The Journal of Continuing Education in the Health Professions*, 28(3), 157-164. doi:10.1002/chp.178 [doi]

Van Der Vleuten, C. P. M., Schuwirth, L. W. T., Driessen, E. W., Govaerts, M. J. B., & Heeneman, S. (2015). Twelve tips for programmatic assessment. *Medical Teacher*, 37(7), 641-646. doi:10.3109/0142159X.2014.973388 [doi]

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity (learning in doing: Social, cognitive and computational perspectives)* (1st ed.) Cambridge University Press. doi:ISBN-13: 978-0521663632

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A “Societal Problem”: Gun Violence, Its Absence in Medical Education Curricula, and a Potential Curricular Solution

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

This novel project presents an impartial, evidence-based curriculum that improves medical students' knowledge of gun violence.

Background and/or theoretical framework and importance to the field:

Medical school education should focus on “medical consequences of common societal problems.”¹ Gun violence is a public health threat that impacts patients in multiple settings.² Despite this, there is a paucity of education on the role of the physician in addressing gun violence. McGovern Medical School developed a non-partisan, evidence-based curriculum to address this gap.

Design: Instructional methods and materials used:

The elective, “Gun Violence and Physicians: What you need to know,” was offered to all medical students at McGovern and consisted of 5 voluntary, expert-led lectures with topics including assessment of the aggressor, the impact of the bullet, advocacy, and firearm safety counseling.

Students completed a subjective survey evaluation via Google Docs. Identifiers were removed before researchers received the results. Researchers analyzed data using descriptive statistics and thematic coding to determine students' knowledge changes and overall satisfaction.

Outcomes:

125 students attended at least one lecture. 77 participants completed a survey containing ten Likert scale statements asking how their knowledge on gun violence changed after the elective and eight open-ended questions evaluating the course.

81.5% of students strongly agreed they would recommend this class to other students. 83.2% of students agreed or strongly agreed that they could hold an educated conversation about gun violence. Students appreciated the diverse speakers, relevant topics, and practical skills for speaking with patients about guns.

Feasibility and transferability for adoption:

This course provides a medically-relevant examination of gun violence through varied lenses and fills a significant gap in medical education. Experts presented evidence-based content that students received positively. Limitations include a small sample and self-selected group.

References:

1. LCME (2016). Functions of Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree. Association of American Medical Colleges and American Medical Association.
2. Wintemute, G. J. (2015). The epidemiology of firearm violence in the twenty-first century United States. Annual Review of Public Health, 36, 5-19.

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A Competency-based Approach to Faculty Development

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Clear organization of faculty development activities aligned with competencies for success can lead to a comprehensive approach to career development and growth for medical school faculty.

Background and/or theoretical framework and importance to the field:

Faculty development at the Virginia Commonwealth University School of Medicine (VCU SOM) previously focused on enhancing teaching and learning in the medical and clinical education settings. While this work is important, this narrow focus does not address all facets a faculty member's role. To broaden their programming, the VCU SOM faculty development team adopted a competency-based approach to the development, planning, and marketing of faculty development activities. .

Design: Instructional methods and materials used:

The Senior Associate Dean for Faculty Affairs completed a research project focused on successful clinical and research faculty who promote through the tenure process and advance in their careers. She identified the following categories for success: teaching, service, scholarship, advancing, and leadership. Each of these categories contains action-focused competencies that align with career progression addressing early, mid, and late career stages. The faculty development team adopted the identified competencies to their curriculum development and planning processes.

Outcomes:

Faculty development activities are now categorized into five (5) categories: Teach, Lead, Serve, Discover, and Advance with each category color coded for easy recognition in event marketing materials. A new logo reflecting these competency categories is now included on all Office of Faculty Affairs communications. Faculty are beginning to recognize and register for activities they need for promotion, tenure, and advancement. The results of this adoption have been clearer alignment of activities to learners' goals, a mapped structure for faculty development activities, and a broader range of topics offered that align with career stages.

Feasibility and transferability for adoption:

This comprehensive approach has helped faculty identify competency areas more easily.

References:

1. Daouk-Öyry L, et al. "Developing a competency framework for academic physicians." *Med Teach*. 2017 Mar;39(3):269-277. doi: 10.1080/0142159X.2017.1270429. Epub 2016 Dec 25.
2. Steinert Y. 2011. Commentary: faculty development: the road less traveled. *Acad Med*. 86:409–411.

3. Sherbino J, et al. "Defining the Key Roles and Competencies of the Clinician-Educator of the 21st Century: A National Mixed-Methods Study." *Acad Med.* 2014 May;89(5):783-9. doi: 10.1097/ACM.0000000000000217.
4. Topor DR and Roberts DH. "Faculty Development Programming at Academic Medical Centers: Identifying Financial Benefits and Value." *Med Sci Educ.* 2016 Sep;26(3):417-419. Epub 2016 Jun 9.
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6. Srinivasan M, et al. "Teaching as a Competency": Competencies for Medical Educators." *Acad Med.* 2011 Oct;86(10):1211-20. doi: 10.1097/ACM.0b013e31822c5b9a.
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A Data Mining Framework for Improving Step 1 Outcomes

Submission Type: Innovations Abstract

Accepted as: Poster

Authors:

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Abstract Body:

Objective or purpose of innovation:

The purpose was to use data mining techniques to create a model which predicts pass or fail outcomes on Step 1, and determine the point in the curriculum when intervention programs can be offered to improve these outcomes.

Background and/or theoretical framework and importance to the field:

Prior investigations have employed multivariate regression models to find correlates of Step 1 outcomes, but the low failure rate provides a small sample for research, and individual student outcomes are still unknown.

Design: Instructional methods and materials used:

Student outcomes for students matriculating from 2013 to 2015 (n=514) were extracted from the student information system. The dataset included data provided during the admissions process, final course grades from 25 courses taken in the preclinical years, and pass/fail results from the comprehensive basic sciences examination and Step 1. To increase the failed sample size, passing scores within one standard deviation were considered failing which increased the number of failed observations from 2 to 19, consistent with the national failure rate of 4%. Over and under sampling techniques were used to address the imbalance of pass and fail observations.

Outcomes:

The model using preadmission variables and final grades for the first block of preclinical courses provided the most effective model in terms of identifying at-risk students, indicating the Foundations Basic to the Science of Medicine course as the best predictor of Step 1 outcomes, with students with a course grade lower than 85.35 predicted to fail Step 1.

Feasibility and transferability for adoption:

Provides a method to increase the Step 1 sample size in prediction models, identifies a specific out which best predicts Step 1 outcomes, and identifies students at-risk of Step 1 failure.

References:

This work is based on my doctoral dissertation, successfully defended in March 2019. The reference list is too many to use here: however, the full paper, including references can be found at:
https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=2070&context=gscis_etd

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A New Process to Interpret the Effect Sizes in Program Evaluation

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

This innovation creates a process in which effect sizes can be used to generate conclusive statements in the program evaluation of medical education.

Background and/or theoretical framework and importance to the field:

Null Hypothesis Significance Testing (NHST) is a dominant statistical practice in most research fields. However, the use of NHST as the only criterion is widely criticized.¹⁻³ Effect sizes are recommended as a supplement or replacement of NHST.⁴⁻⁶ Two common practices guide the interpretation of effect sizes: 1) the aged benchmark proposed by Cohen⁷ which has no connection to the specific context of medical education; 2) the creation of empirical benchmarks using meta-analyses of effect sizes that share a similar context.⁸ This retrospective review has rarely been utilized in medical education. An innovative mechanism to use this second practice in educational evaluation is proposed.

Design: Instructional methods and materials used:

The process invites stakeholders to help create context-based benchmarks of effect sizes. Three questions guide the process: what is the current status; what is a reasonable expectation in a specific timespan; and what size of the effect represents practical importance. This results in the identification of context-based benchmarks. By comparing the obtained effect size to the created benchmark, a conclusive statement about the magnitude of the effect is generated.

Outcomes:

Pilot processes and data demonstrate how this innovative process could demonstrate the effectiveness of this process for establishing benchmarks to judge program outcomes.

Feasibility and transferability for adoption:

The new benchmarks reflect program goals and status quo and can be updated as policy and curricula change in the process of continuous quality improvement. The process involves administrative effort and creates multiple context-specific benchmarks instead of one standard to which all outcomes can be based. However, the interpretation of effect sizes is easier and more accurate.

References:

- 1.Szucs D, Ioannidis J. When null hypothesis significance testing is unsuitable for research: a reassessment. *Frontiers in human neuroscience*. 2017;11:390.
- 2.Gliner JA, Leech NL, Morgan GA. Problems with null hypothesis significance testing (NHST): what do the textbooks say? *The Journal of Experimental Education*. 2002;71(1):83-92.
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4. Karadaghy OA, Hong H, Scott-Wittenborn N, et al. Reporting of effect size and confidence intervals in JAMA Otolaryngology–Head & Neck Surgery. *JAMA Otolaryngology–Head & Neck Surgery*. 2017;143(11):1075-1080.
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7. Cohen J. The statistical power of abnormal-social psychological research: a review. *The Journal of Abnormal and Social Psychology*. 1962;65(3):145.
8. Hill CJ, Bloom HS, Black AR, Lipsey MW. Empirical benchmarks for interpreting effect sizes in research. *Child development perspectives*. 2008;2(3):172-177.

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Artificial Intelligence Curriculum for Medical Students

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Data scientists, computer engineers and medical educators collaborated to generate and validate an innovative course to teach AI literacy and explore emerging clinical applications.

- Present a rationale to introduce AI technology literacy in medical education
- Design and validate a prototype AI curriculum for medical students

Background and/or theoretical framework and importance to the field:

Artificial Intelligence (AI) applications are rapidly emerging for precision medicine and higher education tutoring. The expanding interface between digital data science, emerging AI technologies and healthcare is creating a demand for medical professional AI technology literacy. Despite a number of publications calling for medical schools to pursue this topic with learners, to date there is no such curriculum.

Design: Instructional methods and materials used:

A faculty and student needs assessment was conducted. Incorporating this survey's results, a course was designed focused in: 1) basic computing concepts & neural networks; 2) AI algorithms for decision support & complex problem solving; 3) emerging AI applications in clinical medicine. Using instructional design Successive Approximation Model-2 (SAM-2), six modules with a longitudinal IBM Watson Studio data science practicum were featured. Learner-interactive case studies of patients were used to illustrate AI-informed treatments and AI-projected patient trajectories in the healthcare system.

Outcomes:

Course evaluation included formative (feedback questionnaire) and summative (data capstone, project, final exam) assessment, and 360 Evaluation by students, instructors, developers, etc. Among rising second year medical students completing this elective, mean exam scores improved from 1.5 pre-course to 13.8 (maximum 20 points). Student satisfaction with the course, in particular hands-on data science, was high.

Feasibility and transferability for adoption:

Multi-disciplinary course design and team-teaching course and the use of robust instructional design practices were considered strengths. One limitation is that a single institutional experience may not predict or fulfill other medical schools' learners perceived needs.

References:

1. Miller, DD, Brown, EW. How Cognitive Machines can Augment Medical Imaging. Am.J. Roentgenology. 2019 <https://doi.org/10.2214/AJR.18.19914>
2. Miller DD, Brown EW. Artificial intelligence in medical practice: the question to the answer? Am J Med. 2018 <https://doi:10.1016/j.amjmed.2017.10.035>

3. Miller, DD. The Big Health Data – Intelligent Machine Paradox. Am. J. Med. 2018

<https://doi.org/10.1016/j.amjmed.2018.05.038>

4. Miller, DD. The Medical AI Insurgency: What Physicians Must Know About Data to Practice With Intelligent Machines. npj Digital Medicine (Nature) 2 (62), June 28 2019 <https://doi.org/10.1038/s41746-019-0138-5>

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Assessment Drives Curriculum: Aligning Near-Peer Teaching Programs With Modified Student Assessments

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Second-year students and faculty leaders of the Miller School of Medicine developed two peer-teaching initiatives for first-year students in the MD and MDMPH cohorts. The Medical Students as Teachers (MSAT) teach key principles of the science of learning, in particular, self-regulated learning strategies while the Near Peer Academic Support (NPAS) provides content-based review sessions.

Background and/or theoretical framework and importance to the field:

The shift toward competency-based, time-variable curricula requires instructional methods that facilitate the development of self-regulated learning skills grounded in deliberate practice. Specifically, goal-setting and strategic planning, retrieval practice and test-enhanced learning have been the driving concepts for both MSAT and NPAS.

Design: Instructional methods and materials used:

MSAT leads two mandatory, student-led, science of learning workshops, in addition to 3 voluntary sessions across the fall and spring semesters. NPAS leads 6 voluntary, case-based, small-group workshops in the fall semester. Sessions include the use of sample learning plans, study schedules, student notes, and clinical vignettes. These methods are, in part, in response to newly introduced standardized course exams and increasing emphasis on competency-based assessments.

Outcomes:

Based on questionnaire data, 83% of respondents reported a positive rating of MSAT's workshop, and 91% agreed that "I am able to develop an individualized learning plan,". For NPAS, based on questionnaire data, 89% of respondents reported a positive rating of how well sessions were taught, and 86% agreed that the review content aligned with course exam content.

Feasibility and transferability for adoption:

NPAS and MSAT workshops have supported transformative learning across subjects while providing opportunities for learners to develop transferrable, self-regulated, lifelong learning habits. In the future, we hope to explore the relationship between the academic performance of participants in both programs and that of non-participants.

References:

- Andrews MA, Kelly WF, DeZee KJ. 2018. Why does this learner perform poorly on tests? Using self-regulated learning theory to diagnose the problem and implement solutions. *Acad Med.* 93:612–615.
- Brown PC, Roediger HL III, McDaniel MA. 2014. *Make it stick: the science of successful learning.* Cambridge (MA): The Belknap Press of Harvard University Press.
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- Ten Cate O, Durning S. 2007. Peer teaching in medical education: twelve reasons to move from theory to practice. *Med Teach.* 29:591–599.

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Broadening the Otologic Surgical Teaching Repertoire with Video-Based Coaching

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To complement traditional otologic surgical teaching with mastoidectomy video-based coaching sessions

Background and/or theoretical framework and importance to the field:

Real-time otologic surgical teaching is challenging due to its single-surgeon nature, lack of paired tactile feedback and inability to rapidly intervene. Resident operative experience is often delayed and supplemented with cadaver dissection. Video-based coaching, utilized across professions to maximize skills, may be a novel tool to complement traditional otologic surgical teaching.

Design: Instructional methods and materials used:

In this mixed methods pilot design, mastoidectomies performed by four otolaryngology residents were recorded from operative microscopes at two tertiary care centers and reviewed during coaching sessions between attendings and residents 10-30 days postoperatively. Residents completed a questionnaire regarding the degree to which attendings discussed twelve teaching topics and utilized eight techniques both after their surgical and coaching sessions. Paired T-tests were used to compare scores for questionnaire items between the sessions. Coaching sessions were analyzed and coded in terms of the teaching topics and techniques.

Outcomes:

Coaching sessions ran from 9 to 21 minutes. Across subjects, an average of 1.65 ± 0.26 topics were discussed and 1.54 ± 0.49 techniques utilized per minute. Surgical technique was discussed the majority of the time (60.5%) followed by anatomy (18%). The informing technique was used most often (30%), followed by providing positive feedback (22.2%). Residents indicated higher rates of discussion of ten of the topics and seven of the techniques during their coaching session compared to their surgical session. This difference approached statistical significance for discussion of anatomy (8.25 versus 5.75, $p=0.079$), progression (7.75 versus 4.75, $p=0.069$), and utilization of positive (8.5 versus 5, $p=0.069$) and constructive (8.25 versus 5.75, $p=0.063$) feedback.

Feasibility and transferability for adoption:

Mastoidectomy video-based coaching is a low resource, time efficient and educationally dense modality to complement traditional otologic surgical teaching.

References:

- 1: Mazer LM, Hu YY, Arriaga AF, Greenberg CC, Lipsitz SR, Gawande AA, Smink DS, Yule SJ. Evaluating Surgical Coaching: A Mixed Methods Approach Reveals More Than Surveys Alone. *J Surg Educ*. 2018 Nov;75(6):1520-1525. doi: 10.1016/j.jsurg.2018.03.009. Epub 2018 Apr 11. PubMed PMID: 29655883.
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- 3: Hu YY, Mazer LM, Yule SJ, Arriaga AF, Greenberg CC, Lipsitz SR, Gawande AA, Smink DS. Complementing Operating Room Teaching With Video-Based Coaching. *JAMA Surg*. 2017 Apr 1;152(4):318-325. doi: 10.1001/jamasurg.2016.4619. PubMed PMID: 27973648.
- 4: Soucisse ML, Boulva K, Sideris L, Drolet P, Morin M, Dubé P. Video Coaching as an Efficient Teaching Method for Surgical Residents-A Randomized Controlled Trial. *J Surg Educ*. 2017 Mar - Apr;74(2):365-371. doi: 10.1016/j.jsurg.2016.09.002. Epub 2016 Oct 5. PubMed PMID: 27720404.
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- 6: Malik MU, Varela DA, Park E, Masood H, Laeeq K, Bhatti NI, Francis HW. Determinants of resident competence in mastoidectomy: role of interest and deliberate practice. *Laryngoscope*. 2013 Dec;123(12):3162-7. doi: 10.1002/lary.24179. Epub 2013 Jul 22. PubMed PMID: 23878112.

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Clinical Integration of Foundational Science in Clinical Clerkships Utilizing the Flipped-Classroom

Submission Type: Innovations Abstract

Accepted as: Poster

Authors:

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Abstract Body:

Objective or purpose of innovation:

We intend to improve student learning by replacing the didactic lecture with a carefully guided flipped classroom (FC) experience.

Background and/or theoretical framework and importance to the field:

The FC experience acknowledges that adult learners have differing needs and motivations for learning along with differing approaches for gathering information. The FC also allows for peer-to-peer teaching in an environment where faculty can provide information to the group that they don't have and did not realize they needed.

Design: Instructional methods and materials used:

We distribute USMLE style Step 2CK questions 7 days in advance and conduct an analysis of each answer choice during the FC experience. The teacher probes with questions for both preparation and depth of understanding. "Micro-lectures" are used when needed. The setting resembles dialogue on patient rounds. Students are also probed for the resources that they used (no reading assignments). We are able to classify behaviors by degree of engagement (DE), and depth of integration (DI) by the group for each concept (answer choice) covered.

Outcomes:

We observe full interpersonal engagement of rotation groups by the second session with emergence of initiative by the introverted students. Students prepare with multiple resources including research reports. For each concept covered, all criteria for DE and DI were beyond expectations, usually at the highest levels. Faculty preparation, exclusive of the one-time only selection of questions and preparation to discuss them, was reduced and teaching satisfaction was increased. Freedom to augment with micro-lectures was a positive factor.

Feasibility and transferability for adoption:

Preparation for the FC is no more difficult than for a standard lecture, but the engagement of the students is much greater. This innovation works best for small groups around 10 to 12 seems to work best.

References:

David C. M. Taylor & Hossam Hamdy (2013) Adult learning theories: Implications for learning and teaching in medical education: AMEE Guide No. 83, Medical Teacher, 35:11, e1561-e1572, DOI: 10.3109/0142159X.2013.828153

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Creating Practice Space with Coaches on an Internal Medicine Clerkship

Submission Type: Innovations Abstract

Accepted as: Poster

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Heather Harrell, University of Florida

Abstract Body:

Objective or purpose of innovation:

Create supportive practice environment for clinical students

Background and/or theoretical framework and importance to the field:

Skill development requires direct observation and coaching in a low stakes practice environment.¹ Our third year medical students reported a lack of practice space during the graded clinical years.² High stakes assessment increased competition and anxiety, undermining teamwork and the learning environment. We developed a team based coaching program on the internal medicine (IM) clerkship to promote a supportive practice environment.

Design: Instructional methods and materials used:

Nine experienced educators, who have no role in grading students, serve as IM coaches. They received guidelines and met as a group for faculty development. Each coach was assigned a “teamlet” of 3-4 students for the 8 week inpatient clerkship. They were expected to discuss goals as a group and students had the option for individual meetings. Group were encouraged to meet every 1-2 weeks. Coaches provide feedback on at least 2 write-ups for each student and are available to directly observe the students’ clinic skills.

Outcomes:

Coaches appreciate the flexibility to tailor experiences to meet each cohorts’ needs. Students struggle to define their learning needs. Few students use the coaches for direct observation. Most groups dedicate time to emotional support. Oral presentation practice, journal club, and review of abnormal physical findings are frequent group activities. Between 2017-2019, 247 students evaluated the experience and found it supportive (4.14, scale 1-5, 5 strongly agree) and valuable to their professional development (4.13), but less beneficial to enhancing their performance and reducing stress.

Feasibility and transferability for adoption:

Allows individualization at student and program level and is valued by faculty and learners. Single institution and students rotating at distant sites may affect experience. Faculty development in coaching was limited.

References:

1. Ericsson K, Acquisition and maintenance of medical expertise: A perspective from the expert-performance approach with deliberate practice (2015) Acad. Med. 90(11):1471-86.
2. Unpublished report from UF learning community leaders who queried clinical students about low stakes practice opportunities on clerkships

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Curriculum Innovation: Community Engagement Day

Submission Type: Innovations Abstract

Accepted as: Poster

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Gordon Churchward, Emory University School of Medicine

Abstract Body:

Objective or purpose of innovation:

To provide a venue for hand over of community projects from one class to another

Background and/or theoretical framework and importance to the field:

Emory University SOM has a robust curriculum in Community Learning and Social Medicine that lasts throughout the Foundations period of our curriculum (three semesters pre-clerkship). During this time students work in their student society groups following a formal curriculum of lecture and reflective writing and in small groups with community partners to develop and carry out projects of benefit to the partners and those who the partners serve. Since the projects are ongoing over more than one year, Community Engagement Day was instituted with the primary goal of facilitating the hand off of projects from one class to the next.

Design: Instructional methods and materials used:

The engagement day is attended by all students from the incoming first-year class and the second-year class. All small groups present their projects, currently involving 56 partner organizations, either through poster or oral presentations. A keynote speaker chosen for their work in the greater Atlanta area delivers an address to the students and community partners.

Outcomes:

in addition to facilitating the hand off of projects, the afternoon serves to publicize the work of the students to the Emory community and to emphasize the central importance of Community Learning and Social Medicine in our MD curriculum. The presentations give the opportunity for the SOM community to give feedback to the students about their projects, and are scrutinized for quality by a jury of faculty members. Secondary outcomes include students learning to give formal project presentations.

Feasibility and transferability for adoption:

This is the only place in our curriculum where the all the first- and second-year students meet together and thus serves to establish and/or reinforce relations between beginning and older students.

References:

N/A

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Curriculum Management in Hurricane Preparedness Planning

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To develop hurricane preparedness plans that include medical school curriculum management.

Background and/or theoretical framework and importance to the field:

Hurricanes have had significant effects on medical schools in recent years. The importance of development of hurricane preparedness plans to ensure safety of students is essential and has top priority. However, it is also important to recognize the impact of hurricanes on medical school curriculum. In order to minimize delays in resuming curriculum, schools should develop clear response plans for curricular management. FAU College of Medicine (COM) has developed a hurricane preparedness program that ensures safety while optimizing students' ability to continue with aspects of the curriculum remotely.

Design: Instructional methods and materials used:

We created a Hurricane Phone Tree of students, faculty, and staff distributed to essential personnel, designed to allow for expedited and efficient communication, including the need for emergent housing. The hurricane preparedness plan is activated at the early stage of a Tropical Storm Watch and progresses as needed to the stages of Hurricane Watch, Hurricane Warning, Hurricane, and Post-Hurricane. During the rising stages of severity, the offices of medical education and student affairs activate pre-planned steps to determine appropriateness of canceling coursework in advance of a potential storm. The COM creates recordings of lectures from the academic year prior that are released to students if curricular schedules on campus are canceled, allowing students to continue with curricular material remotely. Modifications to exam schedules are determined and communicated to the students at the time of class cancellations.

Outcomes:

Incorporating curricular management into hurricane preparedness alleviated stress and anxiety and minimized the delay in resuming curriculum.

Feasibility and transferability for adoption:

The program offers a comprehensive evaluation of the needs of the students, including safety, housing, and timely delivery of curriculum, however, could be limited by availability of resources.

References:

1. Dicarlo RP, Hilton CW, Chauvin SW, et al. Survival and recovery: maintaining the educational mission of the Louisiana state university school of medicine in the aftermath of hurricane Katrina. *Acad Med.* 2007 Aug;82(8):745-56.
2. <https://www.weather.gov/stormready/>

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Developing Academic Physicians: The University of Louisville Distinction Track in Medical Education

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

The Distinction Track in Medical Education (DIME) at the University of Louisville School of Medicine (ULSOM) was created in 2013. The objective of DIME is to provide medical students with mentored experiences designed to provide insight into the core principles of medical education, structure of academic medicine, and prepare them to be effective educators and scholars. DIME students engage as active contributors to the curriculum and learning environment as they complete projects on education research, curriculum development, and teaching.

Background and/or theoretical framework and importance to the field:

There is an ongoing need for medical educators; medical schools should provide support for students who wish to be involved in medical education.¹⁻³ Medical schools have developed diverse programs to engage students in medical education.⁴⁻⁵

Design: Instructional methods and materials used:

Each year, 6 to 17 (with an average of 10) students are admitted to DIME and paired with faculty mentors. Students engage in 15+ hours of teaching, create instructional content, develop assessments, and complete a scholarly project. DIME is evaluated by students annually via an online survey.

Outcomes:

Since DIME's founding in 2013, 24 students have graduated with a Distinction in Medical Education. Project topics vary; current DIME students are completing scholarly work on wellness, mindfulness, peer support, and humanities. Annual evaluations show that students find the mentor-mentee relationship a key feature of DIME; students are overwhelmingly positive in their evaluations.

Feasibility and transferability for adoption:

Programs engaging medical students in education are crucial to building a pipeline of academic physicians. The DIME program facilitates an important mentor-mentee relationship that supports the development of the essential skills needed to foster interests in academic medicine, while addressing needs that are unique to ULSOM.

The amount of faculty time needed to mentor students is limited, so only a select group of students can benefit from this program.

References:

1. Huwendiek et al. Expertise, needs and challenges of medical educators: Results of an international web survey. *Medical Teacher*. 2010;32(11):912-18.
2. Hu et al. Where is the next generation of medical educators? *The Medical Journal of Australia*. 2013;198(1):8-9.
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5. Green EP, Borkan JM, et al. Encouraging scholarship: medical school programs to promote student inquiries beyond the traditional medical curriculum. *Acad Med*. 2010; 85(3):409-418.

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Developing Clinical Skills through Medical Education Research

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

We present evidence of clinical skills research having simultaneous benefits of active learning. Our aim is for the research audience to apply these concepts broadly to enhance trainees' clinical skills.

Background and/or theoretical framework and importance to the field:

Observational and active learning processes are engaged when researchers review patient-encounter videos to code the presence of clinical behaviors. Compared to passive review¹, coding patient interviews with a checklist requires the viewer to identify gaps, which facilitates knowledge transfer. Interleaving content promotes discrimination among similar concepts²⁻³, so coders learn to distinguish among similar performances while coding different interview methods.

Design: Instructional methods and materials used:

As part of an ongoing project, undergraduate research assistants interested in attending medical school with no previous clinical education coded videos of medical students taking standardized patient (SP) histories. Coders completed their own SP encounter at the beginning and end of the project to demonstrate how the research experience influenced clinical skills development.

Outcomes:

Observing and critically reviewing SP encounters produced meaningful clinical skills gain. Coder's pre-project SP encounters were incomplete (average 2.9 minutes, n=4). Post-project, coders completed more thorough, patient-centered histories (average 19.5 minutes, n=2) using complex communication skills (open-ended questions, working collaboratively, summarizing patient statements, supporting patient emotions), despite the coding checklist containing only presence/absence content items. All coders described learning about communication and interpersonal skills by comparing patient reactions and connecting missed health history components (checklist items) to question structure.

Feasibility and transferability for adoption:

This is a novel approach to teaching clinical skills that actually demonstrates the clinical skills gain. Although representative of a typical research team, the innovation is limited by size.

References:

I. Beard G, Nye C, Thacker LR. The Use of Video Recording and Standardized Patient Feedback to Improve Communication Performance in Undergraduate Nursing Students. *Clinical Simulation in Nursing*. 2017;13(4):176-85.

2. Rohrer D. Interleaving Helps Students Distinguish among Similar Concepts. *Educational Psychology Review*. 2012;24(3):355-67.
3. Rozenshtein A, Pearson GDN, Yan SX, Liu AZ, Toy D. Effect of Massed Versus Interleaved Teaching Method on Performance of Students in Radiology. *Journal of the American College of Radiology*. 2016;13(8):979-84.

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Educate the educators: A quality improvement study of faculty experience, attitudes, and knowledge in the provision of trainee feedback

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Determination of the faculty physicians existing knowledge, attitudes, comfort, experiences, and preferences in provision of feedback to trainees

Background and/or theoretical framework and importance to the field:

Formal feedback for trainees is a critical part of the development of clinical competencies in graduate medical education. However, few faculty members have had formal instruction in the evaluation, assessment, and provision of feedback. Poorly administered or neglected feedback may have negative consequences on professional development as well. This QI project was designed to assess internal programmatic needs as a pilot to assess knowledge gaps for medical educators. However, this need for skill in feedback administration is applicable to many other teaching programs nationally. An understanding of the current inconsistencies and experiences of faculty educators will assist in creating systematic interventions for faculty remediation.

Design: Instructional methods and materials used:

The authors conducted a single-institution quality improvement project by administering an anonymous survey to faculty in the division of hematology/oncology at a tertiary academic medical center. The survey instrument included a total of nine Likert-scale based, closed, and open-ended questions. This survey examined the existing knowledge, attitudes, comfort, experiences, and preferences in providing feedback to trainees. It also assessed the desire for additional faculty training in evaluation and feedback.

Outcomes:

A majority of faculty identified challenges in the provision of feedback. Additional analysis is ongoing and will be presented at SGEA conference if selected for presentation.

Feasibility and transferability for adoption:

This foundational study is important for building an understanding of the current status of faculty knowledge in order to design additional studies and remediation for faculty. Limitations include small sample size which may limit generalizability.

References:

Hutul O, Carpenter R, Tarpley J, Lomis K. Missed Opportunities: A Descriptive Assessment of Teaching and Attitudes Regarding Communication Skills in a Surgical Residency. *Curr Surg.* 2006;63(6):401-409.

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Educating Pre-Health Undergraduates Through Gamification Software and Standardized Patient Interactions

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To determine the educational value of providing undergraduate students with online examinations and standardized patient interactions, we developed Dare to Diagnose, a two-round pre-health competition. Our objective was to monitor shifts across the competition in learner perceptions regarding performance in patient interactions requiring empathetic communication skills.

Background and/or theoretical framework and importance to the field:

Evidence suggests that active patient interaction (as opposed to passive shadowing) can provide benefits to interpersonal and clinical skills for the pre-health candidate; however, barriers to patient interaction for undergraduates (i.e. limited medical training) remain.¹ Examinations delivered via gamification software² and standardized patient interaction³ have been shown to provide strong educational benefits at higher levels of medical education.

Design: Instructional methods and materials used:

During the preliminary round, competitors completed an online exam on Kaizen, a gamification platform developed by the UAB Center for Clinical and Translational Sciences (CCTS), comprised of a series of clinical vignettes. In the final round, competitors interacted face-to-face in two encounters with standardized patients (SPs) provided and trained by OSPE.

Outcomes:

Approximately 93% of participants reported a gain in confidence in understanding the medical diagnostic process. Additionally, 66% remarked the competition would enhance future ability to interact effectively with patients. Across both rounds, the majority of participants indicated an improvement in their ability to discuss a potential diagnosis with a patient in a simulated clinical setting.

Feasibility and transferability for adoption:

This innovation allows undergraduates access to tools traditionally reserved for medical school and can potentially provide a more holistic view of physician duties. The current competition structure should be replicable in other undergraduate universities with attached medical schools.

References:

1. Davis, J. M., Anderson, M. C., Stankevitz, K. A., & Manley, A. R. (2013). Providing premedical students with quality clinical and research experience: the Tobacco Science Scholars Program. *WMJ : official publication of the State Medical Society of Wisconsin*, 112(5), 195–198. doi:10.1136/postgradmedj-2013-132486
2. Nevin, C. R., Westfall, A. O., Rodriguez, J. M., Dempsey, D. M., Cherrington, A., Roy, B., ... Willig, J. H. (2014). Gamification as a tool for enhancing graduate medical education. *Postgraduate medical journal*, 90(1070), 685–693. doi:10.1136/postgradmedj-2013-132486
3. Siminoff, L. A., Rogers, H. L., Waller, A. C., Harris-Haywood, S., Esptein, R. M., Carrio, F. B., ... Longo, D. R. (2011). The advantages and challenges of unannounced standardized patient methodology to assess healthcare communication. *Patient education and counseling*, 82(3), 318–324. doi:10.1016/j.pec.2011.01.021

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Engaging medical students in curriculum development: A learners' perspective

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To understand the benefits and strengths of directly engaging medical students in the development of undergraduate medical education from the learner's perspective.

Background and/or theoretical framework and importance to the field:

In dedicating time to update medical education, faculty curricula developers undoubtedly encounter challenges, often due to time, finances, and other limited resources. What may often make the process more discouraging is how these changes may not be received well by all learners — representing a disparity between how educators view course material and how students best receive it. In order to bridge the learner experience to new curricula, we propose directly involving medical students in the curriculum development process, benefiting both the curriculum and the involved learners.

Design: Instructional methods and materials used:

At the University of Miami Miller School of Medicine, we debuted an integrated psychiatry module where second-year students, who previously completed the course, collaborated with faculty to create a series of online-blended technology videos and in-person discussion sessions. In directly involving students in the creation and management of these new courses, we highlight a student-directed approach to developing medical education.

Outcomes:

Involving medical students in course development allowed them to engage with the course material and physician educators. This establishes better grounds for student educational empowerment, enhancing their interests to pursue academic medicine and providing experience to build such a career in medical education.

Feasibility and transferability for adoption:

Witnessing the successful cooperation between students and academic physicians was encouraging for future collaboration. Limitations that may prevent this from replication in other medical schools are the interest and the time medical students can volunteer.

References:

Lennart Steffen Milles, Tanja Hitzblech, Simon Drees, Wiebke Wurl, Peter Arends & Harm Peters (2019) Student engagement in

medical education: A mixed-method study on medical students as module co-directors in curriculum development, *Medical Teacher*, 41:10, 1143-1150, DOI: 10.1080/0142159X.2019.1623385
Gould DJ, Mi M, Patino GA. Student directed learning in medical neuroscience curricula. *Int J Med Educ*. 2017;8:190–191.
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Establishing a Collaborative Care Culture: Blending Academic Medicine with Traditional Nursing Practice

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To establish a collaborative academic culture among learners, nurses and physicians in the Labor and Delivery unit at a community-based hospital new to academic medicine partnerships.

Background and/or theoretical framework and importance to the field:

Integrating academic medicine into a well-established, community-based, clinical atmosphere is a common challenge for medical schools and emerging GME programs. Pairing academic students and residents with seasoned clinicians is a daunting task. Navigating the inherent cultural divide requires a robust plan that addresses separate realities, knowledge sharing and uninterrupted high-quality patient care. Using the Assess-Plan-Implement-Evaluate process, UCFCOM developed a program to align the academic curriculum with established clinical care processes.

Design: Instructional methods and materials used:

Methods of implementation include: a) recognition of Labor & Delivery (L&D) Nurses' strengths and contributions b) Inviting L&D nurses to an annual Safety/Quality Improvement Forum c) Involving L&D nurses in OB/GYN Clerkship Orientation simulations and d) Initiating a Nursing Professional Development Support Program to include Volunteer Faculty/Instructor appointment and ACOG Educational Affiliate Membership.

Outcomes:

The program has received an early positive response from L&D nursing Leadership at the site. A rubric has been designed to measure intended outcomes including enhanced academic culture, broadened model of collaborative clinical care guided by evidence-based practice, strengthened reciprocal learning environment and continuous collaborative research projects which will be reported at the conference.

Feasibility and transferability for adoption:

Our project's main strengths include human resources (Nurses, Physicians, Residents, Students, Faculty and Clinical Support personnel) and supportive, bi-lateral Leadership. Additional strengths include a solid academic foundation, various resources and a well-established clinical support structure. Limitations include sporadic availability of participants, restricted availability of physical space and limited data yield due to small, focused scope of project.

References:

N/A

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Establishment of an Exam Question Categorization System used to Guide Student Learning

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To develop and implement an exam question categorization system with extensive topic coverage that can be utilized for year 1 (Y1) and year 2 (Y2) medical courses.

Background and/or theoretical framework and importance to the field:

Targeted reporting of exam content performance can be used to evaluate learning outcome success. This can be accomplished with an electronic exam delivery platform by labeling questions with categories relevant to learning outcomes. Resulting category reports enable students to evaluate their knowledge and guide learning improvement, provide focus for supporting under-performing students, and help faculty refine course content.

Design: Instructional methods and materials used:

Consideration of different options and discussion revealed that an exam question categorization system based on the USMLE Step 1 outline would cover the broad range and specificity of medical topics associated with Y1 and Y2 course instruction. System planning and construction occurred for 6 months, followed by implementation of procedures to categorize each exam question. The procedures have been used for 2 academic years for Y1 courses and 1 year for Y2 courses. Processes for report generation were developed.

Outcomes:

The system structure includes 18 primary categories, 65 secondary categories and 645 tertiary categories. A combination of these can be applied to each exam question. Course directors and content specialists add the categories to exam questions. Over 4500 questions have been categorized. Students and faculty request cumulative reports which are generated by system specialists. Over 30 reports have been provided to course directors and students over the past two years.

Feasibility and transferability for adoption:

This robust system catalogues exam questions to document topic coverage for student performance evaluation and future exam preparation. Due to the short time of use, direct data on student performance is limited.

References:

Eisenberg, R and Faingold, C. (Eds.) Knowledge Objectives in Medical Pharmacology. 2012. Association of Medical School Pharmacology Chairs.

Favero TG1, Hendricks N2 Student exam analysis (debriefing) promotes positive changes in exam preparation and learning. . Adv Physiol Educ. 2016 Sep;40(3):323-8. doi: 10.1152/advan.00060.2016.

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Sarrouti M, Ouatik El Alaoui S., A Machine Learning-based Method for Question Type Classification in Biomedical Question Answering. Methods Inf Med. 2017 May 18;56(3):209-216. doi: 10.3414/ME16-01-0116. Epub 2017 Mar 31. PMID:28361158

“The UMLS Semantic Network” Lister Hill National Center for Biomedical Communications. U.S. National Library of Medicine. . Retrieved May 16, 2017.

Federation of State Medical Boards and the National Board of Medical Examiners. USMLE Content Outline. 2017.

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Faculty Development Related to Teaching: A benchmark survey

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

The purpose of this study is to examine the national landscape associated with faculty development pertaining to teaching in medical education.

Background and/or theoretical framework and importance to the field:

Excellence in clinical teaching requires knowledge and skills beyond that of one's clinical specialty¹. A study performed in 2008 found student ratings for five different dimensions of clinical instruction increased significantly across the population of faculty who participated in a workshop on basic instructional skills². It is imperative to establish a benchmark to conduct further analytics on the effects that these initiatives may have.

Design: Instructional methods and materials used:

This study aims to explore the outcomes associated with continued professional development in medical education, specifically related to improving teaching abilities. An electronic survey will be disseminated to faculty affairs offices across the nation to determine if they have a requirement for faculty participation in professional development related to teaching, and if yes, what that requirement looks like. Descriptive statistics will be used to analyze the findings. Qualitative themes will be examined to identify commonalities among faculty development related to teaching requirements for faculty at the national level.

Outcomes:

After an iterative review process, the survey has been finalized. At the time of this submission, dissemination and collection of data is underway, but no results have yet been analyzed. Results will shed light on requirements for faculty development related to teaching .

Feasibility and transferability for adoption:

A strength for this study is the identified gap in the literature associated with the topic of faculty development related to teaching requirements. A potential limitation is the manual identification of faculty affairs deans for distribution of the survey.

References:

1. Chen, H. C., Fogh, S., Kobashi, B., Teherani, A., ten Cate, O., & O'Sullivan, P. (2016). An interview study of how clinical teachers develop skills to attend to different level learners. *Medical Teacher*, 38(6), 578–584. <https://doi.org/10.3109/0142159X.2015.1073238>
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Feedback and Feedforward: The role of Master Assessors in an integrated system of assessment and student support

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To integrate programs of assessment with systems of student support

Background and/or theoretical framework and importance to the field:

A program of assessment for learning ensures that learners receive feedback to foster their continued development. Within the University of Virginia School of Medicine's Entrustable Professional Activities (EPA) program, a novel faculty role, Master Assessor (MA), was created so that experienced clinician educators could engage in workplace assessment across disciplines and across clinical environments. MAs undergo professional development training and are uniquely qualified to identify learners in need of focused attention from either a Faculty Coach (FC) or their College Dean (CD).

Design: Instructional methods and materials used:

MAs observe students in the workplace and provide immediate feedback while completing EPA assessments. MAs communicate directly with a student's FC if the student is not meeting clinical performance expectations and contact a student's CD if they are concerned about non-academic issues. FCs work closely with CDs to coordinate efforts to meet students' needs. MAs comprise the Entrustment Committee (EC) and are charged with summative decision-making about learners' readiness for graduated autonomy. Decision-making discussions are summarized to inform learning plan (LP) development, with feedback to the student, their FC, and CD.

Outcomes:

Since February 2018, 8 MAs have completed 3543 EPA assessments. 415 LPs have been co-created by 26 student-Coach pairs since July 2018. Since February 2019, the EC has completed two quarterly reviews of clerkship phase students.

Feasibility and transferability for adoption:

MAs engage learners in a reflective dialogue at the time of assessment, provide summative feedback, and are empowered to feed information forward to enlist other members of the support system for students. Data from approximately two years are available; process and outcome data collection is ongoing. MAs receive FTE support for their role.

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Fostering the Development of Health Professions Education Scholars through Collaborative Learning & Practice

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To develop an interdisciplinary program comprised of a health professions education (HPE) research curriculum in conjunction with an internal resource supported and mentor-guided, peer-review quality education research element as the final project.

Background and/or theoretical framework and importance to the field:

Continued advancement of high-quality HPE research is dependent upon the development of educators who can design research with the same rigor demanded in basic science or clinical research.¹ To support this need, our teaching academy used a social constructivist approach to develop the TEACH HERS program.

Design: Instructional methods and materials used:

The authors developed the Health professions Education Scholars (HERS) program, a 1-year intensive, mentorship-guided program designed to facilitate participants through individual HPE research project. Eight participants were chosen through a competitive selection process. The program consisted of foundational courses from the AAMC Medical Education Research Certification (MERC) program and internal experts to serve as mentors and internal resources.

Outcomes:

Eight HPE faculty were selected to participate in the first cycle of this program. Each was matched with an experienced mentor. At the end of the first cycle, all participants received MERC certification. Participant project dissemination includes - 9 local poster presentations, 1 local podium presentation, 4 national poster presentation, 1 international poster presentation). Four manuscript drafts are in development with 1 manuscript under-review. The second cycle of the program began in Fall with 8 participants and a revised 18-month curriculum.

Feasibility and transferability for adoption:

As this is only the second year of our program, we have yet to see the full potential positive impact this program has on our organization. This intensive mentorship guided program is a feasible and easily translatable model for other organizations.

References:

Love, J. N., Coates, W. C., Santen, S. A., Hobgood, C. D., Mavis, B. E., & Farrell, S. E. (2009). The MERC at CORd Scholars Program in medical education research: a novel faculty development opportunity for emergency physicians. *Academic Emergency Medicine*, 16, S37-S41.

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From Extrinsic to Intrinsic, Getting Residents to Proactively Engage in Research

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Research engagement during a residency program tends to be low.¹ While there is ample evidence as to ‘why’ residents do not engage in research, a question arises as to ‘how’ to get residents to proactively engage in research. The purpose of this innovation is to increase resident’s motivation and confidence to engage in research resulting in increased knowledge and research output.

Background and/or theoretical framework and importance to the field:

Barriers to research include; lack of research ability, failure to understand the value of research, and lack of time.^{1,2} Motivational theories provide the theoretical framework to address two of these barriers. Specifically, the Attention, Relevance, Confidence, and Satisfaction (ARCS) motivational model provides a framework to address a lack of research ability, and failure to understand the value of research.³

Design: Instructional methods and materials used:

Modules are used to promote the value of research, and instill confidence in conducting research. To promote the value of research, real-life examples of how research improved patient outcomes are delivered in-person, video and case scenarios. To enhance confidence in conducting research, residents are grouped based on level of interest and research ability. Working with methodologists, these groups then engage in research by following research modules that are aligned with the interests and abilities of the group.

Outcomes:

Participation in the modules generate an increased appreciation for research as well as increased confidence in conducting research. The outcome is increased interest, knowledge, engagement, and output of research.

Feasibility and transferability for adoption:

These modules are innovative as they promote the value of research and further instill confidence in conducting research. As a result, residents will be more motivated to learn and engage in research resulting in increased research output and improved patient outcomes.

References:

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Implementing a system for conflict of interest reporting

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

An ongoing concern in academic medical centers is disclosure of potential conflicts of interest (COI).

Background and/or theoretical framework and importance to the field:

Disclosure of potential COI is necessary to avoid bias in student teaching and assessment throughout curriculum. At Wake Forest School of Medicine, the Office of Curriculum is responsible for ensuring students and evaluators identify potential COI to provide students with objective assessment. To address a trend in the declining number of reports of potential conflicts, a new process was implemented to ensure students and evaluators have a mechanism for timely reporting.

Design: Instructional methods and materials used:

The new process utilizes students' patient tracking information and automated notifications, sent to all students and rotation evaluators. Predetermined conflict options were listed for students and evaluators to choose from, including: immediate family members, consensual relationship, financial relationship, healthcare providers, or other reasons as submitted by the student or evaluator. COI management plans are developed by the Associate Dean and implemented within the corresponding rotations, thereby avoiding having the student in a conflicted situation. Potential conflicts are randomly checked in the system to ensure no conflicts occur.

Outcomes:

Initial implementation saw an increase in the submission of potential conflicts, from 19 in the year prior to implementation to 151 reports during the initial year of operation.

Feasibility and transferability for adoption:

Although an initial increase was observed, subsequent years have demonstrated a slight decrease in reported COI, with 72 reports submitted during the most recent year.

References:

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Integration of Evidence-Based Medicine into the Pre-Clerkship Medical Curriculum via Peer-Teaching

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Evidence-based medicine (EBM), pivotal in shaping patient care, is often challenging to incorporate in the undergraduate medical education (UME) curriculum. We utilized a peer-led approach to integrate EBM into the pre-clerkship curriculum. The overall goal was to engage medical students to develop a foundation of EBM principles to critically appraise and apply to clinical evidence.

Background and/or theoretical framework and importance to the field:

Peer-led teaching has been demonstrated as an effective tool allowing explanation of difficult concepts through language that learners can understand at their shared level.

Design: Instructional methods and materials used:

During the past two years, self-selected groups of four medical students whom were part of the EBM student organization served as peer-instructors. With input from a faculty expert, they developed learning objectives for each session and designed integrative EBM modules accompanied by group problem solving sessions. Assessment included an online quiz that allowed multiple attempts to demonstrate competency.

Outcomes:

87 (66%) students responded to a 5-point Likert scale survey administered after the module exam to assess student satisfaction. 77% of the respondents agreed or strongly agreed that their level of understanding of EBM improved after the peer-led sessions; 76% agreed or strongly agreed that the peer-led sessions were more conducive to learning compared to traditional lectures; and, 94% agreed or strongly agreed that the material covered was relevant to the USMLE Step One.

Feasibility and transferability for adoption:

This is an innovative multi-disciplinary approach to EBM teaching. Recognized limitations include a small sample size and lack of data about program sustainability in the longer term. Qualitative evaluation using small group interviews is in progress to further understand students' attitude towards this approach.

References:

Burgess, A., Dorman, T., Clarke, A. J., Menezes, A., & Mellis, C. (2016). Peer tutoring in a medical school: perceptions of tutors and tutees. *BMC medical education*, 16(1), 85.

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Ten Cate O, Durning S. (2007) Peer teaching in medical education: twelve reasons to move from theory to practice. *Med Teach.* Sep;29(6):591-9. PMID: 17922354

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Medical French Elective for Medical Students - A “Comment Faire”

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To design and implement a multidisciplinary medical French elective (MFE) at the University of Florida (UF) College of Medicine

Background and/or theoretical framework and importance to the field:

Working knowledge of medical French is invaluable for students who aspire to work within the scope of global groups, such as the World Health Organization and Physicians without Borders, as well as those planning to undertake electives or medical mission trips in French-speaking countries. While a variety of publications related to medical Spanish education are available, there are no resources regarding medical French curriculum. To address this gap, a multidisciplinary MFE for fourth-year medical students was designed at UF.

Design: Instructional methods and materials used:

We developed a 2-week elective that is designed to provide medical students with the necessary medical communication tools in French. The content primarily focuses on communications in a clinical setting after a short review of essential vocabulary. Topics include taking history and examining a patient in French, ordering tests and imaging studies, and discussing the results and treatment options with patients and their relatives. Students are assigned a project for the elective. They can choose between developing a patient education hand-out or a comprehensive patient presentation.

Outcomes:

Since its implementation in 2018, one student has successfully completed the MFE. Interested in radiology, she developed a handout on mammography in French as her project.

Feasibility and transferability for adoption:

To our knowledge, this is the first MFE offered in a U.S. medical school. It provides the students with the opportunity to interact with French-speaking faculty from different disciplines as well as the possibility of interactive sessions and small group discussions once the number of students increase. Limitations include the prerequisite for basic French language skills and lack of a validated instrument for assessing pre- and post-elective knowledge.

References:

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2. Ortega P, Diamond L, Alemán MA, Fatás-Cabeza J, Magaña D, Pazo V, Pérez N, Girotti JA, Ríos E; Medical Spanish Summit. Medical Spanish Standardization in U.S. Medical Schools: Consensus Statement From a Multidisciplinary Expert Panel. *Acad Med*. 2019. Epub ahead of print.
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Medical Student Feedback on a Novel Curriculum Module: Fundamentals of Suturing Skills (FOSS)

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To better prepare medical students for clinical clerkships and beyond, we implemented a mandatory progressive suturing curriculum.

Background and/or theoretical framework and importance to the field:

The ability to suture simple lacerations is expected of many residents, but recent medical school graduates often feel unprepared to perform this skill.¹ Although various curricula have been developed to facilitate acquisition of procedural skills such as suturing during medical school,²⁻⁴ most are offered only as electives for interested students.⁵ To address this deficiency, residency programs are implementing intern boot camps focusing on basic procedural skills.⁶⁻⁹

Design: Instructional methods and materials used:

All students are provided online video resources and suturing materials for independent practice, followed by six hours of hands-on instruction starting on their own gross-laboratory cadavers, during divided sessions throughout the M1 and M2 years covering key suturing skills. A 2-hour refresher occurs prior to starting M3 clinical clerkships. M1 students completed course evaluation surveys before (n=167) and after (n=148) the first FOSS session to assess suturing experience, comfort level, and impressions about overall course design.

Outcomes:

Prior to FOSS, about one-third (37%) had no suturing exposure or direct suturing experience. Of 63% with exposure, less than 5% had any direct suturing experience. Statistically significant improvement was observed in students' ratings of comfort with proper instrument position, performing simple interrupted sutures, and performing instrument ties ($p < 0.0001$). The majority found course resources very helpful: materials/self-study guides (91%); clinical faculty (99%); session time (99%), and 83% rated the gross lab sessions as excellent.

Feasibility and transferability for adoption:

Based on positive responses and improved comfort with basic suturing skills, the program appears to be a worthwhile use of faculty resources and students' time, providing much earlier

exposure and practice than is typical in medical education. Future work will examine impact on students' performance during clinical rotations.

References:

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META – A Novel Introductory Course for Medical Students

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

In July 2019, UTMB introduced a novel six-week course preceding other courses in the medical school curriculum. This course evolved from a curriculum pilot from UT System's Transformation in Medical Education (TIME) initiative.

Background and/or theoretical framework and importance to the field:

Mindfully Evolving, Thriving, and Advocating (META) had four interwoven pillars of content: Wellness, Learning, Cultural Humility, and Clinical Skills. As medical students are focusing on STEP 1 performance earlier in training, and burnout rates are high among students and physicians, META was one approach to focus on the human connection and self-care to instill those values in developing professional identities of our students.

Design: Instructional methods and materials used:

The content was designed to equip students to thrive in medical school by reinforcing learning and wellness skills, teaching about biopsychosocial person centered care, and introducing physical exam and interview skills.

Outcomes:

All students completed an Objective Structured Clinical Exam (OSCE) at the end of the course. Student perceptions of the value of META were mixed. Overall, they reported this was a great way to build a support network before starting the more rigorous curriculum of medical school. More students presented to Student Health Clinic in the first three months of medical school than in previous years.

Feasibility and transferability for adoption:

Given that this was the initial offering of this course, we have areas to improve for future years, including efficiently using time.

References:

Phebe Tucker, Haekyung Jeon-Slaughter, Ugur Sener, Megan Arvidson & Andrey Khalafian (2015) Do Medical Student Stress, Health, or Quality of Life Foretell Step 1 Scores? A Comparison of Students in Traditional and Revised Preclinical Curricula, *Teaching and Learning in Medicine*, 27:1, 63-70.

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Peer Assisted Learning Enhances Outcomes of Ultrasound Student Interest Group

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Create a student driven process that promotes learning of ultrasound skills.

Background and/or theoretical framework and importance to the field:

Use of medical ultrasound is becoming a necessary skill set.¹ However, the intensive training required for advanced competency is prohibitive for most medical curricula. One method for students to gain additional training is an ultrasound student interest group (USIG). Peer-assisted learning (PAL) is an innovative way to equip learners with teaching and assessment skills requisite of practicing medicine without placing additional burden on faculty.²

Design: Instructional methods and materials used:

All students were given instructions on basic utilization of ultrasound and techniques for evaluation. A subset of students worked directly with faculty advisors during initiation and implementation of the USIG. A “train the trainer” model was designed. USIG leadership requested volunteers to be peer-tutors at each workshop. A student-created survey was administered to all participants prior to the first workshop as well as one week following completion of the USIG program.

Outcomes:

Sixty out of 89 preclinical PA students (67.4%) joined the USIG. Students planned three (n=3) workshops during their first year of PA education. Topics of study included a focus on point of care ultrasound skills (POCUS): including musculoskeletal evaluation, IV placement, and hepatobiliary assessment. Participation in the first, second, and third workshops were n=30, n=17, and n=12, respectively. Thirty-seven (n=37) students completed both surveys. There was a statistically significant difference in improvement of knowledge assessment between groups, with participants having a greater increase than non-participants (Wilcoxon-Mann-Whitney, $Z = -2.35$, $p = 0.02$).

Feasibility and transferability for adoption:

Limitations include a small sample size with one cohort of students. Strengths include design of a sustainable process that serves as a valuable resource for students and faculty trying to strengthen ultrasound experience.

References:

1. Guidelines for Point of Care Ultrasound Utilization in Clinical Practice. The Society of Point of Care Ultrasound website. <https://spocus.org/Practice-Guidelines>. Accessed February 11, 2019.

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<https://www.tandfonline.com/doi/pdf/10.1080/01421590701665886?needAccess=true>.

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Playing Nice in the Sandbox – Creating UME-GME Collaboration at a Community-Based Medical School

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Create a venue for key faculty and administrative representatives from undergraduate medical education (UME) to interface and collaborate with similar representatives from graduate medical education (GME) at an institution where both entities are new and expanding rapidly.

Background and/or theoretical framework and importance to the field:

Our institution graduated its inaugural class of medical students in 2015 and welcomed its first class of residents in the same year. As a community-based medical school reliant on the learning environment provided by affiliated partner hospitals, we felt it critical to have regular collaborative conversations between UME and GME stakeholders. Issues such as developing new UME and GME rotations, coordinating visiting student rotations, providing faculty appointments and faculty development for affiliate faculty, as well as synergizing on scholarly and organizational endeavors were important to discuss as a team, so that all aspects of our medical education continuum would flourish.

Design: Instructional methods and materials used:

A quarterly UME/GME Integration Meeting was designed to improve communication between representatives from core clerkships, fourth-year rotations, and residency programs, many of whom share clinical learning sites.

Outcomes:

Qualitative survey results from meeting attendees will be shared, as well as lessons learned for implementation.

Feasibility and transferability for adoption:

Strengths include the creation of new working relationships across the UME-GME continuum, amongst both faculty and staff arrayed across clinical sites as well as at the college of medicine. Limitations might be the sheer number of representatives required from both UME and GME at larger institutions.

References:

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Prevalence of Running Clubs and Athletic Organizations in AAMC and AACOM Medical Schools

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To assess the prevalence of running and non-running formal exercise student organizations (FESOs) registered at AAMC and AACOM accredited medical schools. To describe the benefits and activities of the Running Club at UTMB (University of Texas Medical Branch).

Background and/or theoretical framework and importance to the field:

As the medical field becomes more aware of burnout and its effects on the mental health of its members, finding new and effective methods to combat this issue becomes more important. The Running Club at UTMB was formed to provide mentorship, improve teamwork, and encourage wellness through running, and other institutions like it could potentially help reduce student burnout.

Design: Instructional methods and materials used:

In October 2019, online registered student organizations (RSO) lists were queried for running, non-running exercise, and intramural sports clubs at LCME fully accredited medical schools listed on the AAMC or AACOM directories (n=199). Clubs were grouped as either part of the medical school, a parent institution, or miscellaneous, and then the prevalence of each type of club was determined.

Outcomes:

Of the institutions included in this study, 13.07% had a running club, 29.65% had a non-running FESO, and 22.61% had an intramural league listed as an official club/organization. Parent institutions were similarly analyzed. The majority of institutions (67.34%) did not have a running club as part of either the institution or their parent organization.

Feasibility and transferability for adoption:

This study of the prevalence of running clubs suggests a significant lack of registered medical school FESOs. Parent FESOs may account for some of this deficiency, however, they may not generate as much medical student involvement as medical school registered FESOs. This data suggests the need for increased numbers of new FESOs and online awareness of existing FESOs. Future research is needed to determine burnout reduction and mental health improvements in medical students who participate in FESOs.

References:

1. Köhler-Forsberg O, Cusin C, Nierenberg AA. Evolving issues in the treatment of depression. *JAMA*. 2019 Jun 25;321(24):2401-2402.
2. Choi KW, Chen CY, Stein MB, Klimentidis YC, Wang MJ, Koenen KC, Smoller JW; Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium. Assessment of bidirectional relationships between physical activity and depression among adults: A 2-sample mendelian randomization study. *JAMA Psychiatry*. 2019 Apr 1;76(4):399-408.
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6. Villwock JA, Sobin LB, Koester LA, Harris TM. Impostor Syndrome and burnout among American medical students: a pilot study. *Int J Med Educ*. 2016 Oct 31;7:364-369.

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Preventing Firearm-Related Morbidity and Mortality: A Student Lead Initiative to Develop an Integrated Curriculum at the University of Louisville

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To report out on the development of a four-year integrative medical school curriculum that addresses prevention of firearm-related morbidity and mortality.

Background and/or theoretical framework and importance to the field:

Nearly 40,000 Americans die and 85,000 more are injured each year due to firearm-related causes, including interpersonal violence, suicide, and accidents¹. Prevention of avoidable firearm-related injury and death, and treatment of firearm-related morbidity lies within the purview of medicine, prompting a need for physician-led interventions. With the rise in incidence of firearm-related morbidity and mortality, there is a need for medical students to receive significant training on this emergent topic.

Design: Instructional methods and materials used:

Medical students at the University of Louisville School of Medicine, with the support faculty and deans, lead an initiative to develop a four-year, integrated curriculum focused on firearm-related injury prevention.

Outcomes:

The four-year proposed curriculum incorporates 4 major themes: 1. Suicide prevention; 2. Firearm safety, including proper firearm storage; 3. Response to firearm-related related trauma, e.g. wound packing and tourniquet application; and 4. Empathy for patients and victims of firearm-related injury. In the first year, students receive training on how gunshot wounds affect the body in their basic anatomy classes, along with exposure to a patient panel that focuses on empathy for victims of firearm-related injury. In year two, students practice clinical skills on firearm safety and suicide risk counseling with standardized patients. In the third and fourth years, students receive clinical training in suicide prevention, trauma first response, and firearm safety counseling while on their pediatrics, surgery, and psychiatry rotations.

Feasibility and transferability for adoption:

The incorporation of this topic represents a novel and necessary addition to medical school curricula. Firearm-related injury prevention is integrated over the four years of medical school, ensuring students have ongoing and adequate training in this topic.

References:

1. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2017 on CDC WONDER Online Database, released 2018.

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Reflective Students, Adaptive Faculty: Lessons from the Creation of a Module Supporting Cognitive Integration of Foundational and Clinical Science in Clerkship Phase Students

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

We created and piloted a module aimed at supporting cognitive integration of foundational and clinical science in clerkship students. The goal of this project was to create a prototype of a module and of a multidisciplinary team unit that could be expanded into multiple clerkships.

Background and/or theoretical framework and importance to the field:

Expert clinicians engage in cognitive integration by forming conceptual links between foundational science and clinical content, connecting and interrelating knowledge to support clinical reasoning¹. To develop this skill in clerkship students, we designed and piloted an online module.

Design: Instructional methods and materials used:

Working as a multidisciplinary team of scientists and clinicians, we wrote two clinical cases² focused on a high yield foundational science concept. Students engaging in the module were required to choose appropriate therapeutics, justify their responses, review underlying foundational science, reflect on connections to their clinical experiences, and provide feedback.

Outcomes:

This module was piloted in a group of nine internal medicine clerkship students. While most students (8/9) excelled in the clinical cases, a subset (3/9) struggled with cognitive integration. Feedback data suggested that although most students (7/9) felt indifferent about the module as a review resource, a majority (6/9) viewed it favorably as a method to develop cognitive integration.

Feasibility and transferability for adoption:

This module is a mechanism to cultivate cognitive integration in clerkship students and build productive curricular relationships between foundational and clinical faculty³. Our first pilot, though limited by size, was promising and revealed opportunities for improvement. We are currently piloting a revised module that emphasizes cognitive integration⁴ rather than review and has an adaptive structure to better develop cognitive integration in student users.

References:

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2. Mylopoulos, M. & Woods, N. (2014). "Preparing medical students for future learning using basic science instruction." *Med. Educ.* 48(7), 667-73.
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Social Determinants of Health in Action: building a longitudinal curriculum into a resident training program

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

Develop multi-year experiential learning curriculum focused on improving resident ability to address social determinants of health.

Background and/or theoretical framework and importance to the field:

Social determinants of health (SDOH) are defined as complex conditions that people are born and work in that shape and impact their health. SDOH curricula have been developed widely at the undergraduate level, but limited publications have addressed curriculum implementation in graduate medical education. Despite the growing body of evidence and tools available to address these factors, many physicians have not been trained how to screen for or address SDOH in a clinical setting.

Design: Instructional methods and materials used:

Our pre-curriculum survey showed residents have foundational knowledge in SDOH, but need assistance identifying resources and connecting patients to those resources. Our curriculum includes an interactive learning session about the impact of SDOH for all residents and two experience-based learning opportunities. Second year residents spend a half-day shadowing a case manager or social worker and learning what resources they provide to our patients. Third year residents spend a half day visiting a community resource to understand what services are available in the community. The information gathered goes into a resource encyclopedia that residents can reference when a patient screens positively in a specific SDOH domain.

Outcomes:

This is a work in progress but preliminary survey results indicate improvement in awareness of SDOH and knowledge of resources available for patients.

Feasibility and transferability for adoption:

ACGME common program requirements state that programs must understand the social determinants of health of the populations they serve and incorporate them in the design and implementation of the program curriculum. Our SDOH curriculum does that, and allows residents to obtain firsthand experience identifying community based resources for their patients. Limitations include variability in the experience, depending on the community site visited.

References:

Adler NE, Glymour MM, Fielding J. Addressing Social Determinants of Health and Health Inequalities. *JAMA*. 2016;316(16):1641–1642. doi:10.1001/jama.2016.14058.

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Team approach in academic success for preclinical student success

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To engage medical education coordinators as the front-line student contact to participate in a multifaceted approach to student academic success in the preclinical phase.

Background and/or theoretical framework and importance to the field:

The office of Academic Excellence and Support (OAES) provides one-on-one coach meetings to students. The goal is to eliminate the stigma associated with “need to be coached” and promote academic success for all students. With nearly 300 preclinical students at different academic levels, meeting scheduling can be overwhelming. It is important to have a mechanism to triage the students so that urgent needs are met first and regular meetings are scheduled.

Medical education coordinators hold the important job of scheduling course events and coordinating faculty. They are the first contact for students. Therefore, they have unique opportunities to get to know students and develop trusting professional relationships.

Design: Instructional methods and materials used:

Coordinators are introduced to the students as part of the OAES introduction. OAES holds monthly meetings to review the academic status of students and discuss if there is any urgent need to reach out to students. The coordinators then triage and prioritize student needs when scheduling meetings.

Outcomes:

A survey will be distributed to students at the conclusion of Step 1 to determine the perceived satisfaction and effectiveness in staff support. Specific categories include the timely manner of meeting scheduling, responsiveness of staff, and if students felt supported.

Feasibility and transferability for adoption:

With the coordinator being the front-line contact for students, it will provide an additional layer of student support, and afford more time for coaches to have one-on-one time with students. In addition, the experiences accumulated may inspire the coordinators to pursue higher degrees and advance themselves in their career path.

The limitation is the willingness of the coordinators to invest the time.

References:

"Training for staff who support students" - Eleanor Flynn, Robyn Woodward-Kron and Wendy Hu

"Medical School Professional Staff: Findings from Three Pilot Studies" - AAMC

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The Impact of Meeting Patients with Neurological Disorders on Medical Student Empathy

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

To determine if first year medical student empathy is affected by small group interactions with patients with neurological disorders, and to investigate if changes in empathy persist over time and influence student performance on summative assessments.

Background and/or theoretical framework and importance to the field:

Although empathy positively impacts physician satisfaction, patient satisfaction, and clinical outcomes, medical student empathy tends to decline during medical education¹. This decline typically begins during the third year of medical school and tends to continue throughout residency and the physician's medical career².

Design: Instructional methods and materials used:

First-year medical students interacted with patients presenting with different neurological disorders in a small group informational session. Prior to the experience, participants completed the Jefferson Scale of Physician Empathy – Student Version (JSPE-S). After the experience, students completed a post-test JSPE-S questionnaire, and a final post-post-test JSPE-S questionnaire was completed five weeks later. Empathy scores were compared with a repeated-measures MANOVA. The effect of gender on empathy, and the relationship between empathy and summative assessment grade were also examined.

Outcomes:

Empathy scores for seventy-one students who completed the questionnaires were analyzed. Students had significantly higher empathy after the patient interaction experience, and the increased effect was sustained over the course of five weeks ($p = 0.015$). Gender did not have a significant effect on empathy, and there was no significant correlation between empathy scores and summative assessment grade.

Feasibility and transferability for adoption:

Results of the study were strengthened by the use of the well-validated JSPE-S using a within subjects design. The study was limited by individual variation within the patient interaction experience.

References:

- 1.) Hojat M, Mangione S, Nasca TJ, et al. An empirical study of decline in empathy in medical school. *Med Ed.* 2004;38(9):934-942.
- 2.) Hojat M, Vergare M, Maxwell K, Brainard G, Herrine S, Isenberg G, Veloski J, Gonnella J. The Devil is in the Third Year: A Longitudinal Study of Erosion of Empathy in Medical School. *Acad Med.* 2009;84:1182–1191.

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The Next Step Along the Residency Program Coordinators' Career Track

Submission Type: Innovations Abstract

Accepted as: Poster

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Abstract Body:

Objective or purpose of innovation:

From the early days of clerks and secretaries, to more recently Program Coordinators (PC), Managers, or Administrators, this role has been vital to the success of residency education. Unfortunately, the PC position faces a persistent ceiling. Fortunately, an innovative new role has emerged – the Education Manager (EM). This position has administrative, financial, and program improvement responsibility for a group of education programs (e.g. residencies, fellowships (ACGME/Non-ACGME), clerkships, postdocs).

Background and/or theoretical framework and importance to the field:

As ACGME transitioned from process to outcomes-based models the Program Director, PC and GME office roles have expanded. Complexities in administration and compliance require a streamlined oversight approach. The EM is a key contact within GME/UME and across divisions. The EMs' function is to operationalize innovative approaches to medical education and advance economies of scale.

Design: Instructional methods and materials used:

Emory and Morehouse have EM positions with responsibility for GME/UME components and supervision of PCs. Emory has this position within Radiology, Surgery, Pediatrics, Internal Medicine, and the Brain Health Center. Morehouse, in its Internal Medicine and Surgery Divisions.

Outcomes:

More research is needed to gather information on the how this position can ultimately improve compliance with ACGME and LCME requirements.

Feasibility and transferability for adoption:

The strengths include greater oversight of the education enterprise and enables the PD to better focus on the clinical and teaching role. The EM also provides GME/UME with a contact who is directly managing several educational programs. Two limitations are comparable to the PC role – title and job description. Emory and Morehouse have titles ranging from Associate or Assistant Director, Programs to Medical Education Specialist and Program Manager Surgical Education to Business Manager, Programs.

References:

Stuck Elman J, Zavatchen S, Jones S. The evolving role of the program coordinator. *Acad Radiol.* 2017;24(6):725–729.
Lauralee Dubois BS, C-TAGME Theresa Marsh BS Lindsay B. Demers MS, PhD
Program Coordinator Professional Development: Definition, Perception of Importance, Motivating Factors, and Barriers. *Am J Med* 2019 01 18;132(1):114-118. Epub 2018 Sep 18.
S. Guralnick, T. Hernandez, M. Corapi, et al. The ACGME self-study—an opportunity, not a burden
J Grad Med Educ, 7 (2015), pp. 502-505

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Social Factors of Health Care: An Exploration of Social Determinants of Health

Submission Type: Innovations Abstract

Accepted as: Workshops

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Abstract Body:

Objective or purpose of innovation:

The purpose of this study was to examine the impact of these Clinical Week experiences on students' understanding of social determinants of health early in their medical education.

Background and/or theoretical framework and importance to the field:

Addressing social determinants of health is necessary to ensure appropriate care for patients¹. During three semesters of the pre-clinical phase of medical school, a week-long experience provides opportunities to solidify concepts learned in the classroom through direct patient care experience. Two clinical weeks are spent in outpatient clinics located primarily in rural areas where students are exposed to a variety of social determinants of health.

Design: Instructional methods and materials used:

Students completed a reflective writing assignment about their experiences witnessing social determinants of health during Clinical Week. Ninety-two reflections were collected from first and second year medical students. Two investigators analyzed these essays independently using narrative inquiry techniques. Researchers then met to discuss themes and their broader meaning.

Outcomes:

Themes that emerged related to health disparities experienced by rural communities, minority populations, and both uninsured and underinsured patients. Students emphasized a lack of public accommodations in rural settings, such as public transportation and access to healthy food. They noted how ethnic, cultural, and linguistic identity affect a patient's experience with healthcare. Other themes involved the challenges patients face surrounding the inability to afford treatment plans and conversely how health status can impact economic stability. Finally, students emphasized the importance of physician advocacy in overcoming such barriers to quality health care.

Feasibility and transferability for adoption:

A key goal of Clinical Week was to expose students to social determinants of health early in their education in the hopes that they learn to identify and advocate for affected patients throughout their careers. Reflective writing assignments allow students to consider deeper meaning in patient care encounters.

References:

1. Doobay-Persaud A, Adler MD, Bartell TR, Sheneman NE, Martinez MD, Mangold KA, Smith P, Sheehan KM. Teaching the social determinants of health in undergraduate medical education: A scoping review. J Gen Intern Med 2019; 34(5):720-730.

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Research Abstracts

A Day in the Life of an Intern: Three Years of EPA Performance Data from a Simulation Event

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Describe 3 years of student performance in a simulated setting on the Association of American Medical Colleges' (AAMC's) core entrustable professional activities (EPAs).

Background and relevance of the study:

In 2014, the AAMC developed 13 Core EPAs which are expected of all incoming residents. In the clinical workplace, it can be difficult for students to perform some of the EPAs. Thus, simulation is an important adjunct to monitor EPA performance and help ensure readiness for residency.

Design and Methods:

Post-clerkship medical students complete a mandatory 4-hour simulation event during which they admit and manage a patient through an acute change in condition. Students perform and are assessed on all EPAs (except 12) using a modified Chen scale (level 1b observation only, 2a-2b direct supervision, 3a-3c indirect supervision). Looking at performance across a given EPA, excellent performance was defined as majority requiring indirect supervision with minority direct supervision and good performance as majority indirect, minority direct, and some observation only. Mixed performance was split with direct and indirect supervision as well as some observation only. All data are recorded in an electronic portfolio.

Results:

In 2017-2019, 143 students participated. Each year students consistently demonstrated excellent performance on EPAs 4 (orders), 6 (presentation), 7 (question) and 9 (team) with good performance on EPA 5 (documentation); performance on EPA 10 (urgent) was mixed. For EPAs 1-3 (history, differential, work up) performance was either excellent or good. Performance on EPA 8 (handover) and 11 (consent) was variable from year-to-year (8: 2017 good, 2018 excellent, 2019 mixed; 11: 2017 mixed, 2018 good, 2019 good).

Conclusions:

Performance on most EPAs was consistent over time. A standardized simulation event provides formative information for students as well as identifies critical training or opportunity gaps that must be addressed prior to graduation. From a programmatic perspective, additional study is needed to clarify factors leading to mixed or variable performance.

References:

1. AAMC Core Entrustable Professional Activity (EPA) pilot group, Building Trust in Entrustment: Pursuing Evidence-Based Progress in the Core Entrustable Professional Activities for Entering Residency. *Academic Medicine*, 2018. 93(3): p. 341.
2. Lomis, K., et al., Implementing an Entrustable Professional Activities Framework in Undergraduate Medical Education: Early Lessons From the AAMC Core Entrustable Professional Activities for Entering Residency Pilot. *Acad Med*, 2017. 92(6): p. 765-770.
3. Brown DR, Warren JB, Hyderi A, Drusin RE, Moeller J, Rosenfeld M et al. Finding a Path to Entrustment in Undergraduate Medical Education: A Progress Report From the AAMC Core Entrustable Professional Activities for Entering Residency Entrustment Concept Group. *Acad Med*. 2017;92(6):774-9. doi:10.1097/ACM.0000000000001544.
4. Obeso V PC, Degnon C, Carter T. A. A Systems-Based Approach to Curriculum Development and Assessment of Core Entrustable Professional Activities in Undergraduate Medical Education. *Med Sci Educ*. 2018;28(2):406-16. doi:10.1007/s40670-018-0540-7

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An Interprofessional Approach to Stroke Management across the Continuum of Healthcare: A Case-Based Training for Health Professions Learners

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Will case-based training on interprofessional care of the stroke patient change the health professions learners' perception of interprofessional team work, roles/responsibilities and patient outcomes in collaborative practice?

Background and relevance of the study:

Stroke is a leading cause of death and a major cause of serious disability requiring integrated care pathways of complex interprofessional interventions. In recognition of this, the American Heart Association and American Stroke Association have recently issued guidelines recognizing the role of the interprofessional team in stroke management.¹ Therefore, there is a need to train early healthcare professions learners on the interprofessional team approach to stroke care.

Design and Methods:

This curriculum was developed for the Medicine and Patients in Society course for second year medical students. The training involved second year medical (N=142), third year pharmacy (N=155) and final year nursing students (N=72) from four academic institutions. All learners received a web-based pre-learn module on interprofessionalism prior to the case-based small group session. During the small group session, learners were assigned to interprofessional groups of medical, pharmacy and nursing students. They discussed roles, team work, and communication required between healthcare providers using the case study of a stroke patient going through different levels of care from the emergency room till transition of care to a rehabilitation unit and the discharge home. Learners completed the Student Perception of Interprofessional Clinical Education-2nd revision (SPICE-R2) survey before and after the small group session.

Results:

156 of 369 (42%) of learners completed the pre/post survey. A paired-samples t-test was conducted to compare SPICE-R2 score for all students in pre-session and post-session conditions. There was a significant difference in the scores for pre-session (M=44.64 SD=5.73) and post-session (M=48.49, SD=5.94) conditions; $t(155)=-10.272, p < .001$.

Conclusions:

The interprofessional approach to stroke care curriculum improved the health professions learners' perception of interprofessional team work, roles/responsibilities and patient outcomes in collaborative practice.

References:

I. Winstein, C.J., Stein J., Arena R., Bates B., Chorney L.R., Cramer S.C., Deruyter F., Eng J.J., Fisher B., Harvey R.L., Lang C. E., MacKay-Lyons M., Ottenbacher K.J., Pugh S., Reeves M.J., Richards L.G., Stiers W., Zorowitz R.D. Guidelines for Adult Stroke Rehabilitation and Recovery. Stroke. 2016;47:e98–e16

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Assessing Professionalism: Do Two Perspectives of Student Behavior Offer Different Insights?

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Do two reporting processes for unprofessional behavior identify the same students, and is there overlap in the types of behaviors reported?

Background and relevance of the study:

Since 2000, our institution has used an Early Concern Note (ECN) program, allowing faculty and staff to report student unprofessional behavior. The ECN program uses a multi-step process that separates initial reports from the academic record and emphasizes informal supportive counseling.¹

Our students work with simulated patients (SPs) throughout training. Based on SP feedback describing students' concerning behaviors not captured by existing checklists, we developed an SP-Note of Concern (SP-NOC).² SPs are encouraged to report any behavior that impacts the quality of the student-patient relationship.

Design and Methods:

After obtaining IRB approval, we reviewed ECNs and SP-NOCs from 2010-2019 to identify the type/frequency of behaviors reported through each process. ECNs categorize transgressions as: professional responsibility, motivation/insight, and personal interactions. SP-NOC professionalism concerns are categorized as: Verbal (things said/not said), Action (things done/not done) and Appearance/Behavior. The two databases were combined; analysis included assessing student frequencies, behavior frequencies, and detailed content of the reports.

Results:

We reviewed 587 ECNs (456 students, 799 behavioral categories) with the majority describing lapses in professional responsibility, and 1438 SP-NOCs (961 students, 1667 behavioral categories), the greatest proportion describing lapses in Appearance/Behavior. Of the 1226 students, 265(21.6%) received only ECNs, 770(62.8%) received only SP-NOCs, and 191(15.6%) received both. The content of the ECNs and SP-NOCs focused on different behaviors, even for students receiving both reports.

Conclusions:

We found that ECNs and SP-NOCs identified unique behaviors and thus potentially serve complementary roles for assisting students with professional behavior lapses. Both may be of particular value when students unintentionally violate social norms and remain unaware of how

they are perceived until/unless they receive feedback.³ The focus of both reporting programs is supportive feedback to students to guide professional development.

References:

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Assessing Students' Spatial Abilities in Neuroanatomy Education

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

This pilot study investigates whether there is a relationship between individuals' spatial abilities and their neuro-spatial knowledge, and to determine whether learning neuroanatomy is enhanced using one of three instructional tools.

Background and relevance of the study:

Neuroanatomy is a challenging subject – it requires students to acquire, assimilate, and apply knowledge of complex neuroanatomical structures, and is highly reliant upon spatial processes. Three-dimensional (3D) physical models and computer-aided digital models are effective in promoting the development of neuroanatomical spatial representations. However, what remains unclear is exactly which tools benefit students the most.

Design and Methods:

The spatial aptitude of 12 students who had completed neuroanatomy was measured by tests previously validated as predictors of visual-spatial abilities, and a spatial aptitude profile was generated for each student. Students were given a pretest designed to assess critical spatial skills within the context of applied-neuroanatomy. Following the pretest, students attended a learning session where they interacted with one of three learning tools: a) 3D printed neuroanatomical models, b) computer-based 3D virtual neuroanatomical models, or c) a hands-on deep-brain dissection. Effectiveness of each tool on student learning was evaluated by posttest. One-way ANOVA was used to assess the most effective tool.

Results:

Preliminarily, students who scored high on the spatial abilities battery scored high on the pretest as well. All three instructional tools proved effective when assessing percentage change in pretest:posttest scores. Data is currently under analysis to determine if there exists an interplay between individual students' spatial abilities and the effectiveness of each learning tool.

Conclusions:

Identifying specific tools to assist students in strengthening their spatial skills could help medical educators better identify which learning tool/s would be the most effective for teaching and learning in pre-clerkship courses that require high levels of spatial ability. Potential applications include individualized support for students to reduce cognitive load.

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Biomedical Science Knowledge Contributes to the Development of Adaptive Expertise and Formation of a Professional Identity: An Applied Thematic Analysis of Medical Student Essays

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Do students perceive a role for their biomedical science knowledge beyond its previously articulated role in supporting clinical reasoning and decision making?

Background and relevance of the study:

Intensive study of the biomedical sciences remains a core component of undergraduate medical education with medical students often completing up to two years of biomedical science training prior to entering clerkships. While it is generally accepted that biomedical science knowledge is requisite to clinical reasoning and decision-making, whether medical students perceive an expanded role for this knowledge remains to be examined¹⁻⁶.

Design and Methods:

We conducted a qualitative thematic analysis to explore how medical students in the first clerkship year perceived the relevance of biomedical science knowledge to clinical medicine during this pivotal time as they begin their transition from students to physicians. To identify previously unidentified perspectives and insights, we asked students to write brief essays in response to the prompt: How is biomedical science knowledge relevant to clinical medicine?

Results:

Applied thematic analysis of students' essays revealed ten codes from which four themes emerged. The analysis revealed novel perspectives previously unidentified by survey studies and focus groups. Students perceived their biomedical science knowledge as contributory to the development of adaptive expertise and professional identity formation, both considered important developmental milestones⁶⁻⁹.

Conclusions:

The results of this study suggest that biomedical science knowledge contributes to medical students' acquisition of adaptive expertise and their development of a professional identity. These findings have important implications in the setting of accelerated medical school programs in which training in the biomedical sciences are compressed. Thus, identifying the contextual factors of the learning environment, including both explicit and tacit elements of the formal, informal, and hidden curriculum, that enable biomedical science knowledge to contribute to these developmental processes need to be identified and studied so that they are leveraged rather than inadvertently lost during curricular reform.

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Effects of Peer-Assisted Learning (PAL) on First-Year Medical Student Anatomy Examination Performance

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Our purpose was to investigate the impact of PAL on participant performance on a clinical anatomy and physiology course written examination.

Background and relevance of the study:

Substantial research exists on peer-assisted learning (PAL), largely focusing on benefits for the peer tutors instead of the participants^{1,2,3}.

Design and Methods:

Four first-year medical students prepared fifty-four questions modeled after Haines' Atlas⁴ and Board Review Series⁵ and organized a two-hour PAL session open to their classmates two days before the course's third examination.

The peer tutors focused on problem-solving strategies using the prepared questions and encouraged participants to share their rationales for correct and incorrect answers. The peer tutors rotated between leading the session and answering individual questions as they arose amongst small groups. Post-session, the questions with answers were released to the entire class without session-discussed explanations. A survey was conducted, following examination review, addressing the perceived effectiveness and satisfaction.

Written examination results were standardized using z-scores. The z-score differences between examinations 1 and 2, then 2 and 3 were calculated and each result categorized (< 0 , 0 to $.99$, and ≥ 1.0). A two-way ANOVA was conducted with z-score category and PAL attendance as the independent variables and z-score differences the dependent variable.

Results:

Forty-four students attended the session. There was statistically significant improvement in performance between the second and third written examinations ($p \leq .019$), but not between the first and second ($p \leq .311$), based on session attendance. Z-score category improvement (Mean[SD]), is < 0 , $-0.64(0.48)$; 0 to $.99$, $0.37(0.24)$; and ≥ 1.0 , $1.22(0.19)$. Twenty students responded to the survey. 90% would participate again, 80% found the peer-tutoring helpful, and 75% perceived improvement.

Conclusions:

The current study describes significantly improved performance with PAL participation. The majority of the survey responses were positive about effectiveness and satisfaction. Further studies will focus on more effectively engaging peers at all academic levels.

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Evaluation of Legislative Advocacy Alerts for Texas Pediatric Residents

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

This study evaluates if brief “advocacy alerts” change pediatric residents’ perceived knowledge and attitudes about legislative advocacy.

Background and relevance of the study:

Despite an ACGME requirement for structured advocacy education in pediatric residency programs, many residents have limited participation in legislative advocacy.

Design and Methods:

This multicenter study was developed and executed by pediatric residents and fellows at eight institutions in Texas. Child health topics pertinent to the 2019 Texas state legislative session were presented to residents via “advocacy alerts” consisting of brief presentations at resident conferences and emails. Each “alert” provided basic information about the topic, information on current legislation, and a suggested voluntary action. Topics included minimum tobacco age, standard for nutrition, immunization policy, and Early Childhood Intervention funding. Alerts were designed, coordinated and presented by site investigators so that all sites presented the same alert. The intervention was evaluated via emailed, anonymous pre- and post-intervention surveys that assessed perceived knowledge and attitudes about legislative advocacy through Likert scale and multiple-choice questions. Pre- and post-intervention responses were reported, and frequencies were measured for multiple choice questions.

Results:

There were 57 responses to the pre-intervention survey and 31 responses to the post-intervention survey. After the intervention, residents reported increase in perceived knowledge of the legislative process at the state and federal level ($p < 0.05$). This intervention was well-accepted with the majority of residents in favor of advocacy alerts continuing (100%) and at same frequency or more often (96%).

Conclusions:

Advocacy alerts can improve residents’ perceived knowledge and attitudes about legislative advocacy. This partnership between residents at different programs demonstrates how programs can collaborate to provide educational advocacy opportunities with the potential for far reaching effects.

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Factors Associated with Burnout in American Medical Students

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

To use longitudinal survey data of 2018 US allopathic medical school graduates from the Association of American Medical Colleges (AAMC) to study characteristics associated with burnout.

Background and relevance of the study:

Nearly 50% of physicians are affected by burnout – a syndrome of emotional exhaustion, depersonalization, and a decreased sense of accomplishment. Negative consequences are both professional and personal, making this syndrome an area of interest for our healthcare system. Defining characteristics common among medical students reporting burnout may assist with early interventions to combat burnout, build resilience, and improve retention.

Design and Methods:

Medical student burnout ratings at graduation, as measured by the Oldenburg Burnout Inventory (OBI) on the AAMC Graduation Questionnaire (GQ), were available for 16,233 medical students who graduated in 2018. The Matriculating Student Questionnaire (MSQ) was reviewed and items hypothesized to be associated with burnout were identified by expert consensus. Individual student responses to the hypothesized items were then obtained to evaluate the association of these factors on burnout ratings at graduation on the two OBI subscales, Exhaustion (OBI-E) and Disengagement (OBI-D). Multivariate-adjusted logistic regression and recursive partitioning were used to determine the association of the factors with burnout ratings.

Results:

With recursive partitioning, the most highly associated item with burnout ratings on the disengaged (OBI-D) and exhausted (OBI-E) subscales was the quality of life measure regarding emotional well-being. Other associated variables included items related to stress, fatigue, anxiety, coping, empathy and intellectual well-being. Further analysis is ongoing and full results will be available by the time of the meeting.

Conclusions:

Measures of emotional well-being at the start of medical school are associated with burnout

ratings at graduation. Identification of such associations may allow for targeted interventions for students at risk for burnout.

References:

Brazeau, C. M., Shanafelt, T., Durning, S. J., et al. (2014). Distress among matriculating medical students relative to the general population. *Academic Medicine*, 89(11), 1520-1525.

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Hothorn T, Hornik K, Zeileis A. (2006). Unbiased recursive partitioning: A conditional inference framework. *Journal of Computational and Graphical Statistics*. 15(3):651-74.

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Lessons from the AAMC Core Entrustable Professional Activities (EPAs) for Entering Residency Core EPA Pilot Project: Qualitative Analysis of the M3 Survey

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

The purpose of this study was to understand students' perspectives on the Core Entrustable Professional Activities (EPAs) pilot that broadly inform other current and future EPA-based curricular development and assessment approaches.

Background and relevance of the study:

The Association of American Medical Colleges' Core EPAs were developed to promote a shared understanding of essential tasks graduating students should be able to perform under indirect supervision upon entering residency.¹ Students at the 10 schools participating in the Core EPAs Pilot Project² are important stakeholders in these schools' Core EPAs implementation efforts.

Design and Methods:

An online questionnaire administered to M3 students at the 10 pilot schools in Spring 2019 included two open-ended questions at the end of the survey: "What aspects of EPA implementation at your school" a) "have been most helpful to you as a learner?" (HELPFUL), and b) "could be improved or altered?" (IMPROVE). The data were independently analyzed for themes by two study team members (LS and KM); iterative analysis was performed until consensus was reached.³

Results:

Of 687 M3-student respondents, 335 (49%) provided narrative comments. Across schools, predominant HELPFUL themes included: EPAs created common expectations for learners and faculty; and the culture of feedback was positively impacted by EPA implementation; predominant IMPROVE themes included: the detrimental impact of a lack of general awareness of EPAs among all stakeholders (particularly assessors); and a lack of shared understanding of assessment and feedback of EPAs particularly in relation to grades.

Conclusions:

Students identified the Core EPAs framework as useful in helping them to both understand what is expected in their clinical performance, and to obtain frequent, quality feedback on their clinical skills. Substantive and ongoing-faculty development efforts, communication about curricular and assessment practices, and user-friendly workplace-based assessment systems are warranted for effective implementation of Core EPAs.

References:

1. Association of American Medical Colleges. Core Entrustable Professional Activities for Entering Residency: Curriculum Developers' Guide. 2014. https://store.aamc.org/downloadable/download/sample/sample_id/63/%20. Accessed October 21, 2019.
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Practice Makes Perfect: CBSSA Exams, Step 1, and the Right Balance 2.0

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Which new NBME Comprehensive Basic Science Self-Assessment (CBSSA) is most correlated to Step 1? Is there an ideal placement for these exams during Step 1 study?

Background and relevance of the study:

Taking CBSSA's during the Step 1 study process is a common and necessary component of the individual study plan (ISP). Our presentation last year focused on the eight versions available at that time. However, the week of the conference, NBME retired all but one of the CBSSAs, introducing five new exams. Which exam is most predictive is a common question and a valuable piece of knowledge when preparing for Step 1¹. Our objective was to the effectiveness and predictability of the new exams along with their ideal placement during Step 1 preparation.

Design and Methods:

Using practice exam scores (CBSSA and CBSE) and Step 1 scores, we identified patterns between practice test scores, timing of administration, and correlations to Step 1.

Results:

- Average practice test scores rise sharply from week 4 to 6 6.
- Average practice test scores peak at week 6, maintain through week 7, then sharply decline. This was mimicked in the Step 1 scores.
- There were definite performance differences between the new CBSSAs, with some versions overpredicting scores more than others.
- Statistically significant correlations to Step 1 were nonexistent, except for one CBSSA.
- Designated risk level was highly correlated to the effectiveness of CBSSAs in predicting Step 1 scores.
- 20% of students scored lower on Step 1 than on practice tests taken within 2 weeks of Step 1.

Conclusions:

The use of CBSSA is useful for monitoring student progress during the Step 1 study period. Student characteristics can influence the “predictability” of these exams. Specific patterns emerged regarding exams that underpredict or overpredict scores, especially in the final weeks of study. The concept of post-peaking a is a real phenomenon.

References:

1. Guiot HM, Franqui-Rivera H. Predicting performance on the United States Medical Licensing Examination Step 1 and Step 2

Clinical Knowledge using results from previous examinations. Adv Med Educ Pract. 2018;9:943–949. Published 2018 Dec 14.
doi:10.2147/AMEP.S180786

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Public Health and Medicine: The Role of Physicians in Society

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

We sought to evaluate the implementation of a revised public health block featuring instruction on public health and health policy.

Background and relevance of the study:

Medical students often lack knowledge and skills pertaining to public health and its specific relevance to the practice of medicine. The fields of public health and clinical medicine must work together to achieve optimal levels of improvement in overall health and quality of care, resulting in preventing harm and providing effective interventions to protect patients.¹

Design and Methods:

We implemented a revised six-week block of instruction for 2nd year medical students, based on socioecological models of health and health care delivery. Students in two consecutive academic years participated by: 1) reading articles pertaining to public health, health policy, physician advocacy, social determinants of health, health equity, and cultural humility; 2) working through a simulated epidemiological public health outbreak investigation involving a case of Hepatitis C; 3) reflecting on a clinical case involving the opioid crisis; 4) compiling a list of public health issues, from which three issues were voted upon by the class and debated in a team format. Students provided weekly formative feedback (written comments) on each of the course modules, completed an end-of-course summative feedback process and provided suggestions for improvement.

Results:

84 of 84 students (100%) completed end of block summative feedback surveys, which consisted of 10 items. Mean ratings on a 1-5 scale ranged from 3.8 to 4.5. Students were enthusiastic about clinically-focused experiences, but also indicated positive support for public health/policy discussions as well as the clinical outbreak investigation exercise.

Conclusions:

A revised public health block of instruction for 2nd year medical students, which featured elements of interprofessional education, was a success. Future iterations of the course will involve more in-depth exploration of policy issues as well as increased opportunities for clinically-focused activities.

References:

1. Frieden TR. The Future of Public Health. *New England Journal of Medicine* 2015; 37 (3): 1748-54.

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School and Student Costs Supporting Preparation for USMLE Step 1: A Case Study

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Despite a widespread preoccupation with USMLE Step 1 preparation and success affecting students and medical schools, financial analyses of the process are scarce in the literature. Careful accounting of expenses is essential for comprehensive analysis of

Background and relevance of the study:

USMLE Step 1 is a high stakes examination for medical students and for medical schools. The predictive value of USMLE Step 1 is well established, centered on success in future test taking, and despite ongoing debate regarding its value for purposes beyond medical licensing^{1,2}, it is often used for promotion decisions in undergraduate medical education and for students' selection into residency programs. Medical school USMLE pass rates and scores are evaluated by accrediting bodies and medical school applicants. Significant resources are devoted to preparing and remediating students for Step 1.^{3,4,5}

Design and Methods:

At the VCU School of Medicine (VCU SOM), we identified resources used and costs incurred during academic year 2018-2019 by medical students and the medical school in preparation for USMLE Step 1. Data were drawn from financial records, calendars, a student survey, and "best estimates" of time.

Results:

VCU SOM expenditures were primarily faculty time and effort counseling students. Student expenses were primarily study programs. For study resources required or highly recommended by the VCU SOM, plus USMLE examination fees, we calculated the direct cost at \$1808 per student, for a total of \$339,904 for 188 students who sat for USMLE Step 1 during the study year. The combined direct and indirect costs to the VCU SOM administration were \$66,269.96.

Conclusions:

Ongoing work to be reported includes consultation with students to identify additional typical expenses and to work with colleagues in the VCU School of Business to refine data for more specific analyses of costs and benefits.

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1) Chen DR, Priest KC, Batten JN, Fragoso, LE, Reinfeld BI, Laitman BM. Student perspectives on the "Step 1 climate" in preclinical medical education. *Acad Med.* 2019;94:302–304.

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Student Perspective on Readiness to Engage in the Entrustable Professional Activities Provides Important Curricular Feedback

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

We questioned how prepared our medical students felt to perform each of the EPAs, both prior to and after completing core clinical clerkships.

Background and relevance of the study:

The Core Entrustable Professional Activities for Entering Residency (EPAs), represent thirteen clinical skills all medical students should be able to perform without direct supervision at the beginning of residency training.¹

Design and Methods:

Two classes of medical students (class of 2020 and 2021) completed a questionnaire prior to starting core clinical clerkships focused on “readiness to perform” each of the EPAs.² Responses were categorized by perceived level of supervision needed. In 2019, the senior medical students [class of 2020] were again asked to reflect on their perceived readiness to perform the EPAs. Descriptive statistics were used in analysis. Comparisons for the two groups prior to starting clerkships, and for the pre- and post-clerkship responses were performed.

Results:

The majority of students (~200/group) completed each questionnaire. Highly rated for perceived readiness (for both pre-clerkship groups) were EPA#1-gather a history and perform a physical examination, EPA#2-Prioritize a differential diagnosis following a clinical encounter and EPA#7-Form a clinical question and retrieve evidence to advance patient care. Lowest rated were EPA#8-give or receive a patient handover to transition care responsibility and EPA#12-Perform general procedures of the physician. All thirteen EPAs showed gains in perceived readiness between the pre- and post-clerkship period, with the greatest change for EPA#8.

Conclusions:

The transition from undergraduate to graduate medical education is complex. Ensuring that students understand, are prepared for, and are assessed on these core clinical activities is essential. Student feedback on perceived readiness to perform the EPAs has provided valuable information for curricular enhancements in our pre-clerkship and clerkship curricula. We also recognize the need for faculty development to enhance deliberate observation of student skills mapped to the EPAs.³

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Teamwork in Interprofessional Education: A Thematic Analysis

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Identify and analyze themes amongst responses to a specified teamwork prompt from nursing and medical students in an interprofessional physical examination laboratory.

Background and relevance of the study:

Effective teamwork improves the safety of patients and the goal of interprofessional education (IPE) is to prepare future health professionals to work together to care for and improve population health outcomes.^{1,2} Historically, the vital signs physical examination laboratory at Long School of Medicine (LSOM) was taught by physician facilitators and standardized patients. In 2018, the LSOM and School of Nursing (SON) incorporated Interprofessional Education (IPE) into the curriculum with senior nursing students teaching vital signs to first year medical students.

Design and Methods:

Three to five first-year medical students and one nursing student were randomly assigned to form teams in examination rooms at the Clinical Skills Center at UT Health San Antonio. Prior to participating in the vital signs physical examination laboratory, nursing students asked the team, “Why is teamwork important in the healthcare setting?”. Responses from the medical students and nursing student teachers were recorded and transcribed. The transcription was analyzed by three independent reviewers and responses were grouped by codes. Codes were then assessed for overlap and grouped into themes by one reviewer. A table of themes and supporting quotes and number of mentions was subsequently developed by all three reviewers.

Results:

Several themes were identified including the unique roles of the different team members (72 mentions), how teamwork improves patient outcomes (45 mentions), and the importance of communication in a team (42 mentions).

Conclusions:

From our thematic analysis, both preclinical and clinical healthcare students are aware of their unique role and the critical importance of teamwork building a sustainable workforce to improve patient outcomes.

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The Duke School of Medicine Master of Biomedical Sciences Postbaccalaureate Program Enhances Learner MCAT Performance

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

The MBS improves MCAT performance.

Background and relevance of the study:

Med school applicants take a standardized examination instituted in 1928¹ and recently revised in 2015 including Chemical-Physical Foundations, (CP) Critical Analysis/Reasoning (CARS), Biological- Biochemical Foundations (BB), and Psychological, Social, Biological Foundations (PS).²

MCATs are used to select applicants though students succeed despite far lower MCATs^{3,4} than average matriculants. Racial/ethnic minorities, low SES, first gen to college, and rural-born score lower than majority students.⁵ Study skills correlate more strongly with medical school performance.⁶ Postbaccalaureate programs improved "old MCAT" scores⁷ and possibly Step 1 scores.⁸ There are no reports of postbaccalaureate programs' new MCAT impact.

Duke's Master of Biomedical Sciences (MBS) postbaccalaureate program enhances learning strategies. Its includes a great deal of content in the BB and PS subsections, some in the CARS subsection, and little in CP.

Design and Methods:

Scores for students with a pre-MBS MCAT and post-MBS MCAT were compared. Scores for students with pre- and post-MBS "new MCATs" examined subsection changes. Percentiles were used to compare pre and post-MBS MCATs.

Results:

Fifty-three students had both pre and post-MBS MCATs. They took a total of 71 MCAT tests before starting MBS (pre-MBS), 30 "old MCATs" and 41 were "new MCATs." Thirty-four students took the "new MCAT" both pre and post-MBS. Overall performance increased from the 53rd to the 75th percentile, ($p < 0.001$). Subsection scores all increased but varied by subsection. CP (13, < 0.001); CARS (12, 0.003); BB (23, < 0.001) and PS (23, < 0.001). Students from groups historically underrepresented in medicine increased their total MCAT over 27 percentile points. Comparing the 17 students who took the new MCAT pre and post MBS increases were even better in the CP, CARS, and PS subsections.

Conclusions:

Students experienced statistically significant increases in MCAT subsections reflecting MBS' major areas of curricular emphasis.

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Toward Describing Successful Practice within the Health Systems Sciences among Entering Residents: A Qualitative Study

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

This study investigates GME faculty observations of knowledge, attitudes and behaviors that define successful practice within the health systems sciences (HSS) domains.

Background and relevance of the study:

The American Medical Association has defined the field of health systems sciences (HSS), viewed as a “third pillar” of medical education, alongside the basic and clinical sciences.

Because a shared competency framework is lacking between undergraduate (UME) and graduate medical education (GME), entering residents are unprepared to implement HSS concepts in the workplace. The UME-GME transition is a critical timeframe to prepare trainees with skills for safe and effective care and foster a dedication to improving the health care system.

Design and Methods:

This study is an inductive-deductive qualitative study of in-depth interviews of Vanderbilt residency program directors, associate program directors and core faculty. Residency programs that train year-one residents were eligible (n=14). Interviews were performed by the Vanderbilt Qualitative Research Core (QRC), audio-recorded and transcribed. De-identified transcripts were analyzed by two qualitative researchers to identify themes and sub-themes according to a codebook.

Results:

Seventeen interviews were completed (17/39, 44%) and analyzed. Themes about successful practice were: behaviors/skills (i.e. applying HSS concepts to clinical care, asking and solving problems), knowledge (i.e. protocols/processes, interprofessional team roles), and attitudes (i.e. optimism, open-mindedness, change agency, systems responsibility, humility). Preparatory experiences (i.e. medical school education, work experience, other professional degrees) were features of successful residents. The design of continuity clinics and quality improvement projects facilitated evaluating HSS-related skills. While residents often provide high-quality, person-centered care, many are unprepared for systems-level thinking and skills. Similarly, GME leaders feel unprepared to teach or assess HSS concepts.

Conclusions:

Faculty observations of the behaviors, knowledge and attitudes that define successful practice

within HSS has highlighted the importance of pre-curricular experience and preparation, the importance of professional identity formation and attitude toward HSS, and the role of the GME learning environment.

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Toward Development of Electronic Health Record Best Practices: Comparison of Faculty, Resident, and Student Approaches to the EHR

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

We sought to identify differences between novice and expert approaches to review of the Electronic Health Record (EHR), to help define best practices. Such analysis will assist in developing EHR curricula for trainees.

Background and relevance of the study:

The EHR gives physicians access to copious patient data. Efficient EHR use facilitates accurate diagnosis and physician well-being. However, identifying the most-relevant information is an experientially-acquired skill. Best practices for EHR review are currently unknown. Consequently, no curriculum exists for teaching optimal EHR review.

Design and Methods:

We created a survey with three patient-vignettes. For each, respondents rank-ordered 22 EHR data elements (Emergency Physician Note, Today's Vitals, Today's Labs, etc.) to indicate opinions regarding primacy of each. N=129/180 (71.7%) replied to this voluntary survey (40 students, 43 residents, 46 faculty). We tabulated descriptive statistics and Kruskal-Wallis H-tests of significance in Excel and SPSS.

Results:

EHR element Today's Vitals was highly-prioritized by all groups, garnering top-five rankings from 96.6%-98.1% of respondents across all vignettes. Students ranked Emergency Physician's Note as top-five across vignettes more often (75.9%-89.3%) compared to faculty (30.3%-39.5%) and residents (15.2%-38.9%); group differences were significant ($P<0.001$). For all vignettes, faculty gave Previous Clinic Notes top-five rankings most often (12.1%-20.5%) compared to residents (2.9%-3.4%) or students (0.0%-6.1%) (all $P<0.05$). For two vignettes, faculty gave Previous Discharge Summaries top-five rankings more often (14.7%, 25.6%) than residents (11.4%, 24.3%) or students (4.3%, 14.7%) ($P<0.05$). For a patient-vignette indicating partial bowel-obstruction, more faculty (75%) gave Today's Imaging-Radiology Read a top-five ranking, compared to residents (59.5%) and students (48.6%) ($P=0.005$). For a patient-vignette indicating HIV and fever, students prioritized Emergency Nursing Note most-frequently as top-five (50%), compared to faculty (24.1%), and residents (12.0%) ($P=0.034$).

Conclusions:

Faculty, residents and students differ in their priority-ranking of EHR data elements. Our

findings are a first step in identifying how EHR approaches vary by experience, which will help develop EHR curricula.

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Understanding faculty motivation to teach (or not?) in an era of rapid advancements in medical education

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

What motivates medical school faculty to teach in the pre-clinical curriculum?

Background and relevance of the study:

Most U.S. medical schools have recently reformed their curricula.¹ Faculty reluctance to change is a barrier in curriculum reform as faculty may perceive losses.^{2,3} Yet, faculty motivation is associated with increased engagement in teaching best-practices and faculty development.^{4,5} To support the success of curricular advancement, it is critical to examine factors that motivate faculty teaching. Self-determination theory (SDT) offers a useful framework to contextualize faculty motivation and impactful factors.^{6,7}

Design and Methods:

Faculty who taught in the pre-clinical curriculum within 5 years were surveyed using validated scales assessing basic psychological needs and motivation.^{4,8,9} Data were analyzed (SPSS) using independent-samples t-tests and ANOVAs to compare mean scores by faculty demographics. Faculty were also asked what factors promoted or undermined teaching motivation. Comments were coded for themes.

Results:

Faculty survey response rate was 43% (108 of 250). Faculty as a whole favored intrinsic (M = 3.6, SD = 0.4) over extrinsic (M = 1.9, SD = 0.7) motivating factors. Statistical differences were found by faculty demographic factors. On external motivation, basic science faculty were higher (M = 2.4, SD = 0.7) than clinical faculty (M = 1.8, SD = .6, $p < 0.001$). On autonomy, professors were higher (M = 3.4, SD = 0.4) than associate professors (M = 3.1, SD = 0.5, $p = .004$). Several themes emerged regarding factors impacting motivation: personal fulfillment, sense of duty, content/methods autonomy, recognition and feedback, competing responsibilities, and financial support.

Conclusions:

Medical school faculty tended toward intrinsic factors with regard to their motivation to teach. This is similar to what has been found in university faculty as a whole.⁴ However, key psychologic needs related to teaching and motivating factors varied somewhat by faculty demographics. Efforts to increase participation in medical school teaching programs should take these factors into account.

References:

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Wake PROUD: Promoting change in opioid stewardship through DEAX Waiver training during the transition to residency

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

To assess if the Wake PROUD (Prevent and Reduce Opioid Use Disorder) curriculum enhanced intern preparedness to prevent, recognize and treat opioid use disorder (OUD).

Background and relevance of the study:

Transition to residency is an opportunity to arm medical students with skills to change opioid prescribing patterns at the front lines of care. In 2019, a capstone curriculum, Wake PROUD, was developed to train 4th year medical students on guidelines in pain, addiction, and opioid stewardship to meet requirements for DEAX waiver training certification.

Design and Methods:

A sequential mixed-methods study (IRB approved) was implemented to assess feasibility and impact of Wake PROUD. Students completed 8 required hours of online modules and in-person seminars on opioid prescribing, addiction counseling, and subspecialty training. Quantitative data included pre-/post-knowledge and satisfaction assessments and a 3-month internship follow-up survey. Qualitative data was collected by survey and two semi-structured focus groups. Strauss and Corbin's constant comparative method was used for thematic analysis.

Results:

All 120 students completed Wake PROUD, and 99% fulfilled requirements for DEAX waiver certification. Overall knowledge significantly improved (16.9 to 18.0, $p=0.0015$). Satisfaction was high: 90% recommended online modules and 85% recommended the training. Three qualitative themes emerged as impacts of the curriculum: (1) deeper understanding of opioid pharmacology; (2) enhanced confidence in recognizing and managing OUD; (3) improved awareness of prescribing. Students commented that Wake PROUD "made me more confident with interviewing, diagnosing, and treating OUD" and "encouraged me to be alert and aware of

what I'm prescribing." When contacted 3 months after graduation, 70% reported using their training during internship and 65% felt more prepared to handle OUD than peers.

Conclusions:

Wake PROUD successfully trained 4th year medical students in opioid stewardship. Students felt ready to serve as change agents to prevent, diagnose, and treat OUD.

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You're Shortening My Clerkship? Evaluating the effects of decreasing clerkship durations.

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

Does decreasing the duration of clerkships affect outcome measures?

Background and relevance of the study:

In 2018-19, we restructured our third-year curriculum to accommodate a longitudinal, entrustment-based course. This required shortening 4 of 8 clerkships between 13% and 50%, a combined decrease of 8 weeks. We sought to determine whether this affected student ratings of the clerkships, NBME subject exam performance, mid-clerkship feedback ratings, duty hour compliance, or direct observation (DO) rates.

Design and Methods:

For each clerkship, we subtracted the 2017-18 mean from the 2018-19 mean to calculate a pre-post delta for each outcome measure. We then compared the deltas for the 4 shortened clerkships against the deltas for the 4 unchanged clerkships using a two-tailed t-test.

Results:

Comparing the two groups, there was no difference in the pre-post deltas for any of the 5 clerkship ratings, NBME scores, mid-clerkship feedback ratings, or duty hour violations. There was a significant difference in rates of physical exam DO: unchanged clerkships improved 4.3%, whereas the shortened clerkships decreased 0.8% ($p=0.04$). For history-taking DO, unchanged clerkships improved 4.8%, whereas shortened clerkships improved 0.3% ($p=0.08$).

Conclusions:

Studies have evaluated shortening of single clerkship¹⁻⁵ or a symmetric shortening of all clerkships⁶. In this study, we compared shortened clerkships to unchanged ones. We found that shortening the duration did not affect most outcome measures. The one exception appears to be DO. However, the difference in physical exam DO (and the trend for history-taking) was largely driven by improvement in the unchanged clerkships that was unmatched in the shortened clerkships, rather than a substantial decline in the latter. Given the emphasis on DO with our clerkship directors, we hypothesize that clerkships having to accommodate changes in rotation structure were less able to make continued gains in DO compared to the unchanged clerkships. Overall, these findings should reassure programs that similar outcomes can be achieved with shortened clerkships.

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Validity Challenges in Adapting a Clinical Team Development Measure for Use in Pre-clinical Interprofessional Teams

Submission Type: Research Abstract

Accepted as: Oral Abstract Presentation

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Abstract Body:

Research Statement/Research Question:

What kind of evidence for validity is demonstrated when using a clinical measure for team development in pre-clinical interprofessional teams?

Background and relevance of the study:

Demonstrating that pre-licensure interprofessional education (IPE) influences collaboration is critical for educators¹. Measuring team development may help evaluate whether IPE increases collaboration, but an assessment tool is needed for use with teams of learners. The Team Development Measure (TDM)² is validated in clinical settings³ and has shown initial evidence of validity in IPE settings at one site⁴ but has not been studied across institutions and programs.

Design and Methods:

This is a multi-institutional project to refine the items of the TDM and strengthen evidence for validity of its use in pre-clinical IPE. Educators at two institutions independently began using the TDM to assess teams in classroom-based IPE. Exploratory factor analysis (EFA) was used to examine internal structure in four large samples, an item applicability survey was used in another sample to examine content validity, and evidence related to response process was collected from student interviews.

Results:

There was good internal consistency reliability for the measure across samples, but EFA results varied, with 2-4 suggested factors. Total variance explained by the items ranged from 54-67%. Eight of 31 items were rated as not relevant to classroom-based IPE by more than 5% of participants who completed the item applicability survey. Interviews revealed a variety of validity concerns related to content, response process, and consequences of testing.

Conclusions:

Our findings indicate that some concepts related to team development in the clinical workplace are similar in pre-clinical IPE settings, while others may not translate seamlessly. Creating a usable, valid, and reliable version of the TDM for classroom-based settings will allow educators to measure team formation as an important learning outcome from these IPE experiences and will help educators debrief these concepts more effectively.

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1 Institute of Medicine. (2015). Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington, DC: National Academies Press.

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**“I'm having so much trouble balancing the inhouse exams with board stuff”:
Thematic analysis of anonymous online student advice-giving and support
discourses**

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Exploring online peer-to-peer USMLE Step 1 advice and laying a foundation for examining an explicit and aligned vision for school curricula and Step 1 preparation

Background and relevance of the study:

The current Step 1 climate is fueled by the “off-label” use of USMLE Step 1 scores as residency filters. Numerous commercial and student-generated study resources compete with school curricula, prompting students to feel they must make career-defining choices between dedicating time and efforts to success within school or on the boards—not both. To navigate this implicit parallel curriculum of Step 1 preparation, students are turning to their peers for advice, guidance, and reassurance.

Design and Methods:

This exploratory study examined medical school subreddit messages from July-October 2019. Since Reddit’s Step 1 message board retains +/-3 months of posts, this represents the complete information available to students seeking advice. Preliminary analyses included tallying frequencies of resources and constant comparative thematic coding about requests, recommendations, and implicit curriculum.

Results:

Initial results reveal resource selection/prioritization and seeking/advice trends. UWorld (n=25) and Anki-related flashcards (n=18) were most referenced, followed by Boards&Beyond (n=10), Sketchy (n=7), First Aid (n=7), and Pathoma (n=6). Advice-givers recommended blending multiple third-party, mostly-paid resources, with only one recommendation of school-curricular materials. Two requests expressed desire to increase fund of knowledge, and four advice-giving comments stressed its importance.

Conclusions:

These results suggest students are self-selecting and recommending third-party board preparation while subordinating school curricula designed to cultivate entrustable and engaged physicians. Our next research steps will address tensions in this “parallel curriculum” by exploring how Step 1 materials/preparation can strengthen—not subvert—school curricula, and what transformative changes (e.g., relocating Step 1 after the clinical year; more-holistic residency selection mechanisms) might simultaneously afford schools greater buy-in to mission-driven curricula and residencies more manageable, passion-driven (not score-driven) applicant pools.

References:

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Medical school subreddit: <https://www.reddit.com/r/medschool/>

Prober C, Kolars, JC, First LR, Melnick DE. A plea to reassess the role of United States Medical Licensing Examination Step 1 scores in residency selection. Acad Med. 2016;91(1)12-15.

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A Mixed Methods Study of Factors that Influence Professional Identity Formation in Undergraduate Medical Education

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

We aimed to characterize factors that influence Professional Identity Formation (PIF) in undergraduate medical students.

Background and relevance of the study:

PIF is influenced by interactions with patients, providers, peers, and classroom experiences. Gaps exist in understanding how students incorporate these encounters into their professional identity.

Design and Methods:

A sequential mixed methods study was conducted involving: (1) a cross-sectional survey of M1-M4 students to quantify the influence of patients, providers, peers, and classes on PIF; and (2) semi-structured focus groups and individual interviews to elicit descriptions of experiences that influence PIF. The Oldenburg Burnout Inventory assessed self-reported burnout. Transcripts were analyzed using Strauss and Corbin's constant comparative method for thematic analysis. Responses were compared by school year.

Results:

Quantitative surveys were completed by 259 students (RR=51%). Patients and providers strongly influenced PIF across all years. Peer influence rose each year of training (M1=49%, M2=61%, M3=67%, M4=80%, $p < 0.002$). Students with higher burnout were significantly less sensitive to patients ($p=0.03$), providers ($p=0.02$), and classes ($p=0.002$) but not peer influences ($p=0.33$). Qualitative data was collected from 37 students, yielding 236 responses over 863 recorded minutes. Provider Interactions: students were heavily influenced by observing providers interact with patients ($n=38/74$), primarily identifying positive examples of professionalism and behaviors to emulate. Patients: students described one-on-one patient interactions ($n=38/42$); clerkship students used patient responses as feedback and pre-clerkship students used patient interactions for trial and error. Peers: peers challenged students to raise personal standards and set individualized professionalism goals based on behavior of respected peers. Classes: students evaluated the professionalism of instructors and learned to work in groups.

Conclusions:

PIF is shaped by emulating physicians and reflecting on one-on-one patient encounters. Burnout

may desensitize students to these non-peer influences. Peers challenge students to rise to higher standards. Pre-clerkship students interact informally as classmates, while clerkship students identify as colleagues and create professional communities of practice.

References:

Wald HS. Professional Identity (Trans) Formation in Medical Education: Reflection, Relationship, Resilience. *Acad Med.* 2015;90(6):701-706.

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A Pilot Mentorship Model for Medical Students to Engage in Public Health Research to Reinforce Medical Education and Remove Barriers to Academic Medicine for URM

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Medical students who participate in authentic, community-engaged research projects hone their patient-centered care skills for marginalized communities while learning how to navigate and access a career in academic medicine.

Medical students who engage

Background and relevance of the study:

Academic medicine recruits historically low numbers of URM faculty; only 3% and 4% of medical school full-time faculty were African-American and Hispanic/Latino in 2015, according to the AAMC. URMs who engage in longitudinal research and mentorship between faculty and upperclassmen are better positioned to excel and compete for academic medicine positions.

Design and Methods:

Second year medical students were recruited to engage in scholarly activities. Fourteen students attended an orientation session to gauge research interests, chose project(s) of interest and scheduled one-on-one meetings with faculty-mentor to create a research/scholarship plan and timeline. A group seminar introduced the nuances of manuscript writing and the scholarly process. Lastly, connections to upperclassmen and other faculty were made and these informal mentor relationships were reinforced through joint meetings.

Results:

Eleven students persisted through the model with ten females and six minorities (four are underrepresented in medicine and academia). Students chose from 34 projects with the goal of manuscript submission to a peer-reviewed journal or conference. Three students designed new projects under faculty mentorship. Collectively, students report an anticipated 30 abstract submissions and publications as a result of 117 hours of work.

Conclusions:

Student-engaged research and scholarship opportunities emphasizing public health and social justice provide authentic experiences with marginalized communities while creating a pathway to academic medicine for URMs.

References:

1. Diversity in medical education: facts and figures 2015. Washington, DC: AAMC; 2015.

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Creation and Validation of the Multi-Stakeholder Survey of the Educational Environment (MSSEE)

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

To what extent is the proposed instrument valid and reliable for measuring the educational environment at a medical school?

Background and relevance of the study:

Instruments exist to measure medical students' perspectives of various aspects of the educational environment^{1,2} and to measure junior faculty perspectives³. However, there is not currently a validated instrument that does this across various stakeholder groups. The accrediting body for medical schools in the United States⁴, requires the learning environment promote appropriate professional behaviors for not only medical students, but for faculty and staff as well. This suggests that we evaluate and assess the educational environment for medical students, faculty, and staff. While data collection has often focused primarily on the perspectives of medical students, faculty and staff are also consumers of the educational environment. It is imperative that we ensure equitable environments among these constituency groups⁵ and measuring regularly should be part of an institution's best practices⁶.

Design and Methods:

This is a quantitative research study aimed at gaining a deeper understanding of the educational environment of medical schools, from a holistic group of constituents. First, a 27-item Likert scale instrument was assessed by an expert panel to establish evidence of content validity. Data were collected utilizing the Qualtrics version 11.2019 survey software program from medical students, faculty, residents, and staff at a public medical school in the southcentral region of the United States. Psychometric analyses of the data include a review of individual item descriptive statistics, as well as an examination of the instrument's reliability using factor analysis procedures.

Results:

Data are currently being collected. Results will address the validity and reliability of the instrument, as well as implications for finalization of the instrument.

Conclusions:

It's hypothesized that the instrument will demonstrate validity and reliability for use in measuring concurrent, multi-stakeholder perceptions of the learning environment in medical schools.

References:

- 1 Roff, S. (2005). The Dundee Ready Educational Environment Measure (DREEM)—a generic instrument for measuring students' perceptions of undergraduate health professions curricula. *Medical Teacher*, 27(4), 322–325. doi: 10.1080/01421590500151054
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- 3 Roff, S., Mcaleer, S., & Skinner, A. (2005). Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. *Medical Teacher*, 27(4), 326–331. doi: 10.1080/01421590500150874
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Early Introduction to Interprofessional Education

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

To assess medical and nursing student attitudes and perceptions of Interprofessional Education (IPE) in a vital signs physical examination laboratory.

Background and relevance of the study:

Historically, the vital signs physical examination laboratory at Long School of Medicine (LSOM) was taught by physician facilitators and standardized patients until IPE was incorporated into the curriculum with nursing students teaching vital signs to medical students.

Design and Methods:

Three to five medical students and one nursing student formed IPE teams and nursing students taught medical students how to obtain vital signs. The SPICE-R2 instrument was distributed as an online survey to all participating students after the IPE activity. Student were asked to reflect on their perceptions before and after the activity, rating their level of agreement with each statement. Aggregate pre- post-activity mean overall and mean subscale scores were compared using the paired samples t test. Cohen's d was calculated as a measure of effect size.

Results:

Cronbach's alpha for the overall instrument was acceptable (0.77). A large significant overall score increase on the SPICE-R2 after participating in the IPE activity ($M = .24$, $SD = .249$, $p < .001$, $d = .97$) was seen and reflected in all three subscales. The largest increase was in the Roles/Responsibilities subscale ($M = .33$, $SD = .49$, $p < .001$, $d = .74$), the second in the Teamwork subscale ($M = .22$, $SD = .27$, $p < .001$, $d = .80$). A large significant overall score increase was seen in the two professions. For example, students from nursing had an overall increase in attitudes ($M = .311$, $SD = .25$, $p < .001$, $d = 1.26$), as did medical students ($M = .23$, $SD = .5$, $p < .001$, $d = .93$).

Conclusions:

Early exposure in medical school to IPE may improve student perceptions of teamwork/team-based practice, roles/responsibilities and patient outcomes from collaborative practice.

References:

1. Multi-institutional validation of the Student Perceptions of Interprofessional Clinical Education-Revised instrument, version 2 (SPICE-R2)

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Effect of Level of Involvement on the Narrative Comments of 3rd Year Medical Student Clinical Performance Evaluations

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

How does a faculty member's perceived "level of involvement" with a student impact narrative comments on a clinical performance evaluation (CPE)?

Background and relevance of the study:

Wake Forest School of Medicine (WFSOM) 3rd year CPE requires evaluators to self-identify level of involvement with each student evaluation (low, moderate or high). The effect of faculty involvement on quality and quantity of narrative CPE comments is unknown.

Design and Methods:

We examined CPEs completed at WFSOM during academic year 2018-19. Inclusion criteria included CPEs completed by full-time faculty who had completed evaluations in the 2017-2018 and 2018-19 academic years, with the intent to include faculty who had consistent experience in clinical assessment. We assessed for differences in 1) number of narrative comments and 2) quality of narrative comments based on faculty level of involvement (low, moderate, high). The quality of narrative comments was categorized as: 0=no meaningful comments, 1=general comments, 2=specific comments.

Results:

Chi-squared analyses showed significant differences based on level of involvement in the likelihood of writing narrative comments ($p \leq .001$), and in specificity of improvement narrative comments ($p \leq .001$) and strength narrative comments ($p \leq .001$). Higher levels of involvement resulted in more narrative comments, which were more specific.

Conclusions:

Faculty who perceive higher levels of involvement with a student are more likely to provide narrative comments on both improvements and strengths with more specific, higher quality comments. Institutions seeking to gather more specific narrative comments on CPEs should identify ways to increase level of exposure between individual faculty evaluators and students.

References:

Hauer KE, Nishimura H, Dubon D, et al. Competency assessment form to improve feedback. Clin Teach 2018; 15: 472-477.

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Effects of Clerkship Experience on Simulated Clinical Performance

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Do clerkships affect medical students' simulation performance?

Background and relevance of the study:

Medical students rotate through their clerkships in varying order, which exposes them to different cases and content at different points in time. This study sought to determine if clerkships have an effect on simulation performance.

Design and Methods:

This study was conducted at the mid-year break between students' two blocks of clerkship rotations. Students completed each of their assigned block's rotations in a different order, but then switched blocks mid-year. This study introduced an individual simulation in which each student played the role of the physician. In the first year of the study, students encountered an adult patient with an acute myocardial infarction. In the second year, students encountered either an adult or a pediatric patient with an asthma exacerbation. Each simulation was facilitated by a faculty member who completed an assessment documenting the order and timing of key performance items. Outcomes were examined to identify any performance differences between rotation blocks.

Results:

A total of 385 students participated in simulations over two years. For the 192 students who experienced the AMI case, there were no statistically significant differences between rotation blocks in the time it took to order an EKG, call for help, or for overall simulation time. For the 193 students who experienced the asthma exacerbation case, there were no statistically significant differences between rotation blocks in the time it took to order diagnostic or therapeutic treatments or call the attending. Though, students in both rotation blocks spent more time with the pediatric patient than the adult patient.

Conclusions:

The order in which medical students completed their clerkships did not significantly affect simulation performance. While relevance of a simulation to a clerkship is presumed to be ideal, these results demonstrate that medical students can perform and learn from simulations at any point in their clerkships.

References:

Bradley, P. (2006). "The history of simulation in medical education and possible future directions." *Medical Education* 40(3): 254-262.

Garrison, E. A. and J. L. Phippen (2019). Competency Assessment in Simulation-Based Training: Educational Framework and Optimal Strategies. *Comprehensive Healthcare Simulation: Obstetrics and Gynecology*. S. Deering, T. C. Auguste and D. Goffman. Cham, Springer International Publishing: 61-70.

Weinger, M. B. (2010). "The Pharmacology of Simulation: A Conceptual Framework to Inform Progress in Simulation Research." *Simulation in Healthcare* 5(1): 8-15.

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Efficacy of a Cadaver-Based Procedural Skills Lab for Internal Medicine

Residents

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Does a cadaver-based procedural skills session for internal medicine residents improve trainee comfort with arthrocentesis?

Background and relevance of the study:

Cadaver-based simulation has been used in many surgical and subspecialty fields to teach procedural skills. We developed a cadaver-based simulation curriculum to enhance internal medicine residents' comfort with arthrocentesis.

Design and Methods:

Internal Medicine residents in postgraduate years 1-3 were invited to participate in a cadaver-based simulation session for knee and shoulder injections. Multidisciplinary faculty precepted the course, with assistance from rheumatology fellows. Landmark-based and ultrasonography-guided injections were performed on cadaver shoulder and knee joints. To establish a general baseline of comfort with these procedures, a convenience sample of 46 residents were surveyed with a 10 item questionnaire using a likert scale 1-5. Residents were then invited to participate in the cadaver-based simulation. The residents were surveyed again after the simulation sessions and then at 4-6 weeks as well.

Results:

29 residents participated in the cadaver-based skills session. 18 (62%) responded to the immediate post-simulation survey. 22 (76%) residents responded to the survey sent at the 4-6 week follow up point. Residents reported an average of 1.63 arthrocentesis procedures performed prior to the simulation session. They reported a comfort level of 1.74 on the pre-simulation session survey. This comfort level improved 70.11% to 2.94 following the simulation session. The effect was sustained at 4-6 week follow up, with residents reporting a comfort level of 2.94. The average comfort level post-simulation and at 4-6 weeks post-simulation were each significantly different from the average comfort level pre-simulation ($p < 0.001$ for overall association; $p < 0.05$ for pairwise comparisons)

Conclusions:

Cadaver-based procedural skills sessions led to increased self-reported trainee comfort with

arthrocentesis in our population. We recommend that such simulation sessions should be adopted into formal internal medicine residency training.

References:

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2. A comprehensive, unembalmed cadaver-based course in advanced emergency procedures for medical students. Tabas JA, Rosenson J, Price DD, Rohde D, Baird CH, Dhillon N. *Acad Emerg Med.* 2005 Aug;12(8):782-5.
3. Practical guidelines for setting up an endoscopic/skull base cadaver laboratory. Tschabitscher M, Di Ieva A. *World Neurosurg.* 2013 Feb;79(2 Suppl):S16.e1-7.
4. A comparison of arthrocentesis teaching tools: cadavers, synthetic joint models, and the relative utility of different educational modalities in improving trainees' comfort with procedures. Berman JR, Ben-Artzi A, Fisher MC, Bass AR, Pillinger MH. *J Clin Rheumatol.* 2012 Jun;18(4):175-9.
5. A cadaveric procedural anatomy simulation course improves video-based assessment of operative performance. Sharma G, Aycart MA, O'Mara L, Havens J, Nehs M, Shimizu N, Smink DS, Gravereaux E, Gates JD, Askari R. *J Surg Res.* 2018 Mar;223:64-71.
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7. Teaching of clinical anatomy in rheumatology: a review of methodologies. Torralba KD, Villaseñor-Ovies P, Evelyn CM, Koolae RM, Kalish RA. *Clin Rheumatol.* 2015 Jul;34(7):1157-63
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10. Prevalence, diagnostics and management of musculoskeletal disorders in primary health care in Sweden - an investigation of 2000 randomly selected patient records. Wiitavaara B, Fahlström M, Djupsjöbacka M. *J Eval Clin Pract.* 2017 Apr; 23(2): 325–332.
11. Rheumatology training at internal medicine and family practice residency programs. Goldenberg DL, DeHoratius RJ, Kaplan SR, Mason J, Meenan R, Perlman SG, Winfield JB. *Arthritis Rheum.* 1985 Apr;28(4):471-6.

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Evaluation of Obstetrics and Gynecology Clerkship Near-Peer Teaching and Mentorship Program

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

To evaluate the effectiveness of peer teaching sessions and assess learning preferences of third year medical students.

Background and relevance of the study:

The OB/GYN Near-Peer Teaching and Mentorship Program aims to support third year medical students (MS3s) throughout their OB/GYN clerkship. Fourth year medical students (MS4s) act as a resource and give short presentations on didactic topics.

Design and Methods:

MS4s taught eight- to ten-minute lessons on topics approved by the clerkship director. MS3s completed pre- and post-surveys regarding their knowledge, impression of the lectures, and preferred learning styles. Ratings were performed using a five-point Likert scale.

Results:

Among 60 MS3s, 60% completed the pre-survey and 33.3% completed the post-survey. The average rating of personal comfort with the content covered was 2.95 on the pre-survey and 4.18 on the post-survey. In comparison to a standard lecture format, students rated the peer teaching sessions 4.45 on a scale from 1 (“much less effective”) to 5 (“much more effective”). MS3s’ ratings of how high-yield the topic was averaged 4.55 and 4.44 before and after the sessions, respectively. MS3s reported a preference for “chalk talks” (75%) and listening to a lecture while looking at a handout (45%).

Conclusions:

MS3s found short, peer-led didactics more effective than typical lectures, reporting an increase in comfort and knowledge after sessions. Future research should expand upon objective measures of student knowledge, correlation with standardized exam scores, and benefits to MS4s regarding leadership and teaching skills following participation in peer teaching programs.

References:

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Why medical students should learn how to teach. M Dandavino et al. *Medical Teacher*. Vol 29 (6), 2007: 558-565

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Evidence-Based Faculty Development for Rating Borderline Competence

Submission Type: Research Abstract

Accepted as: Poster

Authors:

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Abstract Body:

Research Statement/Research Question:

The Yes-No Angoff method prompts faculty judgments of the borderline competence necessary for correctly answering test questions. This paper (or poster) examines the efficacy of evidence-based faculty development aimed at informing shared faculty concepti

Background and relevance of the study:

The Yes-No Angoff method for standard setting yields an absolute standard established according to the expert opinions of faculty and referenced to a specified level of performance, e.g., borderline competence. One method for promoting a shared understanding of borderline competence is to provide past performance data so that faculty can compare their item ratings with historic metrics of actual borderline performance. Yet, some researchers raise the concern that such practice may essentially replace a criterion-referenced standard with a norm-referenced standard. Evidence-based faculty development that prompts the understanding of holistic performance, rather than item-level performance, can inform faculty understanding of borderline competence while honoring the established purposes for adopting a criterion-referenced method for standard setting.

Design and Methods:

Prior to 2018 standard setting, faculty development featured historical exam and quiz results (from 2017) aimed at informing faculty understanding of borderline competence: class means, 5th percentile, and 25th percentile. To test the efficacy of faculty development, we conducted an independent samples t-test of the absolute differences between faculty item means and p-values of borderline students.

Results:

In 2017, the absolute difference between faculty ratings and borderline student p-values was, on average, 0.1882. In 2018, the average absolute difference was 0.1645. The difference in means between 2017 and 2018 was significant with a small effect size, $t(847) = 2.619$, $p = 0.009$, Cohen's $d = 0.018$.

Conclusions:

In a preclinical block, accuracy for predicting borderline competence improved. Differences between faculty cut scores and test means of borderline students decreased from 19 points to 5.

References:

Clauser JC, Clauser BE, and Hambelton RK. Increasing the validity of Angoff standards through analysis of judge-level internal consistency. *Applied Measurement in Education* 2014; 27:19-30.
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Yudkowsky R, Downing SM, and Wirth S. Simpler standards for local performance examinations: The Yes/No Angoff and Whole Test Ebel. Teaching and Learning in Medicine 2008; 20, 3: 212-217.

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Examining the Pedagogical Underpinnings of Medical Education Commercial-off-the-Shelf (MedEd-COTS) Resources

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

What pedagogical theories, principles, or strategies are used, if any, to design MedEd-COTS that are used by medical students to prepare for Step 1 USMLE?

Background and relevance of the study:

Approximately ninety-eight percent of medical students rely on MedEd COTS, such as but not limited to ScholarRX, AMBOSS, and Osmosis to prepare for Step 1, Step 2, and Step 3 USMLEs¹. With the current emphasis on evidenced-based medical practice and education, the question is, do companies that produce MedEd-COTS apply learning theories, principles, or strategies to facilitate learning, and if so, which ones?

Design and Methods:

Data regarding the pedagogical foundations of MedEd COTS were drawn from several sources. Initially, educational databases (e.g. PubMed, Academic Medicine, Google Scholar) were perused. However, published research did not provide much information on the topic of interest. Subsequently, researchers sought information directly from the companies that produce MedEd-COTS by examining their affiliated websites and by interviewing employees. Finally, data was drawn from previous investigations into the utilization of MedEd COTS.

Results:

The study examined the pedagogical foundations of twenty prevalent USMLE Step 1 MedEd-COTS resources. Although the use of a specific learning theory was never explicitly mentioned, the results suggest that different learning behavioral, cognitive information processing, cognitive-constructivist and neurobiological learning principles were applied. The application of specific instructional strategies, such as scaffolding, spaced repetition, visual mnemonics, and adaptive learning were mentioned that varied by organization.

Conclusions:

Apparently, companies who produce MedEd-COTS place emphasis on designing high-yield content rather than designing resources grounded in learning theory and research. Theories help explain and predict results. Failure to base the design of educational resources on learning theory brings to question whether the application of theoretical principles may enhance learning. Additional research is necessary to formulate such conclusions.

References:

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Implementation and evaluation of a new pediatric sub-internship curriculum

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Will implementing an Individualized Learning Plan and didactic curriculum improve Emory's Pediatric Sub-internship Program?

Background and relevance of the study:

Based on feedback from senior medical students and hospitalists, we aimed to bolster the educational value of the Emory Pediatrics sub-internship by implementing a new curriculum focused on medical decision-making skills and preparation for residency. The structure was informed by the Council on Medical Student Education in Pediatrics and Association of Pediatrics Program Directors Pediatric Sub-intern curriculum (CAPS), addressing the curricular gap between the 3rd year clerkship and entry into pediatric residency using an Individualized Learning Plan (ILP).

Design and Methods:

Beginning in February 2019, all Emory Pediatrics sub-interns (n = 18) developed an ILP from selected CAPS objectives and met weekly with a hospitalist mentor for guidance in reaching their goals. They also attended weekly didactic sessions on medical decision-making skills including the formulation of differential diagnoses, assessments, and plans. Sub-interns completed pre- and post-rotation surveys rating their perceived competence in each of the 3 didactic topics on a 5 point Likert scale; responses were compared using Student's paired t-tests. They also rated the utility of the curriculum in meeting rotational and personal objectives via a post-rotation questionnaire.

Results:

Students' perceived competence in the three target areas significantly improved after the rotation: average rated competence in differential diagnosis increased from 3.2 to 3.7; in summary statement creation from 3.3 to 3.8, and in plan formulation from 3.0 to 3.4 ($p < 0.01$ for all). Students rated all components of the new curriculum highly, at a minimum of 4.2/5.

Conclusions:

Incorporating ILPs and medical decision-making instruction improved sub-intern perceived competence and was well-received. This curricular addition enhanced sub-interns' experiences,

adding both educational value and personalized mentorship. The next step is to compare actual competence in clinical decision making before and after participation in this curriculum.

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Influence of Emergency Medicine Technician Training in Medical School on medical Student Application, Matriculation, and Transition into medical school

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Does an Emergency Medical Technician (EMT) course, as part of medical school, influence students' decision to apply and attend medical school and influence students' transition to medical school while providing awareness of patients' lives and circumstances

Background and relevance of the study:

Medical Education seeks to develop more active methods of learning in addition to skills for patient interaction.¹ With this in mind, the University of South Carolina School of Medicine Greenville (UofSC School of Medicine Greenville) developed its curriculum with an integrated EMT certification course designed to provide a meaningful clinical experience for students², however, there is no data on whether this type of course influences a student's decision to apply to or attend a medical school and limited data on the transition to medical school.³

Design and Methods:

A survey was sent in Spring 2019 to first, second, third, and fourth year medical students at the UofSC School of Medicine Greenville with response rates 68.5%, 66.3%, 55.2%, and 56.9%, respectively. This study was reviewed and exempted by the University of South Carolina Institutional Review Board (IRB).

Results:

Forty-three percent of students agreed/strongly agreed that the EMT course at UofSC School of Medicine Greenville factored into their decision to apply while 52% of students agreed/strongly agreed that it factored into their decision to attend. Students agreed/strongly agreed (82%) that the program helped with their medical school transition with students < 25 years of age reporting a statistically higher positive response in agreeing ($p=0.0487$) compared to older students. Ninety-one percent of students reported that EMT experiences increased awareness of patients' lives and circumstances.

Conclusions:

Students felt an EMT certification course at the beginning of the first year helped with the transition to medical school and increased awareness of patients' lives and circumstances.

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Influence of the Emergency Medicine Technician Training in Medical School on Preparation for Required National Board Exams and Clerkship Rotations

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Does an Emergency Medical Technician (EMT) course, as part the pre-clerkship curriculum in medical school, prepare students for national board exams (i.e. USMLE Step 1, 2 CK, 2CS) and clinical rotations?

Background and relevance of the study:

The UofSC School of Medicine Greenville has incorporated EMT training into first semester curriculum with students becoming state-certified EMTs and completing one ambulance shift per month throughout pre-clerkship years. Some clerkship directors view pre-clerkship curriculum as passive learning.¹ However, perceptions on student preparedness for board exams and clerkships with an integrated EMT curriculum have not been studied.

Design and Methods:

A survey was sent in Spring 2019 to second, third, and fourth year medical students at the UofSC School of Medicine Greenville with response rates 66.3%, 55.2%, and 56.9%, respectively. This study was reviewed and exempted by the University of South Carolina Institutional Review Board (IRB).

Results:

Sixty-four percent of students agreed/strongly agreed that an EMT course, taken in the first year, helped prepare them for clinical rotations. Eighteen percent, 14%, and 41% of students agreed/strongly agreed an EMT course helped prepare them for the USMLE Step 1, Step 2 Clinical Knowledge (CK), and Step 2 Clinical Skills (CS) exam, respectively. When separated by age, 32% of students < 25 years of age agreed/strongly agreed an EMT course helped prepare them for the USMLE Step 2 CS while 89% of students ≥ 25 years of age agreed/strongly agreed.

Conclusions:

Most students feel that an EMT course in the pre-clerkship years helps prepare them for clinical rotations while most students feel an EMT course does not prepare them for national board exams with students age ≥ 25 older agreeing that an EMT course does prepare them for the USMLE Step 2 CS.

References:

I. O'Brien, B, Cooke, M, Irby, D. Perceptions and attributions of third-year student struggles in clerkships: Do students and clerkship directors agree? *Acad Med.* 2007; 82:970-978.

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Linking Patient Ownership and Professional Identity Formation through Simulation

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

This study aimed to directly assess the relationship between patient ownership and professional identity formation using simulation.

Background and relevance of the study:

The link between patient ownership and professional identity has not been formally established in medical education, yet several studies have suggested these constructs are related¹⁻³.

Design and Methods:

A simulation was conducted with 189 third-year students in which students were placed in the role of a physician treating a patient in respiratory distress. Data were collected from 12 focus groups (n = 84; 44% of the third-year class), each lasting 15-25 minutes. Students were asked four questions designed to identify moments where they felt like a physician and experienced feelings of ownership. Each focus group was transcribed and analyzed using deductive codes derived from the three key experiences of psychological ownership⁴, and then investigated for how students related their feelings to their professional identity (i.e., Miller's⁵ "thinking, acting, and feeling like a physician"). The model was then placed into the context of Jarvis-Selinger et al.'s³ framework.

Results:

The results indicate students undergo a series of steps that changes their perception of who they are and the professional role of a physician. Specifically, patient ownership served as the catalyst for stimulating students' reflection on who they are and who they are becoming as a form of processing their identity. The steps included: a) Experiencing disorientation, b) re-conceptualizing roles and responsibilities, and c) re-orientation to thinking, feeling, and acting like a physician.

Conclusions:

This study forwards a conceptual model that demonstrates patient ownership is a catalyst for developing a professional identity. Taking responsibility for patient care places students in an unfamiliar role that creates a disorienting experience, fosters reflection, and opens a channel for students to access new perspectives in their development. From this vantage point, the development of patient ownership has potential to facilitate students' professional identity.

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Listening to Our Learners: Internal Medicine Interns' Perceptions of the Educational Value of Bedside Rounds

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Our study explores IM interns' perceptions of the educational experience of bedside rounding and their recommendations for enhancing it.

Background and relevance of the study:

Internal medicine (IM) faculty and residents view bedside rounds as a valuable learning opportunity, yet recent studies show that the frequency of bedside rounding has decreased. When bedside rounds do occur, they tend to focus on completing patient care activities, often to the exclusion of learner-centered education. Prior studies have investigated faculty viewpoints on effective educational strategies for bedside rounds; however, few studies have detailed IM residents' perspectives, and no studies have focused solely on interns, who may have a different perspective from residents given increased demands on their time.

Design and Methods:

We conducted eight focus groups with 33 IM interns at a single hospital site where faculty were encouraged to perform daily bedside rounds on all patients. We recorded, transcribed, and analyzed focus groups using emergent thematic analysis.

Results:

Interns identified five components that influenced their perspectives: institutional factors, faculty skills, rounding structure, educational content, and impact on patient care. Institutional factors, such as geographic proximity of patients and availability of computers in patient rooms, increased satisfaction. Interns appreciated faculty who explicitly set expectations, established a safe learning climate, and displayed passion for bedside teaching. Interns described how patient selection, rounding length, and the format of bedside activities influenced the value of bedside rounds. Educational value was enhanced when content focused on bedside-specific teaching, such as physical exam or communication skills. Bedside rounding often delayed patient care activities unless interns were given explicit permission to place orders or call consults during rounds.

Conclusions:

Interns valued bedside rounds but described multiple factors that impacted their educational experience on rounds. Residency programs may want to consider how they can modify these elements to provide interns with a meaningful and educational bedside rounding experience.

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Measuring faculty adherence to a simulation debriefing framework

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

The purpose of this study is to evaluate how well facilitators adhere to a post-simulation debriefing framework.

Background and relevance of the study:

Simulation based medical education (SBME) is a common and reliable tool in medical education curricula. Post-simulation debriefing is a critical component of the learning process, and multiple frameworks have been established in an attempt to maximize learning during debriefing through guided reflection. This study developed and applied a rubric to measure facilitator adherence to the PEARLS debriefing framework.

Design and Methods:

This study was a retrospective review of facilitator-learner debriefing videos following a simulated clinical encounter for medical students (N=187). The simulation activity was an individual simulation for each student run by one of 32 faculty members who facilitated the student's debriefing session immediately following the completion of the case. Video recordings of the debriefing sessions were quantitatively analyzed using a structured rubric that was designed to measure 13 behaviors from the PEARLS model on which facilitators received prior instruction. Each behavior on the rubric was scored as 0, 0.5, or 1 point quantifying adherence to the PEARLS framework. The aggregate results were used to describe common patterns of debriefing. This study was determined exempt by the Augusta University Institutional Review Board.

Results:

In total, 187 debriefing videos with 32 different facilitators were analyzed. Average scores for each of the 13 PEARLS framework behaviors ranged from 0.04 to 0.971. Seven items had an average of ≥ 0.77 , ten averaged > 0.60 and two averaged < 0.20 .

Conclusions:

Faculty adhere to some behaviors more consistently than others. The majority of behaviors that facilitators scored highly on (indicating adherence to) are directly related to providing instruction or eliciting learner self-reflection. These results suggest that faculty facilitators are more likely to adhere to frameworks that focus on educational behaviors and less likely to adhere to organizational or methodological frameworks.

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Mentorship from the Medical Student Perspective: Identifying a Mentorship Gap

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Our study aims to characterize the medical student's perspective regarding effective mentorship to improve the approach to mentorship.

Background and relevance of the study:

A career in medicine is fraught with challenges from the beginning of medical school until practice. Medical students encounter these challenges early on, leading to stress, depression, and burnout, with 38% of medical trainees reporting burnout by the completion of medical school, 25% of medical students screening positive for depression, and 10% reporting suicidal ideation during medical school. One effort to combat these issues includes improving mentorship programs available to students, as mentorship is known to improve retention and recruitment of students within medicine.

Design and Methods:

We distributed a 10-item survey to MS2-MS4 students regarding roles of mentors in fostering academic success and identifying important characteristics for effective mentorship.

Results:

Characteristics chosen most frequently as critical to effective mentorship included "approachable" "invested in my success" and "honest." Most concerning, 36% of respondents reported they do not have a mentor with three of the qualities most important to them. Of important implications regarding formal mentorship programs, only 18% reported seeking mentorship from their program-assigned mentor as opposed to an informal mentor. Additionally, 33.3% of respondents reported that neither a formal nor an informal mentor checks in with them periodically.

Conclusions:

The data suggest that the expectations of medical students from mentorship programs are not being met via the initiatives that are currently in place at many institutions, which includes a longitudinal mentor assigned throughout a student's four years. Data collection is ongoing for this project and a larger sample size will be available at the time of presentation. The long-term aim is to examine the reasons for the deficiencies in mentorship programs, understand medical students' perceptions on how to improve these mentor relationships, and create methods allowing for better mental wellbeing and decreased burnout in medical students.

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Predicting case presentation behaviors in emergent simulations

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

The purpose of this study was to both evaluate the completeness of the patient information provided by students and to observe student and facilitator presentation behaviors in order to assess current skills and identify areas for improvement.

Background and relevance of the study:

Oral case presentation is an essential clinical skill that medical students learn during their clerkship rotations. During rotations, however, students receive differing methods of instruction between physicians related to aspects such as the format, order, and content of the presentations. Simulation provides a reproducible clinical environment and modality by which students can present important aspects of case information and be assessed in a standardized manner.

Design and Methods:

A facilitator checklist was developed to evaluate the oral case presentations of third-year medical students (N = 189) during a simulation of asthma exacerbation. Data collected through the retrospective analysis of recorded videos of the simulation were analyzed to measure the completeness and order of case information presented to a faculty facilitator at the end of the case. Inter-rater reliability was established using Krippendorff's alpha ($\alpha = .8036$). The data were analyzed using SPSS version 25.

Results:

Students most commonly presented history of present illness (95%) and vital signs (92%), but frequently omitted common information, such as their name (73%), role (53%), and chief complaint (69%) when beginning their presentation. They reported diagnosis (40%) and disposition (20%) infrequently when finishing their presentation. Facilitators did not follow the pre-scripted format in 61% (N = 115) of the simulations. Facilitators interrupted students in 13% (N = 25) of case presentations. Of the students who were interrupted (N = 25), 100% (N = 25) and 92% (N = 23) needed to be prompted for the diagnosis and disposition, respectively.

Conclusions:

Presentation order and content varied significantly from student to student. Facilitator interruption and non-adherence to the script may affect student case presentation performance.

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Preparing for a Best Evidence Medical Education (BEME) Focused Systematic Review: Results of a Scoping Search and Next Steps

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Presentation Objective: BEME requires researchers to submit and receive approval for protocol to conduct systematic reviews under their name. Our systematic review is in progress. The objective of this presentation is to help SGEA researchers complete a scoping search and a protocol for BEME approval. Research Question: Is there a relationship between students' use of MedEd-COTS and their performance on undergraduate NBME or NBOME exams?

Background and relevance of the study:

When selecting Doctor of Medicine (MD) or Doctor of Osteopathic Medicine (DO) students to become residents, the National Resident Matching Program's first, fourth, and sixth most considered factors are national standardized medical exam scores. Research has shown that medical students rely on commercial-off-the-shelf software developed for medical education (MedEd-COTS) developed by third-party companies rather than formal curriculum resources to prepare for national standardized medical exams. A 2004 review was conducted on MedEd-COTS, but our review builds upon this past research by examining the impact of post-2004 features of MedEd-COTS such as question banks, flashcards, and multimedia.

Design and Methods:

We have formed a review group, registered our topic with BEME, and conducted a scoping search. Future steps in this BEME focused systematic review involve conducting interrater reliability with data extraction of eight databases and conference proceedings, quality appraisal, and narrative synthesis to identify trends and issues.

Results:

A scoping search was conducted on September 2nd, 2019, which utilized the three databases ERIC, MEDLINE (PubMed), and PsycInfo. Empirical qualitative and quantitative studies were included. The target audience was 1st to 4th year MD or DO students in the U.S. or Canada. The search yielded 6,801 papers and 21 were considered relevant for the study.

Conclusions:

Scoping search findings identified MedEd-COTS features positively correlated with scores on the NBME Step 1, Step 2, surgery shelf exam, and NBOME COMLEX-USA Level 1 exam.

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Responding to the continuing educational needs of neurology practitioners through NeuroBytes: a new rapid, high-yield, nationwide e-Learning platform

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

We aimed to assess the feasibility, usability, target audience, and effectiveness of NeuroBytes, a bite-sized (<5 min) asynchronous e-Learning program for continuing education of neurology healthcare providers.

Background and relevance of the study:

Rapidly growing advances in medicine necessitate high-yield updates in continuing professional development (CPD). In neurology, a sustainable CPD system is vital given the field's expanding therapeutic options, multiple subspecialties, and vulnerable patient populations. In an effort to offer concise, evidence-based updates to a wide range of neurology professionals, the American Academy of Neurology (AAN) launched NeuroBytes – brief, multimedia videos that provide topic-specific updates to AAN members.

Design and Methods:

NeuroBytes was beta tested from August–December 2018 and piloted from January–April 2019. Usage was assessed by course enrollment and completion rates; feasibility by quantifying the cost and time required to design and release a module; appeal by user satisfaction scores; and effectiveness by self-reported change in practice behaviors.

Results:

A total of 5,130 NeuroBytes member enrollments (1,026+551/month) occurred from January 11–May 28, 2019 with a median of 588 enrollments per module (interquartile range, 194-922) and 37% course completion. The majority of viewers were neurologists (54%) followed by resident trainees (26%) and students (8%). NeuroBytes took 59 hours to develop at an estimated \$77.94/hour. Of the 1,895 users who completed post-course surveys, 82% were “extremely likely” or “very likely” to recommend NeuroBytes to a colleague and 60% agreed that the depth of educational content was “just right.” Only 29% of viewers responded that NeuroBytes would change how they managed many of their patients.

Conclusions:

NeuroBytes is a user-friendly, cost-effective CPD product that delivers concise and relevant updates to neurology practitioners. Future efforts will explore models where NeuroBytes targets patient or trainee audiences and combines with other CPD programs to impact the quality of training, patient care, and clinical practice.

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Simple Reduction: Development of the Quick Teamwork Assessment Scale (Q-TAS) to Improve Operating Room (OR) Patient Care

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Can an easy-to-use operating room (OR) teamwork assessment instrument be developed to guide debriefing in the clinical environment?

Background and relevance of the study:

Debriefing in the operating room (OR) often does not occur due to time pressures preventing adequate reflection. We received a Southern Group on Educational Affairs (SGEA) Medical Education Scholarship Research and Evaluation (MESRE) Grant to develop a refined teamwork assessment tool to address this issue. We report here the result of our endeavor: the Quick Teamwork Assessment Scale (Q-TAS).

Design and Methods:

We refined the Teamwork Assessment Scale (TAS), an 11-item, 2-scale (team-based behaviors [TBB, 5 items] and overall teamwork [6 items, divided into 2 subscales, shared mental model {SMM, 3 items} and adaptive communication response {ACR, 3 items}]) instrument that uses a 6-point Likert-type scale (1=Definitely No, 6=Definitely Yes). First, factor analysis identified key items within each subscale. Next, a comprehensive literature search of OR teamwork tools from 2009-2019 identified common critical constructs. Finally, focus group interviews determined key teamwork themes valued by OR personnel. Collected data was then integrated to design the Q-TAS, which was piloted in an interprofessional, simulation-based student OR team training (SORTT) curriculum.

Results:

The Q-TAS is a 5-item instrument with 3 subscales (TBB [2 items], SMM [1 item], and ACR [2 items]) that uses a 6-point, Likert-type scale, similar to the TAS. Its use to assess team-based performance in the SORTT curriculum demonstrated a statistically significant improvement in all 3 subscales comparing performance across scenarios, consistent with prior data obtained using the TAS.

Conclusions:

A refined teamwork assessment instrument was developed that demonstrates convergent validity within the SORTT curriculum for interprofessional healthcare students. This Q-TAS has the potential to serve as an effective, quick, easy-to-use debriefing tool in the OR clinical environment. Next steps include evaluating the feasibility of using the Q-TAS as a debriefing guide for interprofessional OR teams.

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Small Group Assignments in a First-Year 'Doctoring' Course: Influences on Medical Students' Social Networks

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Is small-group assignment in a first-year “doctoring” course implicated in students’ informal social networks?

Background and relevance of the study:

From admission until entry-into-practice, the journey through medical training is marked by a series of transitions¹⁻³. By providing a stable, non-threatening environment in which to learn, small group-based activities⁴⁻⁷— like those in introductory “doctoring” courses - can help facilitate socialization into the profession and the structure of undergraduate medical school.

Design and Methods:

In late 2018, 138 first-year students at the University of Kentucky College of Medicine’s main campus were invited to participate in a voluntary study examining the transition to professional school. Participants completed a confidential online questionnaire asking them to identify specific peers as: (1) prior acquaintances; (2) friends; (3) advice givers/recipients; and (4) study partners. Small (8-10) group assignments within the required, 9-month long Introduction to Clinical Medicine (ICM) course were noted. The study protocol received the appropriate ethical approval.

Results:

The study response rate was 74.5% (n=103). Students’ informal peer networks ranged in size by type: Prior acquaintance (0-42), friendship (3-88), advisory (0-41), and study partner (0-19). Roughly one-third (34.3%, n=34) reported no ICM small group study partners; however, this same network was comprised entirely of small group peers for 13.1% (n=13). Only students’ advisory networks were also composed exclusively of ICM non-members and members (36.9% and 3.9%, respectively). While small group classmates comprised only 5.4% of “available” M1 peers, they tended to be over-represented in students’ informal networks of study partners (median=20.0%), friends (median=24.0%), and advisors/advisees (median=20.0%) networks.

Conclusions:

Current efforts to ease students’ transition into medical school (e.g., 8-10) may fail to capitalize on the intimate, small-group structures of introductory “doctoring” courses. Future research might examine the role of social networks in professional identity formation, psychological well-being, and/or academic performance.

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Student Perceptions of Mixed Learning Clerkships

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

To determine the impact of mixed-year clerkship teams on student team dynamics.

Background and relevance of the study:

UT Southwestern implemented a new curriculum in the Fall of 2015 that increased the clerkship phase from 1 year to 18 months and made it necessary to combine MS2 and MS3 years on the same clerkships from January to June. Each clerkship handles this mixing differently: some create mixed-year teams, others group students together with their peers, while some outpatient clerkships do not warrant formation of teams.

Design and Methods:

Students in the classes of 2020 and 2021 were sent a brief voluntary survey on their mixed clerkship experiences and were invited to participate in a follow-up 30-minute focus group interview. Purposeful focus groups of 4-5 students were created from each class. The groups participated in a structured interview to learn more about perceived advantages and disadvantages of mixed clerkships. Incentives for interview participation included a \$15 gift card and pizza dinner. Interviews were audio-recorded and transcribed. Transcripts were de-identified and validated by the interviewees prior to in-vivo coding and thematic analysis. The thematic coding was verified by 2 other individuals.

Results:

65 students responded to the survey. 2 focus groups from each class were interviewed. Interviewees reported overall positive experiences with mixed clerkships. Common perceived advantages as an MS2 included receiving practical advice from upperclassmen and fostering new relationships. Common advantages as an MS3 included satisfaction in teaching underclassmen and encouragement from their enthusiasm. Perceived disadvantages were less commonly mentioned but still present, and mostly centered around being compared to other classmates.

Conclusions:

Students reported more positive experiences and perceived advantages than negative experiences and disadvantages, suggesting a positive impact of mixed learning clerkships. Further research into educational outcome assessments, such as shelf exam scores and attending evaluations, is needed to provide a fuller picture of the impact of the new curriculum.

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Student Performance During Simulated Patient Encounter Has No Impact on Debriefer Adherence to PEARLS Debriefing Model

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Does student performance during simulation impact debriefer behavior during debriefing.

Background and relevance of the study:

Debriefing is an important and necessary component for effective simulation education. Effective debriefing is a learned skill. The PEARLS (Promoting Excellence and Reflective Learning in Simulations) debriefing model incorporates debriefing best practices into a scripted debriefing model. There are no published findings on the effect of student performance on debriefer behavior.

Design and Methods:

Third-year medical students participated in a video-recorded, formative simulated patient encounter during which they evaluated and treated a high-fidelity mannequin patient for an acute asthma exacerbation. A trained facilitator ran the simulation, assessed the student using a standardized rubric reflecting the PEARLS model, and then conducted a debriefing. Following the debriefings, the recordings were analyzed for facilitator adherence to the PEARLS model. Debriefers were assigned a score from 0 to 13, with 13 being perfect adherence to the model. We defined critical actions as conducting a focused history, performing a heart/lung exam, giving oxygen and giving a bronchodilator. Administration of bronchodilator therapy was defined as definitive intervention for asthma exacerbation, and defined the time until bronchodilator ordered as the Time to Definitive Intervention (TTDI).

Results:

Mean debriefing score of 193 students that completed all critical actions was 8.68, and 8.52 for those that did not ($P = 0.62$). Mean debriefing score for the 32 facilitators was 8.57 if at least the bronchodilator was given, and 9.14 if not given ($P = 0.25$). Comparing TTDI and debriefer scores as continuous variables produced a scatter plot with no relationship between the two variables. Comparing student deviation from the mean TTDI to debriefing score, produced a similar scatter plot.

Conclusions:

Student performance in simulation had no impact on debriefer performance, suggesting that the PEARLS model is effective in helping facilitators debrief a quality simulation educational experience regardless of how well learners perform.

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Student Self-Directed Use of an NBME Self-Assessment Study Tool as Preparation for the NBME Comprehensive Basic Science Exam: Implications for Scoring Outcomes

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Our purpose was to examine how students' self-directed learning choices affect assessment outcomes, focusing on student-chosen strategies for use of the NBME Comprehensive Basic Science Self-Assessment(CBSSA) as preparation for the NBME Comprehensive Basic

Background and relevance of the study:

At some medical schools, passing the CBSE is required for progression to clinical rotations. For several years, our students were provided with an optional-use voucher for the CBSSA, to help prepare for CBSE. Students had freedom to select options for use of this study tool, including timing, pacing, and even whether to use it.

Design and Methods:

We examined approaches to CBSSA use and CBSE scores for five recent cohorts of medical students at Baylor College of Medicine (n=836). We tabulated multiple regression analysis and independent-samples t-tests in SPSS to examine for association between CBSE score and CBSSA pacing (Self-Paced/Standard-Paced), timing of use (number of days before CBSE), and choice of whether or not to use CBSSA at all. In our regression model, we included a control for cumulative performance in our preclinical curriculum (Preclinical-GPA).

Results:

Our regression model explained 69.8% of CBSE score variance ($p < 0.001$); all variables were statistically significant predictors ($p < 0.05$ or lower). After controlling for preclinical-GPA, standardized-Beta coefficients indicated CBSSA score was the strongest predictor of CBSE score (Beta=0.541), followed by chosen timing of CBSSA use (Beta=0.103), and chosen pacing-type (Beta=0.044). Students who used CBSSA earlier performed better than those choosing later (B=0.067, $p < 0.001$). Students choosing Standard-Pace option performed better than those choosing Self-Paced (B=0.809, $p=0.022$). Overall, those using CBSSA at all scored higher on CBSE (mean=72.22) than those who did not (mean=66.9) ($p=0.001$).

Conclusions:

When given freedom to use study tools in a self-directed manner, some students may elect approaches of greater benefit than others. Empirical examination of outcomes following these

choices, and sharing of resulting information with learners, may promote beneficial choices in self-directed learning.

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Students Who Leave Optional Comments on Course Evaluation Surveys: Are They Representative?

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

Do medical students leaving optional comments on course evaluation surveys differ from non-commenting students in overall evaluation of course quality, or performance in the course?

Background and relevance of the study:

Students' course and teaching evaluations can provide information for improvement^{1,2}. However, questions have been raised regarding validity, relevance, and bias related to teacher characteristics³. Optional text comments provided on course evaluations may be used to clarify trends in scale-based survey responses, but they may introduce additional biases into curriculum-improvement processes if they come from non-representative subsets of students.

Design and Methods:

We examined AY2018-19 course-evaluation data from five randomly-selected pre-clinical courses (Nervous System (NS), Gastrointestinal (GI), Respiratory, and Patient-Physician-Society 1&2 (PPS1&2)), and all four of our clinical-selective courses (Orthopedics, Otolaryngology, Urology, Ophthalmology). We examined whether presence/absence of text-comment responses associated with overall course rating (7-point scale item), and overall performance (course-cumulative score). We used SPSS to tabulate descriptive statistics, and Mann Whitney U and Chi-squared significance tests.

Results:

Enrollment was between 178-186 for the pre-clinical courses and between 83-90 for the clinical-selective courses. Course evaluation response rates ranged 75%-100%, though students leaving comments represented a notably-smaller proportion of enrolled students (8 of 9 courses below 45%). Optional-commenters rated the course significantly lower on the overall quality item for 4 of 9 courses (e.g. PPS1 $U=1476.50, p < 0.001$; Cohen's $d=0.58$ -moderate effect). For overall course performance, 2 of 9 courses showed significant difference between commenters and non-commenters; both courses showed commenters earning higher scores (e.g., NS $U=1301.50, p=0.004$; Cohen's $d=0.51$ -moderate effect).

Conclusions:

For courses showing a significant group difference, students leaving text comments provided lower overall course evaluations. When this response bias exists, educators focused on text-comment evaluation data may be responding to less-favorable views, which are not necessarily representative. In contrast, we found no evidence that commenters are "low-performing retaliators" - in two courses we found commenters had significantly higher scores.

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Students' metacognitive awareness at the beginning of Medical School

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

We sought to describe medical students' self-assessed metacognitive awareness at entry and measure any differences after experiencing their first course.

Background and relevance of the study:

Physicians must have habits of self-directed lifelong learning¹. A key component of self-directed learning is self-regulated learning²⁻³. In turn, metacognition is a key component of self-regulated learning⁴⁻⁵. There is a paucity of information measuring a medical student's self-assessment of their metacognitive abilities across the UME continuum.

Design and Methods:

We administered the Metacognitive Awareness Inventory (MAI) to the entering class of 2018 at two-time points: prior to orientation and after their first module. The MAI is a 52-question validated instrument testing the major domains of 1) Knowledge of Cognition and 2) Regulation of Cognition. Each of the major domain is comprised of 3 to 5 sub-domains.

Results:

Means of the cohort between orientation and end of the module were statistically analyzed to determine if there were any significant changes in each of the sub-domains of the MAI. No significant differences were found in students' self-assessment scores between the first and second surveys. To determine if there were significant differences among students' scores within the sub-domains, additional analyses were conducted. Students' scores on Debugging (M = 4.2, SD = 0.5) were statistically higher than the sub-domains of Conditional Knowledge (M = 4.1, SD = 0.5), Comprehension (M = 3.8, SD = 0.6), Planning (M = 3.7, SD = 0.6), and Evaluation (M = 3.6, SD = 0.7). Students' scores on Evaluation were statistically lower than all other sub-domains.

Conclusions:

Our data suggest that the students' metacognitive awareness does not significantly change over the first semester. We found students' scores are highest in the metacognitive domains of Debugging and lowest in Evaluation, both of which are in the major domain of Regulation of Cognition. These results can be used to inform efforts to enhance medical student learning.

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What Does Context Have To Do With Anything? The Study of Professional Identity Formation of Physicians Considered Underrepresented in Medicine

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

This study examines how medical students underrepresented in medicine (UiM) negotiate professional identity formation (PiF). The authors take into account race, ethnicity, and the larger socio-historical contexts these students navigate throughout their m

Background and relevance of the study:

Medical education has largely ignored how aspects of race, ethnicity, and the larger socio-historical context work shapes the professional identity of UiM students and physicians^{1,2}. For African-American/Black students in particular, research in social psychology has demonstrated that underrepresented minorities construct professional identities differently than other racial groups³. Our study examines how African-American/Black medical students engage in identity negotiation as they construct their professional identity.

Design and Methods:

In this qualitative study, 14 Black/African American medical students were recruited from the Medical College of Georgia and Emory University between September 2018 to April 2019. Using constructive grounded theory and Swann's model of identity negotiation^{4,5}, interview data were analyzed for how students negotiate their racial and professional identities within medical education.

Results:

The results indicate how UiM students were cognizant of the negative stereotypes attributed to Black individuals, and how this potentiates the medical community to view them negatively. Students countered this by employing identity cues and strategies to bring the community's perceptions in line with how they perceived themselves – Black and a physician. Specifically, students actively worked to integrate their racial and professional identities by “giving back” to the African American community. Community initiated mentoring from non-UiM physicians helped to reify students' hope that they could have a racialized professional identity.

Conclusions:

The study of PiF in UiM students and physicians must account for race, ethnicity, and the larger socio-historical contexts that shape how minoritized individuals see and interact with the community. Our study demonstrates that Black/African-American physician trainees negotiate

their PiF within a challenging socio-historical context, and thus must be acknowledged and studied further.

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What Does It Mean To Be a Physician? Exploring Social Imaginaries of Medical Students

Submission Type: Research Abstract

Accepted as: Poster

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Abstract Body:

Research Statement/Research Question:

This study examines how medical students interpreted a new social imaginary of the physician-patient relationship based on the interactions and discussions with local community members.

Background and relevance of the study:

The long-withstanding social contract between physicians and society has been criticized for perpetuating the status quo and assuming a position of privilege¹. Previous research has shown that developing new "social imaginaries," defined as values that are important and unite groups with a common purpose, renews this contract, minimizes burnout, and fosters professionalism². Our study seeks to examine new social imaginaries after compelling discussions with underserved patients in our community.

Design and Methods:

First-year medical students identified through the Learning Community project participated in a 2-hour forum at a local church to ask community members questions about their experiences with the healthcare system and how to better serve their needs. Of the 45 first-year students who participated, 35 completed reflections were submitted, de-identified, and analyzed using Glaser's classic grounded theory, constant comparative analysis, and Taylor's model of modern social imaginaries as an analytical lens³.

Results:

The results indicate that student participants identified seven main themes regarding what community members conceptualize as their ideal physician encounters including active listening (n=22), physical touch (n=18), and compassion (n=16). Responses also indicated that only 5.6% of the students felt that the pre-clinical curriculum was adequately preparing them for what local community members identified as important in patient care. However, students recognized that two aspects of the curriculum, Physical Diagnosis (n=12) and volunteering/community engagement (n=9), were congruent with the expectations of future patients.

Conclusions:

The results suggest that first-year students who participated in the forum have an increased awareness of the community's patient care needs and desires and have identified areas of the curriculum that are preparing them for their role as a physician who embodies compassion, empathy, and professionalism.

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Measuring the Aspirational: Innovation Configuration Mapping for a Redesigned Curriculum

Submission Type: Research Abstract

Accepted as: Small Group Discussions

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Abstract Body:

Research Statement/Research Question:

The goal of this evaluation was to develop and validate an Innovation Configuration Map (IC Map) for a new, redesigned medical school curriculum.

Background and relevance of the study:

An IC Map is one of three diagnostic dimensions in the Concerns-Based Adoption Model (CBAM), which is being used to measure the change management process during a curriculum redesign at the Medical College of Georgia. CBAM has been shown to be valid and reliable in a variety of educational contexts, and was updated in 2006 to increase its precision in modern educational environments. The IC Map illustrates what successful implementation should look like for participants in the change process. Without this shared vision, individuals may perceive the features and intended objectives of an innovation in diverse and unexpected ways. An IC Map is also an essential component in the study of innovation implementation, as it provides concrete objectives to assess.

Design and Methods:

An IC Map contains both critical and related components of an innovation. Within each component, there will be one or more dimension, which can be implemented in a variety of ways; each combination is a variation. Implementation requirements are also defined so that individual support structures and resources are documented. The resulting IC Map presents a range of implementation possibilities, from ideal outcomes to obstructionist behaviors, that can be referenced throughout and at the completion of the process.

Results:

The development of the IC Map required a flexible, iterative approach, as did the validation process. However, within four months, a complete, 27-page Innovation Configuration Map was developed and validated with stakeholders.

Conclusions:

The development and validation of an IC Map for a complex innovation such as a medical school curriculum has unique challenges, but can be successfully completed. The resulting IC Map can be used for both communication to stakeholders and evaluation of outcomes.

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Estimating Trustworthiness for Clinical Responsibilities: Lessons from cluster analysis and growth modeling approaches

Submission Type: Research Abstract

Accepted as: Workshops

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Abstract Body:

Research Statement/Research Question:

Determining whether medical learners can be entrusted to perform an array of professional activities is an important assessment goal from a competency-based perspective¹⁻³. In addition to specific clinical abilities, the characteristic of trustworthine

Background and relevance of the study:

This project seeks to explicitly measure the components of trustworthiness and determine the extent to which trustworthiness can be estimated from longitudinal milestones-based assessments. The MD program under study is part of an established competency-based assessment (CBA) program based on ACGME core competency domains^{7,8}.

Design and Methods:

CBA data were aggregated across clerkships for one class of medical students (over 2500 observations). Competencies addressing truthfulness, conscientiousness, and discernment were assessed. Mode-based clustering and growth model analyses were developed to estimate the likelihood that individual learners are ready for higher-level responsibilities.

Results:

The three trustworthiness competencies are moderately correlated in a positive direction. Cluster analyses based on 1) modal milestone ratings and 2) growth trajectories reveals distinguishing patterns across the student population that can be used to estimate trustworthiness (or potential risk). The growth trajectory approach allows the inclusion of more learners and data points. Preliminary analysis indicates that high trustworthiness in clerkship year is predictive of high post-clerkship performance on trustworthiness indicators.

Conclusions:

Milestone-based assessments can be combined to provide a practical estimate of student general trustworthiness across clinical settings and activities. Clustering based on growth trajectory is a promising analytical approach to this data. This information can be used to inform supervision, guide remediation and signal advancement.

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Leveraging Medical Simulation to Teach Interprofessional Education (IPE): A Pilot Study

Submission Type: Research Abstract

Accepted as: Workshops

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Abstract Body:

Research Statement/Research Question:

The goal of this study was to develop, implement, and evaluate an IPE medical simulation faculty training program that employed an IPE teaching method using the example of medical simulation which was lacking on a health sciences campus at a Southeastern

Background and relevance of the study:

Interprofessional education (IPE) is an educational technique that involves two or more learners from various professions learning from and with each other to increase collaboration among the learners and improve health care for their patients. Medical simulation can be described as any type of aid that can simulate a technique that is used in a clinical setting. Interprofessional education is a teaching practice that involves training health care professionals together in the educational environment so the professionals will be prepared to work together later in the clinical arena which was lacking on the health sciences campus.

Design and Methods:

A mixed- methods study was developed to explore the ways in which clinical simulation may be used to support effective IPE faculty development and the extent to which IPE knowledge and perceptions changed as a result of the training. A pre- and post-course survey was given to evaluate knowledge and perceptions of IPE and semi-structured focus groups were conducted post course. Data analysis included deductive and inductive coding of focus groups responses into themes, and a paired t-test of the pre- and post-survey data.

Results:

The findings included statistically significant increases in knowledge, including the definition of IPE and communication skills needed for IPE, along with improved perceptions of the need to work together and seek advice from other professionals. These results were corroborated by the focus group responses. There was also a strong interest by faculty to implement IPE into their curricula.

Conclusions:

The study demonstrated that clinical simulation is an effective modality through which to develop faculty in interprofessional education.

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Small Group, Workshop and Panel Discussion Abstracts

Fostering a Positive Learning Environment: Approaches for Engaging the Larger Learning Community

Submission Type: Small Group Discussions

Accepted as: Oral Abstract Presentation

Authors:

Christine Ford, McGovern Medical School, Univ of Texas Health Science Center at Houston

Michael Ainsworth, University of Texas Medical Branch

John Riggs, McGovern Medical School, Univ of Texas Health Science Center at Houston

Vineeth John, McGovern Medical School, Univ of Texas Health Science Center at Houston

Abstract Body:

Rationale:

Student mistreatment continues to be a pressing issue in medical education, despite many institutional initiatives aimed at addressing the problem^{1,2,3}. Several rationales exist offering explanations why mistreatment happens⁴, and recently the surgical specialties have begun to investigate the unique stressors of their environments that contribute to unprofessional behavior^{5,6}. A qualitative study of students' perceptions of mistreatment includes incidents that do not fit the AAMC definition but that students identify as harmful nonetheless⁷. Other scholars have proposed the idea of learner neglect, which encompasses teacher behaviors and attitudes that create a suboptimal learning environment but do not rise to the level of mistreatment⁸.

Interventions that examine the impact of positivity--whether through role models, recognition of professional behaviors, or other means—are not well-reported, despite the recognized impact of positivity on human performance⁹.

By moving the conversation around mistreatment away from addressing a list of “banned behaviors” and focusing on the more subtle actions that influence the learning environment, educators can engage students, residents, and faculty in the ways they all contribute to fostering a positive learning culture. This small group discussion will allow participants to reflect on their institutions' learning environment and to discuss approaches for promoting positive culture change among all members of the learning community.

Learning Objectives:

- Define what the learning environment is
- Explain the difference between mistreatment, a negative learning environment, and a positive learning environment
- Discuss approaches to promote a positive learning environment for all members of the learning community
- Identify best practices from the literature for fostering an inclusive, optimal learning environment

Session Methods and Format:

- 5 minutes: Introductions—why the speakers are invested in this topic, why attendees wanted to come

- 5 minutes: Definitions, examples, how they relate to each other—mistreatment, negative learning environment, positive learning environment
- 10 minutes: Overview of how selected schools are addressing problems in the learning environment
- 10 minutes: What presenters' schools have done
- 15 minutes x 3: Divide participants into smaller groups, ask them to discuss the following questions (10 minutes per question), then report back to larger group (10 minutes per question)
 - How does your school promote a positive learning environment across settings and learners?
 - What role does each member of the learning community play in fostering a positive learning environment?
 - Pick one member of the learning community you feel is currently under-utilized in your institution and identify ways they could contribute more towards building an optimal learning environment.
- 15 minutes: Wrap up, take final comments/questions, challenge participants to identify one thing they gleaned from the discussion to take back to their institution

Experience:

Christine Ford conducts educational development workshops on creating a positive learning environment.

Michael Ainsworth is Senior Associate Dean for Educational Performance.

John Riggs is Director of the Learning Environment for Lyndon B. Johnson Hospital.

Vineeth John is Director of the Learning Environment for Memorial Hermann Hospital.

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MASTERing the learning environment: Best practices in Effective Classroom Management

Submission Type: Workshops

Accepted as: Oral Abstract Presentation

Authors:

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Sarah Dolezal, University of Texas Medical Branch School of Medicine

Abstract Body:

Rationale:

Maximizing learning should be the goal of every educator. Disruptive behaviors, off-task behaviors like inappropriate technology usage, learners working on materials for other courses, cheating and other inappropriate behaviors can be detrimental to the amount of time spent on teaching and learning. Classroom management is the process of establishing procedures and routines, engaging students to maximize learning, and utilizing techniques to address conflicts in order to facilitate learning. In this session, participants will learn the foundational theories and best practices of classroom management using the easy to remember MASTER© model for classroom management.

- Model professionalism
- Address issues as they arise
- Set the scene for learning
- Time is managed to maximize learning
- Expectations are clear
- Routines and procedures are consistent

The MASTER© model is a clear, concise model that educators can use to improve the management of their instructional sessions.

Learning Objectives:

Participants will employ foundational theories on classroom management and the MASTER model for classroom management to:

1. Discuss current issues with classroom management
2. Compare and contrast classroom management practices
3. Identify solutions for classroom management
4. Develop a classroom management plan for educational activities using a graphic organizer

Session Methods and Format:

10 minutes- Introductions and overview

Present session objectives, theoretical foundations and model of classroom management, 15 minutes – small group, gallery walk. Brainstorm best and worst class, why was it the best and worst, how did learners behave and why. Write responses on sticky notes. Participants will post sticky notes on appropriate posters of MASTER model. Then read comments and discuss as a group.

20 minutes – jigsaw – small group. Participants will read and discuss 1 of the first 5 areas of the Master model, then new groups will form with 1 person from each group who will explain that part to their new group.

15 minutes – routines and procedures – small and large group. Participants will discuss transitions, problems and solutions for dealing with them then practice how to plan for and implement them.

20 minutes – theory to practice – individual, small group. Participants will complete a graphic organizer using the Master model for educational/learning environments then share/discuss with small group

10 minutes- Large-group Wrap-Up. Debrief on classroom management; review resources on classroom management; questions and answers.

By the end of this workshop, participants will have an enhanced understanding of the theoretical basis for classroom management and specific classroom management strategies to integrate into their practices.

Experience:

Dr. Everling has a PhD in Curriculum and Development and over 25 years of education experience including faculty development in the areas of classroom management and effective classroom practices.

Mrs. Dolezal has a Master of Science degree in Instructional Design and Technology, with almost to 20 years’ experience in education including faculty development in medical education.

References:

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Evaluating Teaching Effectiveness: Why Diverse Stakeholder Perspectives and Perceptions Matter

Submission Type: Panel Discussion

Accepted as: Panel Discussion

Authors:

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Sara Sherman, Florida International Univ, Herbert Wertheim College of Medicine

Denise Kay, University of Central Florida College of Medicine

Jenny Fortun, Florida International Univ, Herbert Wertheim College of Medicine

Maria Stevens, Florida International Univ, Herbert Wertheim College of Medicine

Juan Cendan, University of Central Florida College of Medicine

David Harris, University of Central Florida College of Medicine

Abstract Body:

Rationale:

Research on teacher effectiveness and its evaluation has resurged with an increasing interest in whether traditional methods currently in place are valid. While institutions continue to discuss, reformulate, and implement evaluation measures, a greater question considers whether all necessary stakeholders are included in this discussion with subsequent actionable change resulting from this engagement. Often key stakeholders, such as the student, faculty, assessment and evaluation personnel, and leadership are at odds, or unaware of each other's perspectives. Absence of these individual's voice in the development and implementation process creates a pixelated picture of a sensitive topic - teacher effectiveness and what or how we assess, what is done with the data collected and ultimately the impact it has on the individuals assessed. As a result, discussions surrounding practices at various institutions have surfaced as a topic requiring timely attention.

Learning Objectives:

- Define stakeholders relevant to a teaching evaluation process
- Identify personal gaps in understanding the process, purpose, and stakeholders necessary for effectively evaluating teacher effectiveness
- Recognize the importance of an evaluation process that solicits various stakeholder perspectives
- Explore gaps in validity for different models and different stakeholder perspectives
- Describe innovative approaches to assess teacher effectiveness
- Identify next steps for implementation of additional or revised methods of evaluating teacher effectiveness

Session Methods and Format:

Panel comprised of various stakeholders: 1 student, faculty developer, faculty member/course director, educational psychologist (moderator), member of program evaluation committee, academic chair, and an academic dean.

A discussion will take place where each panelist will answer the following questions:

1. What do I know about the evaluation of teaching effectiveness and what does it mean to me?

2. What does the evaluation of teaching effectiveness look like at my institution? What tools are used for this process?
3. What do I need from this process in my specific role?
4. Who are other stakeholders that you wish you had more opportunities to engage with surrounding the topic of evaluating teacher effectiveness?
5. From my point of view and in my role, what gaps have I identified that need to be addressed?
6. What next steps have you taken to remediate the gaps and move your institution and its stakeholders forward?

Experience:

Dr. Lemus is an Assistant Professor and Director of Pre-Clerkship Faculty Development, who oversees programs relating to teacher effectiveness at FIU-HWCOM.

Sara Sherman is a second-year medical student and former teacher who participates in programs that evaluate teaching effectiveness.

Dr. Kay is a Counseling and Educational Psychologist and Assistant Professor in Medical Education at UCF-COM with extensive teaching experience in education and faculty development.

Dr. Fortun is an Associate Professor and Assistant Dean at FIU-HWCOM, who is involved in curriculum planning, implementation and evaluation.

Dr. Stevens is an Assistant Professor and Course Director for Clinical Skills at HWCOM.

Dr. Cendan is professor of surgery and has been Chairman of the Department of Medical Education at UCF since 2014.

Dr. Harris is an Associate Professor of Physiology and serves as the Chair of the Program Evaluation Subcommittee and past president of UCF COM's Faculty Council.

References:

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Models, Challenges and Outcomes in Post-Baccalaureate Pre-Health Bridge Programs

Submission Type: Panel Discussion

Accepted as: Panel Discussion

Authors:

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Fontanez-Nuin, Ponce Health Sciences University School of Medicine
Maureen Cullins, Duke University School of Medicine
Jaehwa Choi, Mercer University School of Medicine
Leonor Corsino, Duke University School of Medicine
Kathryn Andolsek, Duke University School of Medicine

Abstract Body:

Rationale:

Post-baccalaureate pre-health bridge programs have evolved over the past 50 years to assist applicants in acceptance to healthcare programs¹, and provide a foundation for future success. Originally these programs had a remedial focus, and now are commonly used by diverse students for academic enhancement and to continue academic activities during their gap year. To date, a significant number of matriculating medical students have completed one of these programs. Programs differ in regard to their mission and focus, some enhance students' academic credentials and others provide premedical prerequisites for "career changers."^{2,3} Some offer pre-health undergraduate coursework, while others result in a graduate certificate or master's degree. Programs last from 9 months to 2 years, can involve clinical, community or research activities, and may guarantee interviews or acceptances to healthcare programs. Some are focused on "pre-med" while others prepare students for varied healthcare careers. Some are focused on a particular mission such as increasing admission of students from groups underrepresented in medicine, students from state health shortage areas, or those with an interest in primary care. Cost of attendance, part time/full time, cohort-based and financial assistance options vary.

Learning Objectives:

- Describe successful models for post-baccalaureate pre-health bridge programs and identify best practices.
- Highlight challenges of administering these programs.
- Identify mechanisms to assess learner, faculty and program outcomes.

Session Methods and Format:

Speakers represent different models of post-baccalaureate pre-health programs. They will address key characteristics of and challenges in their programs including

- 1) program model/length,
- 2) curriculum and assessment,
- 3) recruitment strategies,
- 4) program outcomes, and

5) special characteristics (clinical activity, research, community service, innovation). The moderator will facilitate the discussion of each section for 10 minutes, actively engaging the audience around typical challenges and how each program has addressed them. She will conclude the session with a concise summary. Key resources will be shared, including a road map to starting a post-baccalaureate bridge program or strategies for evaluating an existing one.

Experience:

Dr. Weiler has been the Academic Program Director and teaching faculty in the GCP at FIU-HWCOM for the past 4 years.

Dr. Fontanez is the Assistant Dean for MSMS and teaching faculty at PHSU-SOM.

Dr. Roller has been engaged in premedical programs since 1994 and is the Administrative Program Director and teaching faculty in the GCP at FIU-HWCOM.

Dr. Moulik is the course director for Medical Physiology in the GCP at FIU-HWCOM.

Ms. Cullins is Associate Director of the Duke MBSP and is the Senior Advisor.

Dr. Corsino is Associate Director of the Duke MBSP and directs the selective program

Dr. Choi is a faculty member of the Master's Programs at Mercer University SOM

References:

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“One for All, All for One:” Faculty Learning Communities as Resources for Faculty Resilience, Vitality, and Scholarship in Health Professions Education.

Submission Type: Small Group Discussions

Accepted as: Poster

Authors:

Judith Aronson, University of Texas Medical Branch School of Medicine

F. Marconi Monteiro, University of Texas Medical Branch School of Medicine

Abstract Body:

Rationale:

Faculty Learning Communities (FLCs) foster faculty collaboration on teaching and learning, nourish scholarship, and encourage reflection on teaching and teachers¹. Learning communities have positive impact on attitudes and behaviors among college faculty and medical students². Little information exists on the impact of FLCs on faculty morale, well-being, and revitalization. Burnout among faculty at academic medical institutions is a growing concern. Factors leading to burnout include decreased time for scholarly work, increasing clinical demands, decline in research funding, and sense of loss of autonomy and de-valuation of the teaching mission due to financial imperatives. Academic physicians and researchers as life-long learners choose academia because of the joy in learning and teaching. FLCs may provide the kind of “inspiration repletion” that sometimes lacks in burnout conversations³. As social engagement and membership in community are reported contributors to resilience, participation in FLCs may improve faculty morale and well-being while increasing scholarly productivity. This small group discussion will explore faculty-initiated strategies to rekindle enthusiasm, promote scholarship, and improve teaching and learning through the formation of FLCs.

Learning Objectives:

Participants will:

1. Describe the contribution of FLCs to faculty development in health professions education;
2. Discuss threats and opportunities related to faculty wellness in health professions educational settings;
3. Analyze the impact of an FLC on faculty scholarship and wellness;
4. Apply principles and guidelines for the formation of FLCs at their own institutions.

Session Methods and Format:

The session will combine interactive general group discussions and small group activities.

Large group session (20 minutes)

- Welcome, introductions, and a brief presentation on the purpose, types, and logistics of faculty learning communities; participants will describe their own experience with FLCs.

Small group activity (20 minutes)

- Participants will discuss barriers, opportunities, and strategies for faculty wellness and scholarship in their own institutions.

Debriefing (10 minutes)

- Table groups will identify commonalities across small groups in barriers and opportunities.

Large group session: Case study (5 minutes)

- Presenters will describe their experience with FLC creation at their home institution.

Small group activity and debriefing (25 minutes)

- Participants will analyze outcomes of the FLC at the presenters' institution; output will be gathered from table discussions.

Conclusion (10 minutes)

- Session will conclude with brainstorming to generate ideas regarding forming FLCs and establishment of collaborations among participants.

Experience:

Judith Aronson, MD, Professor of Pathology and University of Texas Distinguished Teaching Professor, has collaborated with Dr. Monteiro to create a cohort- and topic-based Faculty Learning Community at UTMB.

F. Marconi Monteiro, EdD, Senior Medical Educator, Office of Educational Development directs faculty development and is introducing the concept of Faculty Learning Communities at UTMB School of Medicine.

References:

1. Cox, M. "Introduction to Faculty Learning Communities", in Cox M and Richlin L eds. Building Faculty Learning Communities, Chapter 1, New Directions for Teaching and Learning , No. 97. Wiley and Sons Inc, Hoboken NJ, 2004.
2. Tackett S et al. "Associations between learning community engagement and burnout, quality of life, and empathy among medical students". International Journal of Medical Education, 9:316-322, 2018.
3. Lefkowitz A. "Inspiration Repletion: A missing ingredient in Resident Wellness". Academic Medicine. 92(7):904, 2017.

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Accelerated Medical School Curricula to Individualize Medical Education

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Catherine Coe, University of North Carolina at Chapel Hill School of Medicine
Betsy Jones, Texas Tech University Health Sciences Center

Abstract Body:

Rationale:

Several institutions across the country have developed the accelerated curricula as a means to enhance workforce development. The programs support a three-year MD curriculum and are often linked to affiliated residency programs. The nature of these programs allows implementation of longitudinal educational objectives that span the undergraduate medical education (UME) and graduate medical education (GME) pipeline. They also allow for students to identify early in their training and receive an individualized curriculum. These programs offer not only financial benefit to the students (one less year of tuition and often paired with scholarship money), but also create a unique learning environment. Innovation within medical education is of paramount importance as we seek to train well-rounded, physicians to meet the needs of our country. This session will highlight the accelerated programs at the University of North Carolina and Texas Tech University Health Sciences Center and discuss the accelerated curricula as a means for workforce development as well as student individualization.

Learning Objectives:

- Identify key steps to develop and implement an innovative 3-year medical school curriculum
- Evaluate the potential impact of a 3-year program in encouraging workforce development, reducing student debt, enhancing the UME-to-GME continuum, and supporting competency based education.
- Discuss the opportunity to develop longitudinal, competency-based assessment across the UME-GME continuum.
- Understand requirements for development of an accelerated program as they relate to the Liaison Committee on Medical Education (LCME) and National Resident Matching Program (NRMP)

Session Methods and Format:

The panel presentation will feature representation from the University of North Carolina and Texas Tech University Health Sciences Center. Each school will detail their program briefly followed by highlights of similarities and differences. They will then engage with the participants regarding steps to initiate an accelerated curriculum as well as the opportunity for competency based assessment across the continuum.

- Welcome/ Introductions and Accelerated Pathways background and context – 5 min
- University of North Carolina and Texas Tech Health Sciences program presentations (10min each) – 20min
- Table-top participant discussion focused on key issues: program development, learner assessment, UME-to-GME continuum, competency based pathways, workforce issues, primary care vs. subspecialty care pathways—20 minutes

- Table reports and large group discussion—20 minutes
- Final questions from the audience and wrap up – 20 min

Experience:

Catherine L. Coe, MD – Director of the FIRST Program at the University of North Carolina with experience in development of accelerated curricula and expansion across specialties and statewide partners.

Betsy G. Jones, EdD – Co-Director of the Family Medicine Accelerated Track (FMAT) at Texas Tech University Health Sciences Center with expertise in medical education and rural workforce development.

References:

1. Cangiarella J, Fancher T, Jones B, Dodson L, Leong SL, Hunsaker M, et al. Three-Year MD Programs: Perspectives From the Consortium of Accelerated Medical Pathway Programs (CAMPP). *Acad Med.* 2017;92(4):483–490.
2. Leong SL, Cangiarella J, Fancher T, Dodson L, Grochowski C, Harnik V, et al. Roadmap for creating an accelerated three-year medical education program. *Med Educ Online.* 2017;22(1):1396172.
3. Cangiarella J, Gillespie C, Shea JA, Morrison G, Abramson SB. Accelerating medical education: a survey of deans and program directors. *Med Educ Online.* 2016 Jun 13;21:31794.

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Building a Comprehensive Step 1 Preparation Program

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Stacy Shields, University of Texas Medical Branch School of Medicine

Ruth Levine, University of Texas Medical Branch School of Medicine

Norma Perez, University of Texas Medical Branch School of Medicine

Abstract Body:

Rationale:

The USMLE Step 1 examination has significant implications for both medical schools and their students. As such, the development of effective preparation programs is important. The University of Texas Medical Branch conducted a pilot Step 1 preparation program with the goal to comprehensively meet students' needs. The program included various components such as school-issued Comprehensive Basic Science Examinations (CBSE), a peer mentoring program, webinars, a Step 1 elective course, wellness programming, and key academic policies. The presentation will provide participants with an overview of the development, implementation, and evaluation process of the program. Session participants will work in small groups to explore program strengths and areas for improvement with a focus on providing a space to share resources and ideas across institutions.

Learning Objectives:

Upon completion, participants will be able to (1) summarize key elements for student success on the Step 1 examination; (2) adapt the program presented to design a Step 1 program that meets their institutional needs and resources; and (3) identify strengths and areas for growth in Step 1 preparation programs and generate ideas for future programming.

Session Methods and Format:

The presentation will begin with a 20 minute overview of the development, implementation, and evaluation process of the comprehensive Step 1 preparation program. Participants will then have about 10 minutes to ask presenters questions about the program, program implementation/evaluation. Small group topics will be created collaboratively with the audience (5 minutes). Session participants will then rotate through topics of their choice in small groups to explore areas of strength and areas for improvement in supporting students effectively with a focus on providing a space to share resources and ideas across institutions. It is anticipated that participants will be able to rotate through 4 small groups for about 10 minutes each (i.e., 40 minutes in total). The session will conclude with a 5-minute summary of potential future work on this topic.

Experience:

Dr. Stacy Shields, Director of Academic Support and Career Counseling office, utilizes her background as a Licensed Psychologist to inform her work with medical students as she integrates academic concerns with other concerns students may be experiencing (e.g., adjustment issues, mental health concerns, etc.).

Dr. Ruth Levine, the Associate Dean of Student Affairs and Admissions, has over 25 years in medical student education as a course and clerkship director, Assistant Dean for Clinical Education, and now Associate Dean.

Dr. Norma Pérez, Assistant Dean, Student Affairs, serves as a primary student advocate in providing support of programs that focus on the enhancement of student competitiveness into the residency application process.

References:

N/A

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Clerkship Evaluation and Grading: National Variation, Trends and Objectivity

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Norman Farr, University of Texas Medical Branch School of Medicine

Era Buck, University of Texas Medical Branch School of Medicine

Karen Szauter, University of Texas Medical Branch School of Medicine

Abstract Body:

Rationale:

The discussion will focus on evaluation and grading in the clinical years, especially the core clerkships. It is established in the literature that dramatic variation exists among clerkship grading nationally and that there is no meaningful standardization for interpretation of performance of medical students in the clinical years. We will explore “the illusion of objectivity” in clerkship grading in complex clinical environments including the substantial risk for bias and the potential conflict created by ranking students while ensuring they achieve the highest level of competency. Given current discussion of making USMLE Step 1 Pass-Fail and the need for objective measures outside of USMLE exams for residency recruitment it is essential that we examine educational practice of evaluation and grading in clinical rotations. Additionally, we will discuss an emerging trend among a small number of prominent medical schools of moving to pass-fail grading in the core clerkships.

Learning Objectives:

1. Review and discuss variability and imprecision in clerkship grading nationally
2. Explore the objectivity of clerkship grades
3. Discuss emerging shifts in clerkship grading
4. Consider your institution’s clerkship grading in context of national trends and future improvements

Session Methods and Format:

- Oral Presentation by Dr. Farr – will present a literature review on this topic including key studies and published commentary in the literature—18 minutes
- Small Group Breakout and Discussion
 - 4 sessions of 18 minutes – small group breakout discussion followed by report-out and debrief using these 4 prompts:
 1. Do we feel comfortable that our evaluation system provides meaningful grades that truly reflect a student’s competence for practicing medicine?
 - Do we feel comfortable with the distinction between our grading segregation such as an honors, a high pass and a pass student?
 - Do you feel that there is grade inflation in your clerkship? If so, why?
 2. Are our clinical evaluations meaningful?
 - Do we have high interrater reliability?

- Do our clinical evaluators have adequate training?
 - Do service and/or faculty assignments impact grades?
 - Do site assignments impact grades?
 - Are our clinical evaluations free from unconscious bias?
3. Should we continue to use a normative-based grading system in the clerkships, or should we consider a competency-based grading system? Why? Why not?
 4. Do we owe GME programs clerkship grades and/or class-rank?

Experience:

1. Dr. Farr is responsible for administration and oversight of clinical education in the school of medicine including all clerkships.
2. Dr. Buck applies expertise in the areas of program evaluation, assessment and competency-based education to her role as Assistant Dean, Educational Development.
3. Dr Szauter serves as the Co-Director of the Internal Medicine core clerkship.

References:

1. Alexander, E, et al. Variation and Imprecision of Clerkship Grading in U.S. Medical Schools. *Acad Med.* 2012 Aug;87(8):1070-6.
2. White. Christopher. A Standardized Approach to Grading Clerkships: Hard to Achieve and Not Worth It Anyway. *Acad Med.* 2013 Mar; 88(3):295.
3. Hauer, K., Lucey, C. Core Clerkship Grading: The Illusion of Objectivity, Invited Commentary. *Acad Med.* 2019;94:469–472.
4. Plymale, et al. Variation in Faculty Evaluations of Clerkship Students Attributable to Surgical Service. *J Surg Educ.* 2010 May-Jun;67(3):179-83.
5. Riese, et al. Clinical Performance Evaluations of Third-Year Medical Students and Association With Student and Evaluator. *Acad Med.* 2017 Jun;92(6):835-840.

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Deconstructing the Privilege Walk Controversy: A Way Forward

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Premal Patel, University of Texas Medical Branch School of Medicine

Dawnelle Schatte, University of Texas Medical Branch School of Medicine

Daryl Shorter, Baylor College of Medicine

Abstract Body:

Rationale:

In an effort to promote learner self-reflection, foster awareness of privilege and vulnerability and encourage perspective taking, many organizations from fortune 500 companies to academic institutions have utilized the methodology of privilege walks. Adapted from the pioneering essay by Dr. Peggy McIntosh in the 1980's, multiple privilege walks covering a multitude of themes including racism, ageism, sexism, homophobia, poverty and others have been developed. Privilege walks are typically conducted by facilitators in 3 parts: an introduction, structured activity and debrief. Though widely used, there is little data in the educational literature on effectiveness of such an approach. Privilege walks often stir intense emotions, memories and reactions in participants from both privileged and vulnerable backgrounds. Recently, a backlash against privilege walks has emerged steeped in criticisms common of the privilege discourse but also reflecting larger issues around how to truly create safe spaces, develop ongoing experiences for personal growth and preventing re-traumatizing those who have already experienced significant trauma.

Learning Objectives:

1. Describe the individual components of a privilege walk.
2. Identify key controversies in privilege walks from the perspectives of those who have experienced more and fewer privileges.
3. Create a list of 5 ways privilege walks can be modified to address relevant criticisms including other alternate activities.
4. Discuss how self-reflection on privilege can be incorporated into existing curricular efforts.

Session Methods and Format:

0-5min: Introductions

5-15min: Background- Powerpoint (defining privilege, exploring why understanding one's privilege is important, examine the history of privilege walks, identify the variable content of privilege walk including examples, explore the existing privilege walk literature, share privilege walk experience)

(All group activities below consist of dividing participants into smaller groups, then they report back to the larger group.)

15-25min: Group activity #1 (Identify the key controversies of the privilege walk from an educational perspective.)

25-35min: Debrief with Large Group

35-50min: Group Activity #2 (Brainstorm how to address the aforementioned controversies and/or create new activities that meet the same goals.)
50-60min: Debrief with Large Group
60-75min: Group Activity #3 (Develop an individualized action plan to integrate self reflection on privilege in existing curricula.)
75-85min: Debrief with Large Group
85-90min: Conclusion with Comments/Questions

Experience:

Dr. Patel is as Associate Professor at the University of Texas Medical Branch and Course Co-Director of META (Mindfully Evolving Thriving & Advocating) and has led privilege walks for over hundreds of health professional students.

Dr. Schatte is an Associate Professor at the University of Texas Medical Branch and Course Co-Director of META (Mindfully Evolving Thriving & Advocating) and has led privilege walks for over two hundred medical students.

Dr. Shorter is an Assistant Professor at the Baylor College of Medicine and has led multiple privilege walks including training privilege walk facilitators.

References:

1 Harris, TA. Privilege. *The Critical Quarterly*. 2016; 58(3): 100-102.

2 McIntosh P. "White Privilege and Male Privilege: A Personal Account of Coming To See Correspondences through Work in Women's Studies."

3 Merino Y, Adams L, Hall, WJ. Implicit bias and mental health professionals: Priorities and directions for research. *Psychiatric Services*. 2018; 69(6): 723-725.

4 Witten NAK, Maskarinec GG. Privilege as a social determinant of health in medical education: A single class session can change privilege perspective. *Hawaii J Med Public Health*. 2015; 74(9): 297-301.

5 Rao S, How PC, Hendry T. Education, training, and recruitment of a diverse workforce in psychiatry. *Psychiatric Annals*. 2018; 48(3): 143-148.

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Discussion on how self-directed learning can be misapplied and may be wrong target for Undergraduate Medical Education

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Deborah Conway, University of Texas School of Medicine at San Antonio

Deborah Chang, University of Texas School of Medicine at San Antonio

Jeff Jackson, University of Texas School of Medicine at San Antonio

Abstract Body:

Rationale:

Being a high-quality lifelong learner is important to good patient care over a physician's career well into independent practice. Medical educators share a belief that the development of lifelong learning skills is a core value fundamental to all stages of medical education: undergraduate medical education (UME), graduate medical education (GME), and continuing medical education (CME). There is a codified consensus, demonstrated within commonly used sets of physician competencies¹, that one of the core goals of a medical education program is the development of high-quality lifelong learners.

In 1984 the American Association of Medical Colleges (AAMC) produced a report outlining future directions for UME curricula to "produce physicians for the 21st century".² Within this report was a call to develop lifelong learning skills in medical students and since that time, there has been great interest in best practices for doing so.³⁻⁵ Consistent with this initiative, the Liaison Committee on Medical Education (LCME) began to ask undergraduate medical programs to foster the skills necessary for lifelong learning⁶. However, a significant challenge to developing and implementing best practices in lifelong learning is the ambiguous interpretation and application of the term "self-directed learning" (SDL).

In this session, we discuss how the term "self-directed learning" is frequently misapplied and may not be the most useful target for the UME phase of a physician's educational development. Instead, we discuss that an emphasis on curricular strategies anchored in elements of self-regulated learning (SRL) is a more appropriate and measurable pathway to longitudinally scaffold eventual self-directed and lifelong learning. In addition, we suggest that consistency and clarity in the use of terminology is essential to ensure UME's responsibility in the development of self-directed physicians committed to lifelong learning.

Learning Objectives:

Participants will be able to distinguish the difference between self-directed learning and self-regulated learning.

Participants will understand how the UME became held accountable for implementing "self-directed learning" experiences with the curriculum.

Participants will be familiar with a proposed conceptual model for developing lifelong learning as shared by the presenters.

Session Methods and Format:

Presenters will provide a 20-minute overview of the background of the topic. Presenters will then spend 15 minutes in discussion with the participants. Presenters will then spend 20 minutes describing the proposed model. Presenters will then 15 minutes will be spent receiving feedback from participants on the model. Presenters will then spend the remaining 20 minutes on Q&A.

- Overview/Background: 20 minutes
- Discussion: 15 minutes
- Presentation of Conceptual Model: 20
- Participant feedback: 15 minutes
- Q&A: 20 minutes

Experience:

Deborah Conway, MD: Associate Dean for Curriculum at Long School of Medicine, UT Health San Antonio since 2012.

Debbie Chang, PhD: Director for Curriculum Evaluation with a Doctorate in Higher, Adult and Lifelong Education

Jeffrey Jackson, EdD: Director for Curriculum Evaluation with a Doctorate in Educational Leadership

References:

1. Englander RM, MPH; Cameron, Terri MA; Ballard, Adrian J.; Dodge, Jessica; Bull, Janet MA; Aschenbrenner, Carol A. MD. Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians. *Academic Medicine*. 2013;88(8):1088-1094.
2. Panel on the General Professional Education of the Physician and College Preparation for Medicine. *Physicians for the Twenty-First Century*. Washington, DC: Association of American Medical Colleges; 1984.
3. Murdoch-Eaton D, & Whittle, S. . Generic skills in medical education: Developing the tools for successful lifelong learning. *Medical Education*. 2012;46:120-128.
4. Swanson AG, & Anderson, M.B. Educating medical students. Assessing change in medical education--the road to implementation. *Academic Medicine*. 1993; 68:S1-46.
5. Harvey BJ, Rothman, A.I., Frecker, R.C. . Effect of an undergraduate medical curriculum on students' self-directed learning. *Academic Medicine*. 2003; 78(12):1259-1265.
6. Liaison Committee on Medical Education. Functions and structure of a medical school: Standards for accreditation of medical education programs leading to the M.D. degree. Washington, DC: Association of American Medical Colleges; 2004.

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Faculty Development to Support Educators across Career and Focus of Work Transitions

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

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Jean Bailey, Virginia Commonwealth University School of Medicine
Suzanne Minor, Florida International University Herbert Wertheim College of Medicine
Tasha Wyatt, Medical College of Georgia at Augusta University

Abstract Body:

Rationale:

Traditional faculty development programs focus on academic success to prepare faculty for roles in multiple areas such as teaching, research, leadership, patient care, and institutional service with additional goals of minimizing burnout and career abandonment. However, there are inherent challenges at every stage (i.e. early-career, mid-career, and late-career) as faculty members transition through their career, each with their own set of specific needs. Therefore, rather than conceptualizing faculty development as a singular and non-differentiated activity, we introduce the concept of focus of work as a framework. Focus of work helps faculty developers see that faculty members must shift their focus/attention throughout their career as they continue to improve as educators, and as such they need professional support that varies with their changing focus.

Learning Objectives:

1. Appraise the faculty development needs of early-career, mid-career, and late-career faculty related to their roles as educators.
2. Identify opportunities to develop teaching skills among faculty members at various points in their career, taking into consideration members' variation in teaching experience.
3. Develop strategies for faculty developers to use as they assist faculty members in overcoming barriers related to teaching at different career stages.

Session Methods and Format:

1. Presentation: Define career stages and medical educator roles/skills. Early-Career, Mid-Career, and Late-Career Medical Educators
2. Questions for Audience Discussion: This workshop will utilize small groups in a collaborative jigsaw learning exercise to discuss questions.
 - a. Early-Career Faculty: What is the focus of work for early-career faculty? How can new early-career faculty be supported in developing educator skills? What strategies support mentorship in medical educational research and scholarship? Where do faculty obtain support in goal setting, determining an area of focus, and meeting the expectations of academia?
 - b. Mid-Career Faculty: What is the focus of work for mid-career faculty? How can medical educators expand their medical education scholarship beyond their own institution to enhance their national reputation in medical education? How can

faculty at this stage mentor and develop educator skills among the next generation of educators?

- c. Late-Career Faculty: What is the focus of work for late-career faculty? How can faculty developers deliver faculty development to someone with career experience who still has room to grow as an educator? How can senior faculty improve their skills as mentors to other faculty in developing their skills as educators? What will the next phase of career look like, perhaps different roles, or part-time effort and consider succession planning?

Experience:

Joanna Drowos DO, MPH, MBA is an Associate Professor of Family Medicine, Associate Dean for Faculty Affairs, Associate Chair of the Integrated Medical Science Department and Family Medicine Clerkship Director at the Charles E. Schmidt College of Medicine, Florida Atlantic University.

Jean M. Bailey, Ph.D. is an Assistant Professor/Associate Dean of Faculty Development at the Virginia Commonwealth University School of Medicine.

Suzanne Minor, MD is an Associate Professor of Family Medicine and Assistant Dean for Faculty Development at the Florida International University, Herbert Wertheim College of Medicine.

Tasha R. Wyatt, PhD is an Associate Professor/Educational Researcher at the Educational Innovation Institute, Medical College of Georgia.

References:

1. Schor NF, Guillet R, McAnarney ER. Anticipatory guidance as a principle of faculty development: managing transition and change. *Acad Med.* 2011;86(10):1235–40. <https://pdfs.semanticscholar.org/e483/2e0ec0d8d1cff8218bfd7d7cb3423dd9385.pdf>
2. Baker L, Leslie K, Panisko D, et al. Exploring Faculty Developers' Experiences to Inform Our Understanding of Competence in Faculty Development. *Acad Med.* 2018;93(2):265–273. doi:10.1097/ACM.0000000000001821

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Medical Student Leadership Development: How Might this be Best Accomplished?

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Sheila Chauvin, LA State University School of Medicine

Britta Thompson, Pennsylvania State University College of Medicine

Ruth Levine, University of Texas Medical Branch School of Medicine

Abstract Body:

Rationale:

In becoming a physician, medical students (MS) must achieve certain leadership abilities, as represented in the LCME learning objectives¹ and established core entrustable professional activities (EPAs).² Among these leadership abilities are managing one's behaviors, emotions, and practice; developing oneself and others; sharing leadership; leading and collaborating in teams, and with professionals, patients and caregivers; being strategic and leading change effectively, including improvement in quality, safety, and patient care. While students frequently observe and experience leadership in coincidentally, less formal and explicit learning exists. A survey of the AAMC Organization of Student Representatives members in 2014 revealed that 63% of the 41 respondents reported to have no core or elective leadership training in their MD program. And 81% indicated that such training should be available to all MS and as an essential component of the degree program.³ A 2016 survey included results from 88 responding allopathic medical school deans indicating rapidly increasing efforts for formal MS leadership development, with 54% of their programs having some type of formal or elective curriculum, albeit wide variation in scope, delivery, and level of student participation.⁴ A closer look at leadership development curricula revealed widely varying conceptual frameworks and associated leadership domains. While a complete review of literature and program/curriculum models is beyond this proposal, results indicated that formal leadership development is a priority among medical educators and students.

Learning Objectives:

Participants will enhance their understanding and thinking regarding. . . .

1. Early efforts to design medical student leadership curricula.
2. Various models, definitions, and critical attributes of effective leadership.
3. Leadership knowledge/skills/perspectives appropriate for medical students.
4. Effectiveness and efficacy of different curriculum models (e.g., intensive, immersive vs. distributed models).

Session Methods and Format:

15m Introduction , Background Session Authors

Relevant literature, definitions, models, attributes of effective leadership.

30m Round 1 Discussion* Example prompts: How is MS leadership development addressed directly at your medical school?

What specific leadership knowledge/skills/perspectives are most important for development during medical school and why?

- 30m Round 2: Discussion* Example prompts: What are critical features of a MS leadership development curriculum for assuring effectiveness and efficacy? Who would teach the curriculum? What faculty development is necessary? In the ideal, what how might the curriculum be structured?
- 15m Summary and Wrap-Up—Chauvin, Thompson, Levine

*Brainstorming will initiate each discussion. If attendance is large, then participation will be in smaller groups, each facilitated by one of the authors. Time will be adjusted for each round: 15 minutes (small groups), 15 minutes (large group).

Experience:

Dr. Chauvin has developed and implemented multiple leadership development programs for faculty, staff, residents, fellows, and medical students, including co-authorship with Britta Thompson of the Leadership Education and Development (LEAD) certificate program now administered by the AAMC, and continues active involvement in LEAD through multiple roles. Dr. Thompson has held various leadership roles in medical education and co-authored the LEAD program for faculty and continues active involvement in LEAD through multiple roles. Dr. Levine is a graduate, former faculty coach and regional director, and current member of the Advisory Board for the LEAD program.

References:

1. AAMC. Report I: Learning Objectives for Medical Student Education: Guidelines for Medical Schools. Medical School Objectives Project. Washington DC: AAMC, Jan. 1998. Available from <https://store.aamc.org/learning-objectives-for-medical-student-education-guidelines-for-medical-schools-pdf.html>
2. AAMC. Core Entrustable Professional Activities for Entering Residency: Curriculum Developer's Guide, 2014. Available from <https://store.aamc.org/core-entrustable-professional-activities-for-entering-residency.html>
3. AAMC Organization of Student Representatives (OSR). Leadership in Medical Education. 2014. Available from <https://www.aamc.org/professional-development/affinity-groups/osr/questionnaires>.
4. Neeley SM, Clyne B, Resnick-Ault D. The state of leadership education in US medical schools: Results of a national survey. Med Educ Online. 2017;22:1301697. Available from <https://dx.doi.org/10.1080/10872981.2017.1301697>

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Planning to study sexual harassment? Join us!

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Zareen Zaidi, University of Florida

Neeke Akhavan, University of Florida College of Medicine

Chu Hsiao, University of Florida College of Medicine

Madeleine Coy, University of Florida

Abstract Body:

Rationale:

Statistics related to sexual harassment in academia are disturbing. According to the 2018 National Academies of Sciences, Engineering, and Medicine (NASEM) report, women medical students are 220% more likely than students from other fields to experience sexual harassment. More than 30% of postdoctoral students in academic medicine have experienced harassment, with women of color experiencing higher rates. 70% of female faculty report gender-based discrimination, with 48% of female physicians reporting sexist comments and 30% reporting experiencing severe harassment (compared to 3% of male colleagues). In response to these emerging national statistics, the University of Florida joined the Times Up Consortium. We conducted a study to quantify and understand experiences of sexual harassment and assault among medical students, trainees, and faculty at the University of Florida College of Medicine (UFCOM). During this process we collaborated with an expert in gender and sexuality studies and researched survey tools. We also learned important lessons regarding conducting studies on sensitive topics which we hope to share with participants.

Learning Objectives:

The small group discussion aims to:

1. Provide participants with information regarding tools available to study sexual harassment
2. Help identify and discuss problems and barriers while studying sexual harassment

Session Methods and Format:

Introductions 5 minutes (All presenters)

Small Group Exercise to list questions participants think should be covered in a survey on harassment 15 minutes (Facilitated by all presenters)

Debrief 15 minutes (Zareen Zaidi)

PowerPoint presentation on available tools (Maddy Coy) 15 minutes

Comments and questions about the tools (All presenters) 10 minutes

Small Group Exercise to list problems and barriers to conducting the survey (Facilitated by all presenters) 10 minutes

Large group report-out and discussion 10 minutes

The UFCOM experience and final comments 10 minutes

Experience:

Zareen Zaidi has a PhD in medical education and led the UFCOM survey on sexual harassment

Neeke Akhavan also helped lead the survey and coordinate the study

Chu Hsaio is a MD-PhD Trainee in the Dept of Anthropology at UF and helped lead the survey and analyze the data

Maddy Coy is an expert at the Center for Gender, Sexualities, & Women's Studies Research at UFCOM

References:

1. Bates CK, Jaggi R, Gordon LK, et al. It Is Time for Zero Tolerance for Sexual Harassment in Academic Medicine. *Acad Med.* 2018;93(2):163-165. doi:10.1097/ACM.0000000000002050
2. Carr PL, Ash AS, Friedman RH, et al. Faculty perceptions of gender discrimination and sexual harassment in academic medicine. *Ann Intern Med.* 2000. doi 10.7326/0003-4819-132-11-200006060-00007
3. *Medicine NA of SE and. Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine.*; 2018. doi:10.4135/9781452218595.n210
4. Australian Human Rights Commission. Change the course: National report on sexual assault and sexual harassment at Australian Universities. 2017; 1-264. <https://www.humanrights.gov.au/our-work/commission-general/publications>. Accessed October 23, 2019.

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Promoting Lifelong Learning Skills: Moving from Self-Directed Learning to the Master Adaptive Learner

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Stephanie Corliss, University of Texas at Austin Dell Medical School

William Cutrer, Vanderbilt University School of Medicine

Beth Nelson, Dell Medical School | The University of Texas at Austin

Abstract Body:

Rationale:

Medical knowledge is expanding exponentially. At the same time, there is increasing access to factual information through smart phones and laptops. This could allow the focus in medical education to shift from the transmission of knowledge to honing process skills like critical thinking and adaptive expertise. Future doctors must be adaptable, lifelong learners who are willing and prepared to embrace, adjust to, and capitalize upon new circumstances, environments, and opportunities. Medical educators have joined together in discussions of how to best foster and measure these lifelong learning skills across the educational continuum. The 2019 Millennium Conference focused on the application of self-directed learning in health education. The AMA Accelerating Change in Medical Education consortium has developed the Master Adaptive Learner framework. The session authors have participated in both efforts. Application of these theoretic frameworks can help curricular planners in choosing educational pedagogies and in designing assessment tools to support learner self-regulation. The goal of this small group discussion is to share ideas, foster community, and brainstorm strategies to better support development of lifelong learning skills.

Learning Objectives:

1. Compare and contrast the self-regulated learning and master adaptive learner frameworks.
2. Examine the process, motivational influences and consequences of learner gap identification and goal setting.
3. Extrapolate the characteristics of the planning phase into educational improvements and interventions.
4. Propose opportunities to promote use of reflection and attribution in the adjustment phase of learning to improve goal setting over time.

Session Methods and Format:

This session will begin with an overview presentation of the self-regulated learning and master adaptive learner frameworks (20 minutes). The first small group tabletop discussion will focus on identifying internal and external motivators that learners experience over time and how educators can leverage them to better support self-efficacy and goal-setting (15 minutes). After a large group debrief (10 minutes) the presenters will share examples of how Dell Medical School and Vanderbilt have used these constructs to guide curricular development (10 minutes). The second small group tabletop discussion will be focused on identifying opportunities for students to reflect on feedback and practical strategies to improve learner reflections and attributions

during the adjustment phase to improve goal setting in the future (15 minutes). The session will end with a large group debrief and discussion of practical strategies to be implemented at home institutions (20 minutes).

Experience:

Stephanie Corliss holds a PhD in educational psychology, is the Assistant Director for Education Evaluation and Research at Dell Medical School, and was a participant in the Millennium Conference.

William B. Cutrer is the Associate Dean of UME at Vanderbilt, co-led the AMA Change Med Ed efforts in developing the Master Adaptive Learner Model, and was a participant in the Millennium Conference.

Beth Nelson has incorporated SRL into the Dell Medical School curriculum as the Associate Dean of UME, is a member of AMA Change Med Ed consortium, and was a participant in the Millennium Conference.

References:

1. Artino, AR & Jones, KD. AM last page: self-regulated Learning - a dynamic, cyclical Perspective. *Acad Med*, 2013; 88(7): 1048.
2. Cutrer, W. B., Atkinson, H. G., Friedman, E., Deiorio, N., Gruppen, L. D., Dekhtyar, M., & Pusic, M. (2018). Exploring the characteristics and context that allow Master Adaptive Learners to thrive. *Medical teacher*, 40(8), 791-796.
3. Cutrer, W. B., Miller, B., Pusic, M. V., Mejicano, G., Mangrulkar, R. S., Gruppen, L. D., ... & Moore Jr, D. E. (2017). Fostering the development of master adaptive learners: a conceptual model to guide skill acquisition in medical education. *Academic Medicine*, 92(1), 70-75.
4. White, CB, Gruppen, LD, & Fantone, JC. Self-regulated learning in medical education. *Understanding medical education*, 2014; 271-282.
5. Zimmerman BJ. A social cognitive view of self-regulated learning. *Journal of Educational Psychology*. 1999; 81: 329-339.

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Re-examining Exams: NBME's Effort on Wellness (RENEW) Project

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

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Hilit Mechaber, University of Miami Leonard M. Miller School of Medicine

Abstract Body:

Rationale:

Concerns about high levels of physician burnout have generated robust discussions about the causes and consequences of this problem, as well as potential mitigation strategies. Taking a systems approach, various aspects of a physician's educational and professional development need to be examined to fully comprehend the issue's complexity and to appropriately target and implement long-term solutions. Part of this approach requires an examination of the high-stakes assessment systems that serve and regulate physicians across the continuum of their education, training, and practice. One such assessment is Step 1 of the United States Medical Licensing Examination (USMLE). Although there is rich anecdotal evidence about the unique pressures associated with this examination and a burgeoning body of literature dedicated to better understanding issues of well-being and burnout among medical students, little is known empirically about the association among medical students' stress and burnout and their experiences with and performance on Step 1.

Learning Objectives:

We aim to collectively generate ideas for using the RENEW findings to inform: (1) possible school-based interventions; (2) future house of medicine research and development activities; and (3) multifactorial system-wide approaches to addressing the challenge of stress and burnout in medical education and practice. At the conclusion of this session, participants will be able to summarize key findings from the multifaceted RENEW research collaborative, evaluate these findings in relation to their own expertise and experiences, and apply an understanding of RENEW findings to their work as educators and scholars at their institutions.

Session Methods and Format:

In partnership with educators and scholars from various institutions, the National Board of Medical Examiners (NBME) is advancing a research agenda to better understand the role that the USMLE may play in medical student well-being. This important collaboration is called "Re-Examining Exams: NBME's Effort on Wellness" (RENEW). Results from four separate RENEW studies will be presented for discussion to help participants gain a multifaceted understanding of students' experiences surrounding the USMLE Step 1 examination. Two of the studies quantify the relationships between student well-being and subsequent performance on USMLE Step 1, accounting for both student and school factors and addressing potential influential effects of self-care activities and study behaviors. The other two studies use a qualitative approach to explore how medical students experience and manage stress within the context of studying for Step 1 and receiving their scores. The focused presentation will account for approximately 50% of the session. After the presentation, we will engage in small-group

activities for approximately 25% of the session and facilitate a large-group conversation for the remaining time (25%).

Experience:

Monica M. Cuddy, MA is a Measurement Scientist at the NBME.

Hilit F. Mechaber, MD is Associate Dean for Student Services and Associate Professor of Medicine, University of Miami Leonard M. Miller SOM

References:

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Self-Directed and Life-Long Learning: How do you “check the box”?

Submission Type: Small Group Discussions

Accepted as: Small Group Discussions

Authors:

Angela Hairrell, Texas A&M Health Science Center
Bobbie Ann White, Texas A&M Health Science Center
Kathleen Jones, Texas A&M Health Science Center

Abstract Body:

Rationale:

Self-directed and life-long learning (SDL) support a physician’s ability to provide up-to-date, optimal patient care. In accreditation standard 6.3,¹ the Liaison Committee on Medical Education (LCME) requires medical students to self-assess learning needs, independently identify those needs, analyze and synthesize relevant information, and appraise information and sources. In response, institutions develop creative tools to support their students’ metacognitive development.

This LCME requirement has prompted a needed cultural change, moving away from absorption and repetition of vast knowledge and toward students identifying their knowledge gaps. Many institutions have created curricula to promote SDL, yet effectiveness of SDL methods remains unproven.^{2,3} Limited data supports the effectiveness of individual learning plans for SDL.⁴ Given existing challenges in meeting this standard and its importance to medical practice, this discussion will promote sharing of creative and innovative best practices in SDL.

Our SDL curriculum has changed over time, and we expect participants share similar experiences. Initially, we hoped to use a learner-centered approach, allowing students to identify learning needs from any content. Though aligned with adult learning theory, this approach garnered concerns that students would simply ‘check the box’. Therefore, we implemented a structured platform with parameters to guide students through SDL exercises. We will promote participant discussion about limitations and obstacles to implementing SDL programs, and through collaboration, we will together identify innovative, universally-applicable tools to support optimal SDL.

Learning Objectives:

Participants will:

1. Collaborate and share best practices and tools for SDL
2. Identify resources to effectively support SDL
3. Discuss limitations and obstacles to implementing SDL

Session Methods and Format:

1. Present our SDL program (implementation & assessment data) (15 min)
2. Small group discussion with prompts (25 min):
 - a. Describe your institution’s approach to SDL.
 - b. Is your approach optimal? Why/why not?

- c. What resources supported your approach?
- d. How did you measure success?
- e. Did you encounter obstacles? What strategies offset the obstacles?
3. Small group summary presentations (40 min)
4. Presenter-led summary (10 min)

Experience:

Angela Hairrell, PhD, Director of Academic Support Services, Director of SDL program
Bobbie Ann White, EdD, MA, Faculty member, Project Consultant, Faculty Ombudsman
Kathleen Jones, MD, Faculty member, Regional Campus Associate Dean

References:

1. Functions and Structure of a Medical School: Standards for the Accreditation of Medical Education Programs Leading to the M.D. Degree. Publication of the Liaison Committee for Medical Education (LCME); March, 2017. Available at: <http://www.lcme.org/publications>.
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Do we have to? Communicating with the struggling learner

Submission Type: Workshops

Accepted as: Small Group Discussions

Authors:

Amy Smith, Lehigh Valley Health Network/ University of South Florida Morsani COM
Sarah Bean, Duke University Medical University

Abstract Body:

Rationale:

Medical education can be challenging for learners and teachers. Medical students and residents may struggle academically and personally. The struggles are not unique to any field and occur at all levels including undergraduate and graduate medical education¹. A key to helping struggling learners is to identify and accurately diagnose the cause of the struggle; this can be accomplished using the Subjective-Objective-Assessment-Plan (SOAP) theoretical framework². It is critical to resist labeling a student before adequately assessing the concern, which should include talking with the learner. Skipping this crucial step may lead to an inaccurate or incomplete assessment. How could one differentiate between the anxious or introverted learner without talking to them³? An educator's interpersonal communication ability in the setting of the struggling learner is crucial, yet is frequently overlooked or couched in one-way feedback language⁴. To be effective, educators must be competent at conducting two-way conversations that elicit information and acknowledge the learner's perspective.

In this workshop, we will focus on the challenge of communicating with difficult learners, including those that are not self-aware of their deficiencies. Attendees will learn to work with the struggling learner to develop a shared understanding of the issue by using perspective taking⁵ and active listening. Emotions can run high during these conversations, and attendees will learn the E-V-E protocol to manage strong emotions⁶. Solutions to address the identified gap areas can be identified at least in part through negotiation and collaborative problem solving with the learner.

Struggling and difficult learners can be a challenge for teachers needing more time and resources causing teachers to feel a variety of emotions from frustration to helplessness⁷. Teachers need to be mindful of their own thoughts and feelings and how their biases contribute to the situation. We will focus on well-being/wellness for both the learner and teacher.

Learning Objectives:

- Recognize when a learner is struggling.
- Demonstrate effective communication strategies for educators in the setting of the struggling learner.
- Practice communicating with a struggling learner.

Session Methods and Format:

The proposed workshop uses a mix of didactics and interactive learning techniques including: self-reflection, didactic, large group discussion, role-play, and small group experiential learning activities.

Welcome & Introductions (5 minutes)

Large Group/Didactic (10minutes)

- Describe struggling learner
- Introduce SOAP framework
- Discuss importance of communication

Self-reflection exercise (5 minutes)

- Participants will consider a recent experience with a struggling learner and reflect on their own interpersonal communication skills.
- What went well? What could have been improved? Were the desired outcomes of the conversation achieved?

Self-Reflection Exercise Debrief (15 minutes)

- Small group discussions
- Large group debrief

Large Group/Didactic (20 minutes)

- Present effective communication strategies

Large Group Role-Play Exercise (20 minutes)

- Participants will engage with a struggling learner to elicit her story using effective communication strategies

Small Group Case Discussion (10 minutes)

Conclusions & Takeaway Pearls (5 minutes)

Experience:

Sarah Bean, MD is passionate about helping all learners reach their goals and has expertise in feedback.

Amy Smith, PhD is a medical educator and a Crucial Conversations facilitator.

References:

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A Toolkit for Promoting First Generation College Graduate Success in Medical School

Submission Type: Workshops

Accepted as: Workshops

Authors:

April Buchanan, University of South Carolina Greenville School of Medicine

Meredith Bazemore, University of North Carolina at Chapel Hill School of Medicine

Kimberly Vinson, Vanderbilt University School of Medicine

Catherine Havemann, Vanderbilt University School of Medicine

Abstract Body:

Rationale:

Medical students who are the first in their families to graduate from college bring unique strengths with them to medical school. First generation college graduates (FGCG) and others who come from backgrounds with limited exposure to medicine may also have unique needs and face challenges that are not always recognized by their schools. The UME Section of the Group on Educational Affairs (GEA) has convened a working group which is in the process of developing an online toolkit of resources for medical schools to support and celebrate their FGCG students. The purpose of this workshop will be to share resources from the toolkit and help participants develop a strategy for supporting FGCG medical students at their own institutions.

Learning Objectives:

1. Identify challenges FGCG medical students may face during medical school
2. List a 5-part framework for supporting FGCG medical students
3. State program changes that can be implemented at their own institution to support FGCG medical students

Session Methods and Format:

5 minutes: Introductions and review development of the UME section's online toolkit of resources for FGCG students;

5 minutes: Discuss definition(s) of "first gen" students in large group;

10 minutes: Small groups: brainstorm challenges FGCG students face;

15 minutes: Introduction of toolkit resources categorized into 5 areas of support (below) that may be needed by FGCG students, followed by placement of challenges into categories

- Academic support
- Institutional climate
- Professional development and career mentoring
- Emotional support
- Financial resources

20 minutes Small groups will work through case studies focusing on each of the 5 areas of support. Attendees will be asked to develop a strategy to assist FGCG students in these scenarios, using resources in the toolkit and contributing their own ideas;

20 minutes Each group reports out their plans from the case studies for supporting the FGCG students to the large group;

10 minutes: Participants reflect on the toolkit and available resources and then pair and share plans for implementing ideas at their own institutions to support FGCG students using an implementation worksheet;

10 minutes: Wrap up and evaluations

Experience:

April Buchanan is the Associate Dean for Curriculum at the UofSC School of Medicine Greenville. As the SGEA representative to the UME section, she is engaged in the development of the online toolkit of resources for medical schools to support FGCG students.

Meredith Bazemore is the Director for Rural Engagement and Partnerships and co-leader for the First -Generation Initiative at the UNC School of Medicine. She is engaged in working with students, faculty, and campus partners to design and implement programming to supporting first-generation students.

Kimberly Vinson is the Assistant Dean for Diversity Affairs at the Vanderbilt School of Medicine. and supports medical students from a variety of diverse backgrounds.

Catie Havemann is a third year medical student at Vanderbilt School of Medicine, and a FGCG. She has particular interest in the needs of FGCGs, as well as those from working-class and low-income backgrounds.

References:

N/A

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Applied learning of best practices from a UME leadership development program

Submission Type: Workshops

Accepted as: Workshops

Authors:

Joann Quinn, University of South Florida

Deborah DeWaay, USF Health Morsani College of Medicine

Amy Smith, Lehigh Valley Health Network/ University of South Florida Morsani COM

Jeanne Jacoby, USF Health Morsani College of Medicine

Shane Puckett, USF Health Morsani College of Medicine

Robert Barraco, USF Health Morsani College of Medicine LVHN Regional Campus

Dawn Schocken, University of South Florida College of Medicine

Andrew Galligan, USF Health Morsani College of Medicine

Abstract Body:

Rationale:

There have been numerous calls to introduce and/or increase leadership curriculum³⁻⁵ and several programs have introduced leadership as a topic, session or longer curricular focus⁶⁻⁸. The University of South Florida Morsani College of Medicine introduced a comprehensive leadership program in 2011, beyond the core curriculum of traditional medicine. Our SELECT Program students are offered curriculum in health systems, integration of patient-centered values, and focus on leadership competencies; all supported with professional development coaching. We offer a train the trainer experience for those interested in learning our methods for leadership development.

Learning Objectives:

- Describe the content of the SELECT Program, including leadership, health systems and values-based patient centered care, through exploration and discussion of program objectives and entrustable professional activities (EPAs).
- Apply content-based learning to create 2-3 learning objectives that could be introduced within the participant's program (at any level—UME, GME or CME).
- Analyze the options for curriculum development within the participant's program, including feasibility and future direction.

Session Methods and Format:

The session format is a didactic/large group discussion (objective 1); small group/roundtable learning activities (objective 2 and 3); and a large group debriefing summarizing and discussing the outcomes from the small group discussions.

Large Group: The speakers describe the aspects of the program: the content (leadership, health systems, and values based patient centered care), delivery of the curriculum (session structure), structure of the measured outcomes (student and program level), and exam structure. We will also provide an overview of our four-year coaching program. Participants will be provided handouts with detail. (25 mins)

Small Groups: The session breaks into roundtable discussions of the various aspects of the curriculum, facilitated by a faculty member of the SELECT Program. Participants construct their own program level objectives that they bring back to their home institution for discussion of

inclusion into their curriculum. Based upon those objectives they will create a list of next steps for implementation. Participants will discuss potential barriers to implementation and brainstorm ideas to overcome these barriers. (50 mins)

Final Debrief: The focus returns to the large group with key takeaways, and discussion of future discussion/direction. (15 mins)

Experience:

Deborah DeWaay is the Associate Dean of Undergraduate Medical Education and has been overseeing the SELECT Program since 2016.

Joann Farrell Quinn is the Director of SELECT Competency Assessment focused on the development, research and teaching of emotional and social competencies and leadership.

Shane Puckett is the Assistant Director of Curriculum Management, involved with oversight of the SELECT Program since 2016.

Robert Barraco is the Chief Academic Officer at LVHN, regional campus location of our SELECT Program.

Dawn Schocken is the Director Experiential Learning and Simulation.

Andrew Galligan is the values-based patient centered care domain lead for year one and two.

Amy Smith is the SELECT Clerkship Years Director and Coaching Lead, has been involved with the SELECT Program since inception and has been a driving force of creation and delivery of all aspects of the program.

Jeanne Jacoby is the SELECT 3 Course Director and Assistant Research Director Emergency and Hospital Medicine.

References:

1. Steinert, Y., L. Naismith, and K. Mann, Faculty development initiatives designed to promote leadership in medical education. A BEME systematic review: BEME Guide No. 19. *Med Teach*, 2012. 34(6): p. 483-503.
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Bridges to Health Equity: Closing the Gap in Medical Education and Physician Preparedness

Submission Type: Workshops

Accepted as: Workshops

Authors:

Robina Josiah Willock, Morehouse School of Medicine

Desiree Rivers, Morehouse School of Medicine

Riba Kelsey, Morehouse School of Medicine

Yolanda Wimberly, Morehouse School of Medicine

Abstract Body:

Rationale:

Foundational concepts of health equity should be integrated throughout undergraduate and graduate medical education. Curricular instruction in health equity aligns with the USMLE (STEP exam) content area of social sciences, addressing systems-based practice, health care policy, health care disparities, race/ethnicity, access to care and social justice. Similarly, in accordance with the ACGME competency, systems-based practice addresses the value of working within interprofessional teams; advocating for quality patient care and creating optimal patient care systems. Each of these content areas is covered in the Morehouse School of Medicine (MSM) Bridges to Health Equity GME-wide rotation. Residents also receive experiential public health instruction in community engagement, and conducting community needs and assets assessments.

This workshop will highlight how MSM medical and public health faculty developed and implemented a Bridges to Health Equity, an interdisciplinary course offering that aligns with the MSM mission to lead in the creation and advancement of health equity through teaching and medical practice. Faculty will share lessons learned in the process of retooling an existing course; galvanizing leadership and student/resident support; and navigating medical education course development, integration and evaluation. UME and GME curricular interventions are needed to prepare the future physician workforce to “diagnose and treat” health disparities, positively impact social determinants of health, and contribute to achieving health equity.

Learning Objectives:

As a result of participating in this workshop, participants should be able to:

- Identify and describe key learning objectives and topical areas for an inter-professional health equity course.
- Identify potential faculty collaborators and department champions for developing an inter-professional health equity course.
- Use the key learning objectives of a health equity course to map the availability of course content areas and gaps across public health, biomedical sciences and clinical instruction in existing UME and/or GME curriculum.
- Evaluate the capacity and/or need for a UME health equity course or a GME rotation in their home institution.

Session Methods and Format:

Speaker Introductions - 5 minutes: Speakers will state name, institution and curricular development experience.

Background and Session Rationale - 10 minutes: A course director will share the impetus for a health equity course.

Overview of Course Objectives and Development – 20 minutes: A course director will detail the course objectives and course and/or rotation development process.

Hands-on activity - 30 minutes: Participants will use think-pair-share and active learning methodology to draft the formative components of a health equity course.

Participant Debrief - 15 minutes: Participants will participate in small group to large group discussion, sharing ideas and fostering collaborations.

Future Directions - 10 minutes: Speakers will facilitate a discussion of anticipated challenges and opportunities.

Experience:

Dr. Robina Josiah Willock, Assistant Professor Community Health and Preventive Medicine is the co-director for the Bridges to Health Equity course at Morehouse House School of Medicine.

Dr. Desiree Rivers, Assistant Professor Community Health and Preventive Medicine (CHPM), is the Undergraduate Medical Education Director in Community Health and Preventive Medicine and the co-director for Bridges to Health Equity course at Morehouse School of Medicine.

References:

N/A

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CBT in THE ATL: Cognitive Restructuring Techniques to Improve the Well-Being of Medical Students and their Future Patients

Submission Type: Workshops

Accepted as: Workshops

Authors:

Beverly Dede, University of Florida College of Medicine

Lisa Merlo, University of Florida College of Medicine

Kristy Smith, University of Florida College of Medicine

Abstract Body:

Rationale:

Among patients seen in primary care settings, a significant minority exhibit symptoms of depression (~10%) or anxiety (~20%). Rates are even higher among patients in the emergency department (~20-50%) and those with certain chronic health conditions. In addition, about 25% of medical students report symptoms of depression, up to 10% describe suicidal ideation, and many experience anxiety. Students transitioning to medical school, who are accustomed to academic success, are often caught off-guard by increased self-doubt (imposter syndrome), performance-related worries, and concerns about their ability to keep up. Pervasive negative thoughts may impair their ability to concentrate, interrupt sleep, and contribute to the burnout experienced by approximately 50% of medical students. Given these statistics, all medical students should be familiar with evidence-based treatments for anxiety and depressive disorders. Cognitive-behavioral therapy (CBT) is the first-line treatment for both, with a wealth of data supporting its efficacy and no negative side effects. This highly-interactive workshop will teach attendees how to introduce CBT strategies to medical students (or residents) at any point in their curriculum. The activities we will share with workshop attendees have been the highest rated within our longitudinal wellness curriculum. Both students and faculty appreciate this 90-minute session, which allows participants to practice cognitive reframing skills for their own personal benefit, and increases awareness of this evidence-based treatment option for future patients.

Learning Objectives:

- Describe benefits of specific cognitive behavioral therapy techniques to promote medical student wellness and improve patient care
- Discuss consequences of distorted thinking in medical training
- Explain the relationship between thoughts, mood, and behaviors
- Recognize categories of dysfunctional thinking
- Practice cognitive restructuring using a thought record

Session Methods and Format:

10 mins	Introductions of Speakers & Participants Packets containing interactive activity handouts will be distributed PPT and handouts will be available on conference website or via email
20 mins	Overview of prevalence and impact of mental illness, medical student mental health, and the efficacy of Cognitive Behavioral Therapy PPT
15 mins	Small Group Activity #1

- Handout - Cognitive Distortion Vignettes
Participants seated (ideally) at round tables with one speaker/table facilitating the discussion
- 15 mins Small Group Activity #2
Handout - Cognitive Distortion Self-Practice
Participants seated (ideally) at round tables with one speaker/table facilitating the discussion
- 15 mins Large Group Activity
PPT/Flip Chart
- 15 mins Question & Answer

Experience:

Beverly Dede, PhD. Clinical Assistant Professor and Program Director for Student Counseling and Development

Lisa Merlo, PhD. Associate Professor of Psychiatry and Director of Wellness Programs

Kristy Smith, MD. Associate Clinical Professor and Director of Collaborative Learning Groups (Medical Student Small Group Learning)

References:

N/A

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Developing Effective Narrative Evaluations for the MSPE

Submission Type: Workshops

Accepted as: Workshops

Authors:

April Buchanan, University of South Carolina Greenville School of Medicine

Martha Garcia Osorio, San Juan Bautista School of Medicine

Abstract Body:

Rationale:

A GSA/GEA Constituent Collaborative Project: Writing Narrative Feedback for the MSPE convened a working group in early 2019 to consider the current state of narrative feedback used to compose the MSPE. The intent of the working group is to build upon the work done by the MSPE Task Force that developed the MSPE Guidelines furthering their work to enhance the transmission of useful information from UME to GME in the residency application process. This work will contribute to move the focus from primarily quantitative measures to more qualitative measure of student performance and to find ways to explicate student's professional characteristics. This interactive workshop will provide foundational information on writing a high quality narrative evaluation, showcase the work product of the working group - a faculty development module to assist clerkship directors in supporting the work of the clinical faculty and residents, and provide resources for the clerkship directors or student or curricular affairs deans in assisting clerkship directors complete effective narrative evaluations for the MSPE that follow the AAMC MSPE Guidelines. This is an early presentation of the information, and feedback from the group in attendance is anticipated and will be appreciated.

Learning Objectives:

- 1) Describe the core components of an effective narrative evaluation
- 2) Compose a faculty development session for clinical faculty and residents using the module developed by the working group
- 3) Construct a summative narrative evaluation for the MSPE that is consistent with the MSPE Guidelines

Session Methods and Format:

Participants will be actively engaged in assessing and drafting narrative evaluations (through small group work) and will receive peer and facilitator feedback throughout the process.

Participants will be able to review and provide feedback on the workgroup's faculty development module, in addition to using a facilitator's guide for completing summative clerkship narratives through small group activities.

00:00 – 00:15 Introductions and large group brainstorming on the challenges of effective narrative evaluations

00:15 – 00:30 Brief review of MSPE Guidelines; description of components of effective narrative evaluation and introduction to the faculty development module

00:30 – 00:60 Evaluate narrative evaluations (using the faculty development module) and draft an evaluation based on case scenarios; participants will review and critique each other's evaluations

00:60 – 00:70 Brief overview on strategies for development of summative clerkship paragraphs for the MSPE

00:70 – 00:85 Small group work developing summary paragraphs for the MSPE
00:85 – 00:90 Wrap-up and next steps

Experience:

April Buchanan is the Associate Dean for Curriculum at the UofSC School of Medicine Greenville and an active participant in the AAMC GSA/GEA Constituent Collaborative Project. She is involved in faculty development and the writing of the MSPE.

Martha Eugenia Garcia-Osorio, MD, MSc is an Associate Professor of Immunology and Biomedical Sciences at San Juan Bautista School of Medicine in Caguas, Puerto Rico. Her principal academic interests are in the assessment of medical students' and residents' performance and support of students confronting academic and learning issues through innovative methods. Dr. Buchanan and Dr. Garcia have led and facilitated multiple regional, national, and international workshops.

References:

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Dudek, N. L., Marks, M. B., Wood, T. J., et al. (2012). Quality evaluation reports: Can a faculty development program make a difference? *Med Teach*, 34(11), e725-731.
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Developing Illness Scripts as an educational tool for knowledge organization, long-term retention, and clinical application

Submission Type: Workshops

Accepted as: Workshops

Authors:

David Manthey, Wake Forest School of Medicine
Jennifer Jackson, Wake Forest School of Medicine
Donna Williams, Wake Forest School of Medicine
Rachel Wolfe, Wake Forest School of Medicine

Abstract Body:

Rationale:

In the preclinical setting, knowledge of disease is often taught (and learned) with the short-term goal of retaining the knowledge for recall on a test. In the real-life practice of medicine, physicians make meaningful connections between their medical knowledge and their patients' stories across an entire career. Script theory posits that the method in which information is stored and retrieved from one's memory is paramount to long-term access. If the model under which information is stored is comparable to the way it is accessed in practice, the brain more quickly accesses and strengthens this connection. Therefore, how educators assemble and present medical knowledge to the learner is of utmost importance. Clinicians organize and store medical knowledge in the form of Illness scripts (one's mental model for a disease including its pathophysiology, time course, clinical features, etc.) which are then accessed during clinical encounters. Medical knowledge delivered via illness scripts can assist in learners' long-term retrieval and clinical application of that knowledge.

Learning Objectives:

By the end of this workshop, participants will be able to:

1. Explain script theory and its relevance to learners in medical education.
2. Construct an illness script template to utilize in the pre-clinical years and on clinical rotations.
3. Identify potential applications of illness scripts for curricular development at one's own institution.

Session Methods and Format:

The first 20 minutes will consist of a didactic presentation on Script Theory and its application to preclinical medical education. We will discuss how illness scripts aid in long-term knowledge retention, how they are applied in diagnostic reasoning, the risks and benefits of teaching with illness scripts, and how to ensure their appropriate use in one's curriculum.

During the next 40 minutes, participants will work in small groups to develop an illness script template. Participants will discuss with others at their table which information should and should not be included in an illness script template and templates will be compared and contrasted across small groups. Small groups will then use their template to create illness script examples for selected diseases.

During the final 30 minutes, participants will brainstorm ways illness scripts can be applied to the curriculum at their own institution. Participants will be encouraged to move to a table with others involved in similar areas of their curriculum.

Participants will leave the session with their own scripts template, examples of completed illness scripts for selected diseases, and ideas for application of illness scripts at their own school.

Experience:

David Manthey, MD has 25 years of experience in medical education, and currently serves as Medical decision-making thread director.

Jennifer Jackson, MD has 12 years of experience in medical education and currently serves as Assistant Dean for Curricular Innovation and as Co-Director of the Clinical Skills Curriculum.

Donna Williams, MD has 12 years of experience in medical education and currently serves as Co-Director of the Clinical Skills Curriculum.

Rachel Wolfe, MD has 4 years of experience in medical education and currently serves as Rheumatology Block director and Fellowship Program Director.

References:

Bowen JL: Educational Strategies to Promote Clinical Diagnostic Reasoning *N Engl J Med* 2006;355:2217-25.

Charlin, B., J. Tardif and H. P. Boshuizen (2000). "Scripts and medical diagnostic knowledge: theory and applications for clinical reasoning instruction and research." *Acad Med* 75(2): 182-190.

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Custers, E. J. (2015). "Thirty years of illness scripts: Theoretical origins and practical applications." *Med Teach* 37(5): 457-462.

Custers, E. J. F. M., H. P. A. Boshuizen and H. G. Schmidt (1998). "The role of illness scripts in the development of medical diagnostic expertise: Results from an interview study." *Cognition and Instruction* 16(4): 367-398.

Gavinski, K., Y. N. Covin and P. J. Longo (2019). "Learning How to Build Illness Scripts." *Acad Med* 94(2): 293.

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Diagnosing and Coaching the Struggling Learner Towards Success with a Growth Mindset

Submission Type: Workshops

Accepted as: Workshops

Authors:

Michele Birch, UNC SOM Charlotte Campus, Atrium Health

Neva Howard, University of North Carolina at Chapel Hill School of Medicine

Christina Shenvi, University of North Carolina at Chapel Hill School of Medicine

Kelly Smith, University of North Carolina at Chapel Hill School of Medicine

Kimberley Nichols, University of North Carolina at Chapel Hill School of Medicine

Abstract Body:

Rationale:

Many medical students and residents struggle at some point in their education. Identifying the many potential causes and formulating a plan of intervention as early as possible is crucial to ensuring a successful pathway to becoming a physician. With the move toward competency-based assessments, more faculty need to be equipped to diagnose and coach the learner toward success. Coaching the student in the growth mindset model can facilitate their ability to incorporate feedback into corrective actions toward the future.

Learning Objectives:

At the end of our workshop, participants will be able to: identify the most common causes of academic and clinical difficulties among medical students and residents; develop a plan for these learners utilizing evidence-based educational techniques; and coach learners in the growth mindset model to continue their success moving forward.

Session Methods and Format:

10 Minutes: Presenters will provide a framework in the latest remediation literature and the many potential causes of the medical student who is not thriving.

70 minutes: Participants will be divided into small groups of 3-4 and given de-identified cases of learners struggling in various areas of their medical training. The groups will have 15-20 minutes for each case to work together to try to identify the etiology of the struggle and come up with an educational and coaching strategy to guide the learner in the growth mindset model. Presenters will each be stationed with a group to collate their ideas. The presenters will then post groups ideas and share the actual strategy utilized and outcome achieved. There will be 4 cases total.

10 minutes: Presenters will summarize learning points obtained in session and answer any remaining questions of participants.

Experience:

Michele Birch, MD, Clinical Academic Resource Director, has over 10 years of experience working with struggling medical students and residents in her role as Director of Academic Services, Atrium Health and UNC SOM, Charlotte Campus, and was a high school teacher prior to medical school.

Neva Howard, MD, MS, Director of Learning Innovation, UNC SOM, has 8 years of experience diagnosing and coaching over 500 students at the UNC SOM, is currently pursuing a Masters of

Health Professions Education at the MGH Institute in Boston, and prior to this designed and set up remediation programs at the CUNY School of Medicine, NYC, and University of Washington, Wyoming Campus, as well as taught high school for five years.

Kimberley R. Nichols, MD; Clinical Academic Resource Director, has over 8 years of experience

working with struggling medical learners (students and residents) at UNC SOM, Chapel Hill Campus.

Christina Shenvi, MD, PhD, Director of the Office of Academic Excellence, has over 6 years coaching and assisting with struggling residents and students at UNC SOM, Chapel Hill Campus

References:

1. Guerrasio J. Remediation of the Struggling Medical Learner. Irwin, PA: Association for Hospital Medical Education; 2013
2. Frank JR, Snell LS, ten Cate O, et al. Competency based medical education: theory to practice. Med Teach. 2010; 32(8): 638-645
3. Garino A. Ready, willing, and able: a model to explain successful use of feedback. Adv Health Sci Educ Theory Pract. 2019 Oct 9. (Epub ahead of print)

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How to use Basic and Clinical Science Integration Tools to Support Clinical Decision Skill Development

Submission Type: Workshops

Accepted as: Workshops

Authors:

Joanna Drowos, Charles E. Schmidt College of Medicine at Florida Atlantic University
David Harris, University of Central Florida College of Medicine
Eve Gallman, Medical College of Georgia at Augusta University

Abstract Body:

Rationale:

Cognitive integration of basic (BS) and clinical science remains a challenge, despite evidence that BS is critical for clinical reasoning.¹ There is a lack of tools and resources to assist educators. BS educators do not always understand how their expertise translates into clinical practice and decision-making. Likewise, clinical educators often feel unprepared to “unpack” their encapsulated BS knowledge on the fly in the context of patient care.² New integration tools may serve to address these disconnects and facilitate cognitive integration. Additionally, understanding the underlying BS mechanisms of patient presentations could provide justification for some clinical decisions and help to prevent harm to patients.

Learning Objectives:

Following this sessions, participants will be able to:

1. Create integrated illness scripts (IIS) collaboratively with basic science and clinical colleagues.
2. Develop a mechanism of disease (MOD) map based on the illness script.
3. Formulate a clinical decision question and answer explanation utilizing the integrated illness scripts and MOD maps.
4. Discuss the patient harm that might result from not having this understanding.

Session Methods and Format:

The primary method of this session will be 3 small group activities using templates that have been previously developed for more efficient use of time. Tables will be arranged to pair basic science and clinical educators together. Worked examples will be provided after key events. Participants will be provided guidance on how best to approach the activities as a group. For example, each individual can develop one clinical feature of the IIS and build as a group.

1. Introduction of cognitive integration and session activities (15 mins) – facilitators
2. Working in small groups, participants will:
 - a. Develop integrated illness scripts that explain the basic science causal mechanisms underlying clinical features. (20 mins)
 - b. Construct a mechanism of disease map to illustrate relationships of the underlying clinical features. (20 mins).
 - c. Develop one clinical decision question (CDQ) and explanation that is supported by the use of integrated illness scripts and/or MOD maps. (15 mins)
 - d. Identify one potential harm that could occur if the CDQ explanation is not understood.(5 mins)

3. Presentation and discussion of participants' clinical decision question as a whole group. (10 mins)
4. Closing Remarks by facilitators (5 mins)

Experience:

Joanna Drowos, an Associate Professor of Family Medicine, serves as Family Medicine Clerkship Director and Associate Dean for Faculty Affairs at FAU. She also serves as the Family Medicine consultant for Aquifer Sciences.

Feroza Daroowalla, an Associate Professor of Medicine, is a physician and educator that medical school courses in pathophysiology and clinical experience and is involved in graduate medical education and continuing professional development.

Eve Gallman, an Associate Professor of Neuroscience, serves as Team Leader for the Neuroscience components of the Aquifer Sciences curriculum and is a founding faculty member and is experienced in case-based learning that integrates foundational and clinical sciences .

David Harris, an Associate Professor of Physiology, serves on the Leadership team of Aquifer Sciences and has led numerous national workshops and published manuscripts on the development of active learning pedagogies and integration tools for medical education.

References:

1. NN Woods Science is fundamental: the role of biomedical knowledge in clinical reasoning, *Medical Education*, 41(12), 1173-77
2. KM Kulasegaram, MA Martimianakis, Mylopoulos, CR Whitehead, NN Woods. Cognition before curriculum: rethinking the integration of basic science and clinical learning. *Academic Medicine*, 88(10), 1578-1585

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Innovations in Health Professions Education: What Makes an Innovation Innovative?

Submission Type: Workshops

Accepted as: Workshops

Authors:

Elizabeth Bradley, University of Virginia School of Medicine

Karen Szauter, University of Texas Medical Branch School of Medicine

Era Buck, University of Texas Medical Branch School of Medicine

Andrea Berry, University of Central Florida College of Medicine

Abstract Body:

Rationale:

Education in the health professions is constantly evolving in response to changes in healthcare delivery, technology, learners' needs, and insights from educational research and learning science. This constant flux fuels new curricula, pedagogical techniques, and assessments on both a local and national level. Sharing these new developments in education allows educators and institutions to learn from and build upon one another's work as they strive to address similar gaps in educational programming. However not all new curricula, pedagogical techniques, and assessments are "innovative." This workshop will provide participants the opportunity to explore the variety of definitions of "innovation" in health professions education, as well as provide examples of and discuss opportunities for dissemination of innovations in health professions education. The representatives of the MESRE (Medical Education Research and Evaluation) Section of the AAMC believe this workshop will provide participants with useful information and tools to guide their future scholarship regarding innovations.

Learning Objectives:

This session will enable participants to:

1. Define innovations in health professions education (HPE)
2. Contrast an "innovation" with traditional research in HPE
3. Apply guidelines from journal editors to critically analyze an innovations report
4. Recognize opportunities to disseminate HPE innovations
5. Reflect on current practices to identify personal innovations that may be appropriate for dissemination.

Session Methods and Format:

0-10 minutes: Introductions and description of workshop objectives

11-30 minutes: Large group presentation and interactive discussion. Present themes across descriptions of innovations in health professions education. As a group, compare and contrast characteristics of local/regional innovations with those of interest to a national/international audience. Consider the relationship between innovations and research and program evaluation; explore the commonalties and unique features of each.

31-60 minutes: Small group work. Review select journal guidelines to define the features expected for an innovations report. Apply guidelines to published works. Feedback to large group with discussion.

61-70 minutes: Large group discussion. Brief overview of journals that currently feature Innovations reports. Other potential sources for dissemination.

70-85 minutes: Small group work. participants reflect on their own current innovative practices in health professions education that have potential, and create an action plan, for dissemination.
86-90 minutes: Wrap up and questions.

Experience:

Elizabeth Bradley, PhD, Associate Professor of Medical Education and Director of Curriculum Evaluation, University of Virginia School of Medicine, oversees the programmatic evaluation of the 4 year medical curriculum, conducts educational research, provides faculty development workshops, and serves as SGEA MESRE Chair.

Era Buck, PhD, Assistant Dean, Educational Development and Associate Professor Department of Family Medicine, conducts educational research related to humanism and professional identity development; provides faculty development and support for education scholarship and serves as the SGEA MESRE Chair-elect.

Karen Szauter, MD, is Assistant Dean, Educational Affairs, and her interests include development of clinical skills, humanism and professionalism, and scholarly work in healthcare education.

Andrea Berry: Executive Director of Faculty Life, University of Central Florida College of Medicine, conducts educational research and scholarship and provides coaching and programming to support faculty scholarship, and serves as the Chair of the MESRE Professional Development Committee.

References:

- Berwick DM. Disseminating innovations in health care. *JAMA*. 2003;289(15):1969-75.
Blanchard RD, Nagler A, Artino Jr AR. Harvest the low-hanging fruit: strategies for submitting educational innovations for publication. *Journal of graduate medical education*. 2015 Sep;7(3):318-22.
Cianciolo A, Regehr G. Learning Theory and Educational Intervention. *Academic Medicine*. 2019 Jan 1.
Cook DA, Reed DA, Wayne DB, West CP. From the editors' desk: Renewing the call for innovations in medical education. *Journal of general internal medicine*. 2010;25(9):887-8.
Dearnley C, McClelland GT, Irving D. Innovation in teaching and learning in health higher education. The Higher Education Academy, London. 2013
Kanter SL. Toward better descriptions of innovations. *Academic Medicine*. 2008 Aug 1;83(8):703-4.
Hall AK, Hagel C, Chan TM, Thoma B, Murnaghan A, Bhanji F. The writer's guide to education scholarship in emergency medicine: Education innovations (part 3). *Canadian Journal of Emergency Medicine*. 2018 May;20(3):463-70.

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Making your SP encounter assessments meet your learning objectives

Submission Type: Workshops

Accepted as: Workshops

Authors:

Jennifer Goedken, Emory University

Gina Shannon, Emory University School of Medicine

Abstract Body:

Rationale:

Simulated patient encounters or OSCE (Objective Structured Clinical Exams) are used to measure learner's clinical skills. Often in the creation of these encounters, the checklist covers every clinical skill in the curriculum, making the checklist long and repetitive. In this session, we will give participants the tools to create efficient checklists that directly link to the learning objectives of the encounter.

Learning Objectives:

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

- Construct learning objectives for a simulated patient (SP) encounter
- Based on the learning objectives, participants will create a succinct checklist
- Share lessons learned in constructing learning objectives and checklists

Session Methods and Format:

20-minutes: Both facilitators will lead an introduction to development of learning objectives and checklist creation for simulated patient (SP) encounters. We will highlight common pitfalls in their development and utilization that lead to incongruity between curricular objectives and outcomes. We will also discuss how tying your learning objectives to the checklist can help create a more succinct and efficient checklist.

10 minutes: The participants will be divided into smaller groups (2-4 participants each). Using SP cases given by the facilitators, the small working groups will create four (4) learning objectives for their SP encounter. The facilitators will move through the room assisting in this exercise.

30 minutes: Based on the learning objectives, the small groups will construct a checklist for the SP encounter. Once the first checklist is created, the groups will be asked to narrow the checklist down to be more succinct and link directly to the learning objectives.

20 minutes: The small groups will then reconvene and share their objectives and checklists with the larger group.

10 minutes: The larger group will debrief the process and share their experience. The discussion will be moderated by the facilitators.

Experience:

Gina Shannon has worked as an SP educator for the last ten years and helped design hundreds of SP encounters.

Jennifer Goedken has been a clerkship director for over a decade and co-chairs the clinical skills curriculum group which designs and administers OSCEs throughout the medical school curriculum.

References:

N/A

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Mentee Up! How to get the most out of a mentoring relationship

Submission Type: Workshops

Accepted as: Workshops

Authors:

John Ragsdale, University of Kentucky College of Medicine

Abstract Body:

Rationale:

Everyone recognizes mentorship is incredibly important in their professional development, yet many mentees struggle to get what they really need from a mentoring relationship. What can mentees do to make the process work better? In the literature, much is written about how to be an effective mentor but comparably less is written about how to be an effective mentee. In this workshop, participants will learn how to own the process as a mentee. They will learn how to choose the right mentor and how to manage the relationship with that person. This will be applicable to mentorship of any type all along the medical education continuum. The content for this workshop is drawn from both the medical literature as well as the business world.

Learning Objectives:

1. List multiple dimensions of mentorship to consider when selecting a new mentor
2. Describe how to maximize the mentoring relationship by “managing up”
3. Discuss how mentoring is critical in a new position or role

Session Methods and Format:

The workshop will be highly interactive, with participants engaged in discussion throughout and completing a structured worksheet in which they apply the principles at each step. It will begin with a brief group discussion of why participants have found mentoring to be challenging from the mentee perspective (10min). The core content of the workshop will then be broken into 4 sections: 1. Dimensions of mentorship (15min). The facilitator will describe the different dimensions to consider when seeking out a mentor. The audience will complete a mentoring inventory to guide them in selecting a mentor. 2. Maximizing the relationship (20min). The facilitator will discuss ways in which the mentee can “manage up” in the relationship. The audience will complete a self-assessment of their own ability to manage up. 3. Mistakes to avoid (15min). The facilitator will lead a large group discussion of common mistakes that mentees make, sharing some of his own experiences and mistakes. The audience will self-assess mistakes they might be prone to make. 4. First steps in a new position or role (15min). The facilitator will discuss the importance of new beginnings, particularly the “first 90 days” and how mentoring can help ensure success. In the conclusion (10min), the audience will be asked to write a SMART objective about a next step they can personally take as a mentee while audience members share stories about other successes and challenges from a mentee perspective or ask questions. (5min is allotted for one section running over)

Experience:

John Ragsdale completed a Master’s in Medical Education, which included training on mentorship. In his career, he has been mentored by faculty at multiple institutions and experienced multiple different mentoring styles and challenges. Now in his roles as a GME

Associate Program Director and a UME Assistant Dean, he serves as a mentor to multiple faculty, residents, and students. He has taught faculty and residents at his home institution how to be mentored.

References:

1. Badowski, R. *Managing Up: How to Forge an Effective Relationship With Those Above You*. Crown Business. 2004.
2. Chopra V, Arora VM, Saint S. Will You Be My Mentor?-Four Archetypes to Help Mentees Succeed in Academic Medicine. *JAMA Intern Med*. 2018 Feb 1;178(2):175-176.
3. Chopra V, Woods MD, Saint S. The four golden rules of effective menteeship. *BMJ*. 2016 Aug 15;354:i4147.
4. Tsai PI, Helsel BS. How to build effective mentor-mentee relationships: Role of the mentee. *J Thorac Cardiovasc Surg*. 2016 Mar;151(3):642-644.
5. Vaughn V, Saint S, Chopra V. Mentee Missteps: Tales From the Academic Trenches. *JAMA*. 2017 Feb 7;317(5):475-476.
6. Watkins, MD. *The First 90 Days: Proven Strategies for Getting Up to Speed Faster and Smarter*. Harvard Business Review Press. 2013.
7. Zerzan JT, Hess R, Schur E, Phillips RS, Rigotti N. Making the most of mentors: a guide for mentees. *Acad Med*. 2009 Jan;84(1):140-4.

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Models and Innovations in Measuring Teaching Effectiveness of Faculty: Utility for All Stakeholders

Submission Type: Workshops

Accepted as: Workshops

Authors:

Feroza Daroowalla, University of Central Florida

Denise Kay, University of Central Florida College of Medicine

David Harris, University of Central Florida

Samantha Lemus-Martinez, Florida International University Herbert Wertheim College of Medicine

Abstract Body:

Rationale:

Evaluations of Teaching Effectiveness have different uses by stakeholders such as faculty, program and curriculum reviewers, students, department chairs and deans. They are translated into curricular program evaluation, annual faculty ratings, data for promotions, student trust indicators, and drivers for curricular change. Despite their importance and wide-spread use, there is variability among tools and methods; and a lack of rigorous evidence to support their utility and validity. This workshop will utilize collaborative groups to analyze the strengths and weakness of teaching effectiveness evaluation models. Additionally, participants will develop a tool-kit for using incremental or radical changes to current teaching effectiveness evaluations at their home institutions.

Learning Objectives:

1. List commonly used models for Teaching Effectiveness Evaluation (TEE)
2. Summarize the needs of different stakeholders from TEE
3. Understand the strengths, weaknesses, and feasibility of commonly used TEE models, from the perspectives of stakeholders
4. Establish criteria for optimal TEE models
5. Compare TEE models used at one's own institution against session developed criteria.
6. Develop a list of changes to optimize TEE models at participant's home institution.

Session Methods and Format:

Participants will work in small groups:

1. Introduction of speakers and overview of models of TEE (15 minutes)
2. Group work: What does each stakeholder need from a TEE model? Share and reach consensus on priority of needs. (10 minutes)
3. Group work: Common models will be distributed. Rate each model's strengths, weaknesses and fit for needs of each stakeholder. Share and discuss. (15 minutes)
4. Group work: Refine and create one set of criteria and one ideal model that would meet most stakeholders needs. Share and discuss (30 minutes)
5. Tool-kit development: Create a list of critical action items to bring change to your own institution's model. Share for feedback and consulting. (15 minutes)

6. Call to join research effort and identify champions for multi-institution collaboration on evaluating teaching effectiveness (5 minutes)

Experience:

Feroza Daroowalla, MD, MPH, is an Associate Professor of Medicine and educator working in undergraduate, graduate medical education and continuing professional development.

David Harris, PhD, is an Associate Professor of Physiology and serves as the Chair of the Program Evaluation Subcommittee and past president of UCF COM's Faculty Council.

Denise Kay, PhD, is a Counseling and Educational Psychologist and Assistant Professor in Medical Education with extensive teaching experience in undergraduate, graduate and professional education, and faculty development.

Samantha M. Lemus-Martinez, Ph.D., is an Assistant Professor and the Director of Pre-Clerkship Faculty Development, who oversees diverse programs relating to teacher effectiveness and evaluation of teaching at FIU-HWCOM.

References:

N/A

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Nuts-and-Bolts: Turning Educational Projects into Successful Submissions to MedEdPORTAL

Submission Type: Workshops

Accepted as: Workshops

Authors:

Anne Gill, Baylor College of Medicine

Kathleen Kreutzer, Virginia Commonwealth University School of Medicine

Abstract Body:

Rationale:

MedEdPORTAL, the Journal for Teaching and Learning Resources of the Association of American Medical Colleges, peer reviews and publishes educational resources. Its recent acceptance into MEDLINE for indexing solidified its position as a premier venue for health science educators who teach medical and dental learners and wish to publish and disseminate their educational projects.

Because MedEdPORTAL's publications count toward promotion processes, helping SGEA members understand how to present their educational innovations as scholarship is critical to their career development. The process of submitting to MedEdPORTAL requires an Educational Summary Report (ESR), which is structured like a traditional research manuscript. However, developing a manuscript through the lens of educational scholarship may require more guidance in how the work is presented.

This workshop is designed to provide hands-on experience with evaluating and revising a draft of an ESR to submit to MedEdPORTAL. Participants will be asked to identify a teaching/learning resource potentially submittable to MedEdPORTAL and bring related materials to the conference.

Learning Objectives:

1. Articulate the ways in which the Educational Summary Report (ESR) is similar to a traditional manuscript.
2. Describe each part of the ESR and how well-written components adhere to standards for scholarship.
3. Identify strategies to refine each component of the ESR for a more scholarly product.
4. Develop a personal "to-do" list to prepare a MedEdPORTAL submission.

Session Methods and Format:

Review of the aspects of the ESR and how they are comparable to and differ from traditional research manuscripts. – 15 minutes

Introduce the ESR worksheet (prompting questions that provide guidance for preparing an ESR). Participants will have the opportunity to use the ESR worksheet for an educational project they envision submitting to MedEdPORTAL – 15 minutes

Divide the room into groups to review a pre-workshop ESR solicited in advance. Small groups will assess the quality of each section and identify what could be improved. Workshop facilitators will circulate to answer questions. – 30 minutes

Moderate a large group report-out of feedback on the ESR while a facilitator documents effective principles in writing the ESR. – 15 minutes

Conclude workshop by discussing

- 1) What is hardest to write?
- 2) What other resources would be helpful?
- 3) Other questions?

Experience:

Ann Gill, DrPH, MS, RN, is the Assistant Dean of Interprofessional Education, and an Associate Professor in the Department of Pediatrics at Baylor College of Medicine, and she is a faculty mentor for MedEdPORTAL, specifically advising junior faculty and trainees on academic scholarship.

Kathy Kreutzer, Med, is the Director of Special Projects for Faculty Affairs for the Dean's Office, and chairs the Teaching Excellence Awards Committee at the Virginia Commonwealth University School of Medicine, and she is one of MedEdPORTAL's associate editors for faculty development and a longtime member of the MedEdPORTAL Faculty Mentor Program.

References:

N/A

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Practical Approaches to Applying Conceptual and Theoretical Frameworks to Medical Education Research: A MESRE Session

Submission Type: Workshops

Accepted as: Workshops

Authors:

Elizabeth Bradley, University of Virginia School of Medicine

Maryellen Gusic, University of Virginia School of Medicine

Abstract Body:

Rationale:

Social scientists and educators use relevant theories and conceptual frameworks when conducting education research. The conceptual or theoretical framework provides a lens through which to identify gaps in the literature, operationalize appropriate constructs and hypothesize relationships as well as design appropriate methodology. In addition, such frameworks can provide scholarly lenses to understand how societies, organizations and people interact in certain ways. Despite what we know about the importance of using frameworks, educators struggle to consistently identify and incorporate them when designing their research studies. Knowing that this puts them at risk for negative peer review and rejection from some of the top medical education journals, it is critical for educators to understand the practical application of such frameworks and how they can help situate one's research study in the existing literature. Thus, the purpose of this session, sponsored by the GEA's Medical Education Scholarship Research and Evaluation (MESRE) section, is to explore the practical application of conceptual and theoretical frameworks to education research.

Learning Objectives:

1. Describe and give examples of conceptual and theoretical frameworks commonly used in different research paradigms
2. Examine how the selection of a framework can impact research design
3. Discuss strategies to situate results through the lens of a conceptual or theoretical framework

Session Methods and Format:

20 min: Role play to illustrate how conceptual frameworks can be used early in the planning of a project. Facilitators and participants will explore the decision-making process and share perspectives on common barriers.

40 min: Participants will complete a small group activity using a case vignette that tasks them with developing a potential educational research project. Facilitators help participants compare and contrast the various frameworks that could be utilized for this project. Using a worksheet with suggestions from existing literature, participants will think through the potential implications of various frameworks on the development and design of hypothetical results of the project.

20 min: Facilitators provide their reflection on common themes that emerged from the small group discussions to illuminate potential barriers. They will also discuss tips and potential pitfalls for incorporating frameworks into research manuscripts, connecting principles discussed

in the small group case vignette to examples in the literature and build upon themes identified by the small group observers.

10 min: The session will close with a Q&A and a review of a sample publications handout and a list of available resources.

Experience:

Dr. Bradley is the SGEA MESRE Chair and partners with faculty to enhance their medical education research projects through one on one consultations and by leading workshops.

Dr. Gusic leads the medical education research efforts at the University of Virginia School of Medicine and provides faculty development on this topic nationally and internationally.

References:

1. Reeves S, Albert M, Kuper A, Hodges BD. Qualitative research: why use theories in qualitative research? *BMJ* 2008;337(7670):631-634.
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Representing Transgender and Diverse Gender Identities in Standardized Patient Assessments

Submission Type: Workshops

Accepted as: Workshops

Authors:

Laura Weingartner, University of Louisville School of Medicine

Emily Noonan, University of Louisville School of Medicine

Abstract Body:

Rationale:

Transgender, genderqueer, and nonbinary patients experience extreme health and healthcare disparities, including high rates of suicidality and negative experiences with health care providers related to their gender minority identities. Between 2018-19, our research group completed a multi-institutional study in collaboration with our Standardized Patient (SP) Program to understand how simulation programs represent gender minority content and communities by giving medical students opportunities to practice inclusive clinical skills. We found that many medical schools are developing content to improve gender-affirming care, but implementation is inconsistent because few resources exist on incorporating diverse gender identities in simulation. The goals of this workshop are to convey the importance of engaging the gender minority community in medical education and simulation while giving practical insight to medical educators from our study about recruitment, case content, and potential challenges.

Learning Objectives:

After this session, participants will be able to:

1. Identify methods to engage the gender minority community in medical education
2. Develop learning objectives to integrate diverse gender identities into formative and summative simulation assessments
3. Revise standardized patient case content to reflect diverse gender identities
4. Discuss challenges around portraying diverse gender identities in simulation assessments

Session Methods and Format:

The majority of this session is dedicated to small/large group discussion and case-based application. Participants will develop learning objectives for clinical skills assessments to differentiate between gender-focused (e.g., gender-affirming care) and gender-inclusive cases. Participants will adapt an SP case template to be inclusive of gender minority identities (e.g., two-step gender identity information, pronouns, partner's gender identity and sex assigned at birth, etc.). Each activity will be motivated by data outcomes from our study to make evidence-based recommendations, and after each small-group activity the entire workshop group will debrief to provide feedback and address participant questions.

Minute: Activity:

0-5: Welcome and presenter introductions (Weingartner)

5-10: Brief overview of gender minority health disparities and basic gender-affirming care (Noonan)

- 10-25: Small-group learning objective development for gender minority content (Both facilitate)
- 25-30: Debrief as large group re: learning objectives and simulation methods (Weingartner)
- 30-45: Small group standardized patient case adaptation (Both facilitate)
- 45-55: Large group debrief with SP case template review (Noonan)
- 55-65: Summary of lessons learned regarding: recruitment, community engagement, and training (Weingartner)
- 65-70: Introduction to widespread challenges to portraying diverse gender identities (Noonan)
- 70-85: Large-group discussion: challenges and other questions (Both facilitate)
- 85-90: Wrap-up and resources (Weingartner)

Experience:

Laura Weingartner, PhD is Research Manager in Undergraduate Medical Education and has lead the LGBTQ clinical skills training and assessment development, including the summative gender minority standardized patient assessment case.

Emily Noonan, PhD is Research Manager in Undergraduate Medical Education, has delivered LGBTQ health trainings, and has developed standardized patient assessments and trainings for multiple disparity curriculum interventions.

References:

N/A

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Responding to Challenge and Change: Becoming Resilient AND Adaptable

Submission Type: Workshops

Accepted as: Workshops

Authors:

Christopher Simmons, University of Kentucky College of Medicine

Carol Elam, University of Kentucky College of Medicine

David Rudy, University of Kentucky College of Medicine

Abstract Body:

Rationale:

Resilience refers to the ability to persevere through hardships to meet goals. Resilient individuals exhibit the capability to bounce back from stressful and negative emotional experiences.

Adaptability refers to the ability to adjust to new or changing conditions. Adaptable individuals tend to anticipate and accept change effectively by changing their attitudes, actions or approaches to suit the situation or environment.

In the medical education community, much has been said about resilience. Adaptability, however, is an important and often overlooked concept that works best in tandem with resilience in dealing with uncontrollable factors in our environment. This session will demonstrate the linkage between resilience and adaptability in medical school and clinical settings.

Learning Objectives:

After participating in this session, attendees should be able to:

1. Describe common behaviors that demonstrate both resilience and adaptability.
2. Explain why both resilience and adaptability are necessary for dealing effectively with challenging situations as well as changing environments.
3. Perform a brief assessment adaptability that can be used by learners at all levels.

Session Methods and Format:

5 minutes: Introduction of session objectives and facilitators. (Dr. Elam)

10 minutes: Definitions and descriptions of the concepts of resilience and adaptability illustrated using excerpts from several TED talks. (Dr. Rudy)

20 minutes: Identify milestones in medical education and clinical practice that are potential pitfalls for learners who lack resilience and adaptability through storytelling. Participants will then be presented with vignettes to discuss in small groups before sharing their approaches to coaching learners facing change, failure and rejection. (Dr. Simmons)

15 Minutes: Outline basic strategies to assist individuals with improving their resilience and adaptability. Brief presentation of teaching/nurturing strategies. (Dr. Rudy)

- Resilience constructs such as 1) Self Awareness, 2) Mindfulness, 3) Self Care, 4) Positive Relationships and 5) Purpose
- Adaptability pillars including 1) monitoring for changes in the environment, 2) being willing to learn, 3) avoiding procrastination and 4) acknowledging that changes are bound to occur.

15 minutes: Complete a self-assessment available via the AAMC's Preprofessional Competencies on Resilience and Adaptability, followed by pair and share interaction between session participants regarding what they've learned about themselves. (Dr. Rudy)

20 minutes: Review current strategies to develop a culture that promotes resilience and adaptability. A brief overview of commentaries/findings from the literature will lead into comments from session participants regarding experiences/interventions at their schools. (Dr. Simmons)

5 minutes: Wrap up discussion, recommendations (Dr. Simmons)

Experience:

Dr. Simmons is a former Chief Resident of Pediatrics and ACLGIM WELL Scholar. He is currently a faculty Advisor to the UK College of Medicine Man O' War learning community and Wellness in Training committee member.

Dr. Rudy has been a medical educator for over 20 years. He continues to conduct small group sessions with students and residents in stress management and is a member of the College of Medicine Wellness Committee.

Dr. Elam has extensive experience in student affairs and student support services, admissions and faculty development.

References:

The Five Pillars of Resilience@The Bounce Back Project.org.

The Core Competencies for Entering Medical Students. Anatomy of Applicant Core Competencies Self-Assessment: Resilience and Adaptability.aamc.org.

JM Stoffel, J Cain, Review of Grit and Resilience Literature within Health Professions, American Journal of Pharmaceutical Education, 2018.

N Fratto, 3 Ways to Measure your Adaptability and How to Improve It. TED talk.

PT Bartone et al Individual Differences in Adaptability for Long Duration Space Exploration Missions, NASA 2017

Measuring Human Capabilities: An Agenda for Basic Research on the Assessment of Individual and Group Performance Potential for Military Accession 2015

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Team Teaching as an Approach for Enhancing Integration

Submission Type: Workshops

Accepted as: Workshops

Authors:

Amanda Chase, Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine

Amber Heck, Texas Christian University and University of North Texas Health Science Center School of Medicine

Abstract Body:

Rationale:

Integration in medical education is a strategy that unifies subjects often taught separately¹. Examples of integrated curricula have increased in medical education, yet some argue that creating an integrated curriculum does not necessarily establish cognitive integration. Enhanced integration can promote long-term retention when learning is organized in a way that mimics the way knowledge will be recalled during clinical practice². Interactive team teaching enhances integration by drawing on the knowledge of two or more disciplines to present mechanisms of disease in the context of clinical scenarios. When the basic and clinical sciences are applied in the same session, it ensures organization of foundational knowledge for clinical practice. In this workshop, participants will learn about team teaching models and how to apply them to achieve enhanced session-level integration. Together, participants will explore the challenges and solutions to implementing team teaching in integrated curricula. Using the integration rubric as a tool for evaluation, participants will evaluate their least integrated session and devise strategies to enhance integration. Finally, participants will develop a team-teaching plan to enhance cognitive integration by optimizing the design and delivery of key content.

Learning Objectives:

1. Apply relevant learning theories to support integration in medical education.
2. Articulate the need for enhanced integration and the role of team teaching in achieving cognitive integration.
3. Map current practices and new ideas to the integration rubric.
4. Construct a personalized team-teaching implementation plan, informed by educational learning theory, to enhance session and course level integration.

Session Methods and Format:

Speakers will model team teaching as they facilitate the following: 1) Introduction (10 min): Facilitators will define integration, address learning theories to support it, and present the integration rubric as a tool for evaluation. 2) Using the Integration Rubric (20 min): In small groups, participants will evaluate two case studies using the rubric. Large group discussion will follow, where participants will compare their ratings and offer solutions for enhancing integration. 3) Overview of Team-Teaching (15 min) : Facilitators will present models of team teaching and the learning theories to support them as enhancing integration. 4) Apply Team Teaching Models (15 min): Small groups of participants will be assigned a specific team-teaching model. Groups will come up with an example of how to use this model and share in a large group report out. 5) Team Teaching Implementation Plan (25 min): Individually and then in small groups, each participant will utilize the session-level integration rubric to evaluate their

least integrated session. They will create a plan for implementation of team teaching at their home institution and receive feedback from peers. Large group report out will follow. 6) Wrap-Up (5 min): Conclusions and final thoughts from the facilitators.

Experience:

Dr. Amanda Chase is a medical educator and curriculum builder who participates in faculty development with a focus on design and implementation of case-based instructional methods to integrate the basic and applied sciences.

Dr. Amber Heck is a basic science medical educator with 10 years' experience in design and facilitation of large and small group active learning instructional strategies.

References:

1. Harden RM, Sowden S, Dunn WR. Some educational strategies in curriculum development: The SPICES model. ASME Medical Education Booklet number 18. Med Educ 1984;18:284-97.
2. Ambrose SA, Bridges MW, DiPietro M, Lovett MC, Norman MK. 2010. How learning works: Seven research-based principles for smart teaching. San Francisco, CA: Jossey-Bass.

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To Trust or Not to Trust: Process and Preliminary Outcomes of Entrustment in the AAMC Core EPA Pilot

Submission Type: Workshops

Accepted as: Workshops

Authors:

Kendra Parekh, Vanderbilt University School of Medicine
William Cutrer, Vanderbilt University School of Medicine
Cody Chastain, Vanderbilt University School of Medicine

Abstract Body:

Rationale:

Entrustable professional activities (EPAs) have been proposed as a useful framework for advancing towards a more rigorous system of competency based medical education¹. Formal summative entrustment decisions are central to this effort. This session will present the experience of the Association of American Medical Colleges (AAMC) Core EPA Pilot schools² in establishing entrustment committees and piloting summative entrustment decisions and provide participants the opportunity to discuss implementation of entrustment committees at their home institutions.

Learning Objectives:

1. Compare and contrast entrustment, clinical competence, and promotions committee processes
2. Identify a variety of ways to approach the entrustment process
3. Discuss barriers and facilitators to the entrustment process

Session Methods and Format:

The session will begin with an introduction to the key concepts of entrustment including the core principles guiding the development of the entrustment process at the Core EPA pilot schools (10 minutes). The facilitator will then describe the characteristics of entrustment committees at multiple pilot schools, including elements that are already in place or in the process of being implemented, to demonstrate the variety of ways in which schools approached the entrustment process (15 minutes). Commonalities and differences among schools as well as preliminary entrustment data will be presented (10 minutes). During these didactic components, participants will be prompted to note key take-home points from the various approaches to summative entrustment. At the end of the didactic session, participants will then work at tables to complete reflection questions (10 minutes) on their intent to develop summative entrustment processes and their confidence in doing so. Participants will begin planning a feasible entrustment process for their institution, including: types of data needed, data collection, data aggregation and visualization, and entrustment group composition, processes and relationship to existing progress committees, using a structured worksheet (20 minutes). The session will conclude with a report out from each table in a facilitated discussion of the practical considerations of making summative entrustment decisions (20 minutes) with the opportunity to ask questions (5 minutes).

Experience:

All speakers are members of the AAMC Core EPA Pilot.

Kendra Parekh, MD, is the Director of the MD Student Portfolio Coaching Program and an Associate Professor of Emergency Medicine at Vanderbilt University School of Medicine. Cody Chastain, MD, is the Director for Evaluation and Assessment and an Assistant Professor of Medicine, Division of Infectious Diseases at Vanderbilt University School of Medicine. William B. Cutrer, MD MEd, is the Associate Dean for Undergraduate Medical Education and an Associate Professor of Pediatrics, Critical Care Medicine at Vanderbilt University School of Medicine.

References:

1. Association of American Medical Colleges. Medical Education: The Core Entrustable Professional Activities (EPAs) for Entering Residency. Available at: <https://www.aamc.org/what-we-do/mission-areas/medical-education/cbme/core-epas> . Accessed October 30, 2019.
2. Association of American Medical Colleges. Medical Education. Core EPAs Pilot participants. Available at: <https://www.aamc.org/what-we-do/mission-areas/medical-education/cbme/core-epas/participants> Accessed October 30, 2019.

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Using Coaching in Your Work with Learners: Promoting and Strengthening Self-Regulated Learning Skills

Submission Type: Workshops

Accepted as: Workshops

Authors:

Elizabeth Bradley, University of Virginia School of Medicine

Megan Bray, University of Virginia School of Medicine

Maryellen Gusic, University of Virginia School of Medicine

William Cutrer, Vanderbilt University School of Medicine

Kendra Parekh, Vanderbilt University School of Medicine

Abstract Body:

Rationale:

The needs of patients and healthcare continue to evolve. As such, we must prepare learners for a career in which they continually adapt knowledge and skills to meet these needs. Specifically, students and postgraduate trainees must become self-regulated learners and develop habits of mind associated with life-long learning. Self-regulated learners are prepared to identify, manage and address their learning needs throughout their careers.

Coaching is a specific strategy faculty can use with students to help them evaluate their performance, identify specific learning goals, and create plans to achieve these goals. While advising and mentoring have long been recognized as one of the five domains of educators' work, coaching involves a different approach and offers a new tool for educators to use with learners. In this interactive session, participants will learn about and practice methods to integrate coaching into their work with learners at their home institution.

Learning Objectives:

1. Define self-regulated learning (SRL) and how these skills impact the ability to engage in life-long learning
2. Describe how coaching differs from advising/mentoring
3. Examine how a coaching approach can be used to promote learners' ability to identify learning goals and to define an action plan to achieve those goals
4. Explore opportunities to incorporate coaching in one's educational work at one's home institution

Session Methods and Format:

1. Introduction: Elicit attendees' experience with coaching using Poll Everywhere to create a word cloud (5 min)
2. Brief didactic/large group exercise: Introduction to coaching; matching exercise to compare and contrast advising, coaching and mentoring. (15 min)
3. Paired practice/report out: Participants practice a coaching approach in a conversation with a "mock" student. Script for the "mock" student will be provided. Large group report out to identify challenges encountered and to create a list of "best practices" to emphasize key principles of coaching. (10 min + 10 min)
4. Brief didactic: Review the principles of SRL and Life-Long Learning. (10 min)

5. Paired work/report out: Participants work in pairs to identify opportunities to promote SRL skills through coaching during existing teaching interactions with learners. Participants will incorporate feedback and create an action plan to use a coaching approach. (10 min paired discussion + 10 min report out of “big ideas” + sharing of best practices from the literature/facilitators' experience).
6. Large group: Participants create a list of benefits and challenges of integrating coaching program at their home institutions. (10 min)
7. Questions (10 min)

Experience:

Drs. Bradley, Bray and Gusic are on a leadership team that developed an institutional coaching program to develop students’ skills as self-regulated learners and provide faculty development to support coaches in their roles. Dr. Gusic has also developed two national professional development programs in which faculty learn and use coaching in their work with program participants.

Dr. Parekh oversees an institutional coaching program and provides faculty development on coaching techniques.

Dr. Cutrer has written and presented nationally and internationally on the topics of self-regulated learning and coaching.

References:

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Using the Core EPAs in Workplace-Based Assessment: Considering Both the Merits and Challenges

Submission Type: Workshops

Accepted as: Workshops

Authors:

William Cutrer, Vanderbilt University School of Medicine

Cody Chastain, Vanderbilt University School of Medicine

Kendra Parekh, Vanderbilt University School of Medicine

Abstract Body:

Rationale:

Many medical schools are implementing, or considering how to implement, the Core EPA framework within their UME programs, often with a mixture of simulations and Workplace-Based Assessments (WBAs). WBAs offer the ability to assess what a trainee “does” in an authentic workplace, rather than what the trainee “can do” in a controlled setting such as an OCSE^{1,2,3}. WBA is typically described as formative and most effective when paired with feedback to help the learner grow and develop related to the competency being assessed. Several dominant problems with WBA implementation have led to negative trainee perspectives of WBA, including: 1-poor understanding regarding the purpose of the WBA; 2-insufficient time for assessment and feedback; and 3-inadequate assessor training,². Utilizing the Core EPA framework in WBA has the potential to address commonly experienced problems.

Learning Objectives:

1. Describe the rationale for and the attributes of effective workplace-based assessment (WBA)
2. Compare and contrast Core EPA-based WBA with other types of WBA
3. Outline strategies and scales that can be used in Core EPA-based WBA

Session Methods and Format:

Several schools participating in the Core EPA pilot have implemented Core EPA-based WBAs at their institutions. Workshop leaders will share lessons learned, as well as help participants solve practical problems and overcome barriers to using the Core EPA framework to address WBA. The session is designed to be practical, flexible, and interactive so that common challenges are optimally addressed.

The presentation will have the following sections during the 90-minute session.

- I. 0-7 minutes: Facilitator will provide brief summary of the core tenets of WBA and lessons learned from GME use.
- II. 7-15 minutes: Facilitator will provide a summary of the AAMC Core EPA framework and highlight the Pilot’s guiding principles including a systematic approach to assessment and ensuring multi-modal performance evidence from multiple assessors.
- III. 15-25 minutes: Participants will work in small groups at their tables to discuss the merits and challenges of the Core EPA framework for WBA.
- IV. 25-50 minutes: Facilitator will describe experiences from pilot schools (Columbia, UIC, FIU, and Vanderbilt) with Core EPA-based WBA including tools and resources.

- V. 50-75 minutes: Participants will work in small groups at their tables considering barriers and enablers to implementing a Core EPA-based WBA approach.
- VI. 75-90 minutes: Facilitator will have tables report out with time for questions and answers. Facilitator will close with key themes and/or lessons learned.

Experience:

All speakers are members of the national AAMC Core EPA Pilot.

William B. Cutrer, MD, MEd is the Associate Dean for Undergraduate Medical Education and Associate Professor of Pediatrics at Vanderbilt University School of Medicine.

Kendra Parekh, MD, is the Director of the MD Student Portfolio Coaching Program and Associate Professor of Emergency Medicine at Vanderbilt University School of Medicine.

Cody Chastain, MD, is the Director for Evaluation and Assessment and Assistant Professor of Medicine, Division of Infectious Diseases at Vanderbilt University School of Medicine.

References:

- 1 Norcini, J., & Burch, V. (2007). Workplace-based assessment as an educational tool: AMEE Guide No. 31. *Medical Teacher*, 29(9), 855–871.
- 2 Massie, J., & Ali, J. M. (2016). Workplace-based assessment: a review of user perceptions and strategies to address the identified shortcomings. *Advances in Health Sciences Education*, 21(2), 455–473.
- 3 AMEE Guide Supplements: Workplace-based assessment as an educational tool. Guide supplement 31.1–Viewpoint Hamdy, H. (2009). AMEE Guide Supplements: Workplace-based assessment as an educational tool. Guide supplement 31.1–Viewpoint. *Medical Teacher*, 31(1), 59–60.
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Zip Code Over Genetic Code: A Social Medicine Curriculum for GME

Submission Type: Workshops

Accepted as: Workshops

Authors:

Rachel Apple, Vanderbilt University School of Medicine

Sophia Kostelanetz, Vanderbilt University School of Medicine

Kevin Mitchell, Vanderbilt University School of Medicine

Abstract Body:

Rationale:

Social determinants of health (SDH) are increasingly recognized as important components of patient health outcomes. While approximately 10% of an individual's overall health can be attributed to the care delivered in traditional healthcare settings, other SDH and environmental factors account for twice that (20%-40%). As such, curricula focused on strengthening provider skills to address SDH are universally relevant to our medical student and resident learners.

This session will reinforce the importance of social medicine curriculum (SMC) in GME and provide a model from one academic institution with an existent SMC curriculum. Attendees will have an opportunity to examine their own institutional SMC curricula, where applicable, and to further develop their own social medicine educational skills. This session will include group work to analyze SMC at their institutions, and role-play to learn how to address social medicine with patients and residents. Lastly, participants will have the opportunity to develop next steps for the improvement of their institutional SMC.

Learning Objectives:

Learners will be able to:

1. Describe the importance of implementing a social medicine curriculum in graduate medical education
2. Identify pertinent ACGME competencies related to social medicine curricula in graduate medical education
3. Evaluate the state of their own institution's current resident social medicine education and identify areas of potential improvement
4. Demonstrate clinician interview skills related to evaluating social determinants of health for a patient

Session Methods and Format:

Part I (20 minutes): Social Medicine Curricular Description at VUMC Internal Medicine Residency Program (Power point slides)

Part II (20 minutes): Participants will be led through "SWOT - Strength, Weaknesses, Opportunities, Threats" analysis related to the VUMC curriculum as well as their home institution's GME social medicine education (if applicable)

Part III (40 minutes): Participants will role-play the process of evaluating social determinants of health for a "standardized patient." In small groups, participants will practice patient interviewing as well as resident teaching and feedback.

Part IV (10 minutes): Debrief and take-aways, session evaluations

Experience:

Rachel Apple is a clinician educator who interacts with resident learners in the primary care setting and teaches Health Systems Sciences curricula in the School of Medicine.

Sophia Kostelanetz is a clinical fellow in the Veteran's Administration Quality Scholars Fellowship program and was instrumental in the development of the VUMC social medicine curriculum.

Kevin Mitchell is an Associate Program Director for the Internal Medicine Residency Program at Vanderbilt and has done work in the areas of underrepresented minorities in academic medicine and unconscious bias education.

References:

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