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Selected Abstracts From the Proceedings of the 2017 Society of Teachers of Family Medicine Conference on Medical Student Education

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Abstract

The Society of Teachers of Family Medicine (STFM) is an organization made up of educators devoted to teaching family medicine to learners of all levels. This multidisciplinary group of physicians, behavioral scientists, researchers, and educators from other health professions works to further STFM's mission of improving the health of all people through education, research, patient care, and advocacy. STFM held its 43rd Conference on Medical Student Education in Anaheim, California from February 9 to 12, 2017. Abstracts for conference sessions can be viewed online.[1] The conference was held concurrently with the 2017 Society of Student-Run Free Clinics Annual Conference. This partnership empowered many passionate medical students to participate in STFM sessions and present their posters. A wide variety of topics were explored by STFM conference presenters and attendees. The plenary speakers addressed physician wellness (Dike Drummond, MD), family medicine as a career (Wanda Filer, MD), and the future of family medicine (Aaron Michelfelder, MD, and Michelle Byrne, MD). The STFM Education Committee reviewed and selected eight exemplary abstracts from 22 presented educational research papers. Criteria for selection included strength of contribution to medical student education, topic of interest within and beyond family medicine, and quality of study, including well-described rationale, appropriate methods, clear results, and thoughtful conclusions. The areas covered are related to new educational methods and tools, faculty development, and interprofessional learning and assessment.

Editor's Note: Six of the eight selected presentation abstracts appear in this collection. Two[2,3] of the eight selected abstracts have been published in the intervening time, and are not included below.

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Reactions to the Harvard Implicit Association Test in an Interprofessional Class: Answers and Questions

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Background: The Harvard Implicit Association Test (IAT) has shown a strong presence of prowhite bias in almost all subgroups studied and has been duplicated over many studies.[1] Furthermore, it has been shown that presence of implicit bias/implicit association has an effect on clinical decision making.[2,3] How students themselves react to the results of the IAT has not fully been examined,[4] a question that is significant given that attitudes toward perceived bias can affect success in reducing implicit bias.

Methods: In March 2016 an interprofessional group of students (medicine, pharmacy, nursing, physician assistant, public health) who all enrolled in an elective course at the Medical University of South Carolina, completed at least one Harvard IAT. After completing the test(s) they were asked to complete a posttest survey about their reactions to the results.

Results: Forty-three out of 49 entrolled students completed the survey, for an 87% completion rate. Thirty-four students completed the free-form answers at the end of the survey, offering further insight into their answers. Seventy-nine percent completed the IAT on skin tone, 32.6% on weight, 25.6% on religion, 20.5% on sexuality, and 32.6% on another IAT. Seventy-two percent of respondents were female. Over 80% of the students rated themselves as somewhat, very little, or not concerned about their results on the IAT despite over 50% of them reporting being surprised by their results. Over 50% of the students rated themselves very good to excellent at managing their own biases. Free-form responses showed that many students did not think the IAT accurately reflected their biases, or that their implicit associations did not affect their behavior.

Conclusion: The majority of this representative sample of interprofessional students had low levels of concern about their results on the IAT, and over 50% of the students expressed distrust for the test itself. This begs the question of how we should best address implicit bias in our professional students.

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Facebook as an Electronic Learning Platform in Medical School

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Background: E-learning platforms (eLPs) are common in today's medical schools. Many teachers and students struggle with traditional eLPs, causing major barriers to effective e-learning. This resistance derives from unfamiliarity of the interface and the learning curve dynamics of unmotivated users. However, Facebook (FB) is an

easy, intuitive application that can be picked up very quickly. Most students/young people already check their FB many times a day. In two medical school seminar courses as well as a graduate school course, Facebook was used as the eLP.

Methods: A secret FB group was created for two first-year medical student classes and one graduate school course. Of a total of 46 students, 23 medical students and 23 graduate students were enrolled and 45 students were already FB users. Only people invited to the secret FB group could see anything posted. FB allowed for easy access and instantaneous communication. Student questions were asked and answered, and group collaboration occurred with ease. Assignments were posted, lecture PowerPoint slides were shared, and any instructions were announced as posts in the secret FB group. Private messaging was used as needed to communicate among selected students and faculty as well. The FB interface helped enhance social bonds with fellow classmates and created a friendlier environment.

Results: In the graduate school's course, 378 FB posts were posted in the secret group and four themes emerged from the analysis. Fifty-five percent consisted of functionality usage such as announcements, reminders; 16% of the posts were for collaborative learning, 4% promoted building morale, and 25% included class participation. On a scale of 1-5, with 5 being FB as much better than Moodle (our school's eLP) and 1 being Moodle is much better than FB, 20/22 students rated FB is much better, and two did not rate. The usage and breakdown in the two medical school courses were essentially the same

Conclusions: Professors, usually age dependent, are already familiar with FB and are comfortable using it. Students' familiarity with the interface promotes communication, collaboration, and problem solving, unlike traditional eLPs. Using FB as an eLP is fun, familiar, and very functional.

Medical Reconciliation: A Workshop on Navigating Polypharmacy and Pharmaceutical Database Tools

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Background: Medication reconciliation (MR) improves patient safety by reducing medication errors and drug interactions. The Joint Commission (2006, 2011) identified MR across the continuum of care as a National Patient Safety Goal. However, accurate MR is time consuming, difficult to complete, and rarely taught in medical schools. We developed a four-step curriculum on MR targeted at preclerkship learners. Our multidisciplinary approach emphasizes use of electronic pharmaceutical databases, case-based learning, and gamification.

Methods: Prior to the workshop, students were asked to watch the MedEd Portal video *Taking a Good Medication History*. The workshop opened with a 15-minute didactic that presented the epidemiology of medication errors and introduced the four-step approach to MR. The clinical pharmacy team demonstrated the web platforms and led students through minicases. Students then observed a clinical vignette of a complex patient and competed in teams

to derive the patient's correct medication regimen. Each team's medication regimen was scored and the winning team awarded $5 gift cards.

Results: This workshop was given for 3 years with a total of 26 preclerkship students. Student evaluations were initiated in the second year and a pre/post-retrospective survey was developed in the third year. Of the 12 survey respondents to the pre/postsurvey, there was significant improvement in students' confidence to complete an accurate MR, evaluate for drug/drug interactions, screen for allergic reactions, and understand the role of MR in patient safety (P<0.5).

Conclusions: Each year the curriculum is revised based on feedback from students. Improvements have included changes to the didactic, clarifying instructions for the game, rebuilding the case, and allowing more time for debrief. The inclusion of a clinical pharmacy team provides a unique opportunity for interdisciplinary learning. Future studies should evaluate whether early training in MR leads to improved clinical skills and patient safety.

A Six-Month Teacher Development Module for Full-Time Primary Care Faculty: Evaluation Outcomes

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Background: Our school has 25 years of success promoting junior primary care clinicians as educators through an 18-month, comprehensive faculty development (FD) program. Based on new participant needs and trainees' time limits, in 2016 we implemented a 6-month FD track exclusively on scholarly teaching, with participants joining an in-progress, 18-month program. Held one-half day per month (21 total hours), program sessions focused on trainees' teaching competence and completion of self-selected scholarly teaching projects. This evaluation compared teaching skills and project quality between the 6- and 18-month groups.

Methods: Subjects (n=17) completed FD concurrently. The 6-month subgroup (n=8) received the teaching module only, while the 18-month subgroup (n=9) received the teaching module preceded by 12 FD months aimed at leadership, curriculum development, and scholarship. Teaching skills were self-rated on a 1-6 scale: 1=no experience/ability and 6=exceptional experience/ability. Skill items included "learners report I provide timely and focused feedback," and "I am able to identify behaviors that challenge and support learners." Peers anonymously judged scholarly teaching project reports using a rubric for organization, clarity, and evidence-base, with 1=not clear, minimal evidence, poorly organized, to 3=clear, thorough evidence, well organized. Analysis used descriptive statistics and content analysis for qualitative data. Our institutional review board deemed the project exempt.

Results: All trainees (n=17) exceeded program attendance (>70%) criteria. The 6-month subgroup self-skill ratings were lower at preassessment and higher at postassessment (2.2 pre- and 4.9 postprogram), as compared to the 18-month subgroup (2.9 pre- and 4.5 postprogram). For scholarly project reports, there were no subgroup differences in average ratings (2.7) and range (2.4–3.0).

Conclusions: These findings show the effectiveness of our 6-month teaching module. Focused, compact modules may be an alternative to comprehensive, longer-term FD for some educator competencies. We advise caution about overinterpreting evaluation results based on these small, diverse, single-institution training subgroups.

Developing a Required Large-Scale TeamSTEPPS Workshop With Simulation

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Background: Medical errors are a leading cause of death in the United States,[1] making the American Association of Medical College's Core Entrustable Professional Activity (EPA) 13 (Identify system failures and contribute to a culture of safety and improvement)[2] a critical skill for medical school graduates. Adapting the Agency for Healthcare Research and Quality's TeamSTEPPS team-based framework, we developed simulation workshops to enhance second-year medical student knowledge and skills in patient safety, teamwork, and communication. The objective of this study was to assess whether these workshops improved students' self-reported skills in those areas.

Methods: Two hundred forty second-year medical students participated in 2-hour workshops containing an introduction to patient safety and TeamSTEPPS principles and three small group simulations, each with a postsimulation debriefing led by TeamSTEPPS master-trained facilitators. Students completed a postsimulation evaluation consisting of both Likert scale and qualitative questions regarding self-reported skill acquisition and workshop efficacy. Mean scores were calculated and qualitative thematic analysis conducted.

Results: One hundred eighty-one of 240 participants completed evaluations. On a 4-point Likert scale (4=strongly agree), the mean scores for improved ability to communicate about patient safety and to support team members in delivering patient-centered care were 3.27 and 3.25, respectively. Eighty percent of respondents recommended the workshop for the next second-year class. Qualitative themes supported the importance of learning specific teamwork and communication skills and the value of experiencing hands-on practice in relevant scenarios before clinical clerkships.

Conclusions: Training second-year medical students in patient safety through simulation and facilitated debriefing is an effective way to empower students for their role on the care team. Based on student feedback, this workshop can be enhanced if interprofessional, thus also addressing EPA 9 (Collaborate as a member of an interprofessional team).[2]

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Developing and Piloting Reliable, Objective, and Valid Objective Structured Clinical Examination/Encounter (OSCE) Stations for Family Medicine Clerkship

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Background: Clinical skills evaluation is regarded by many examiners as the key component in assessing a student's competence to practice medicine. Numerous attempts have been made to improve the reliability and validity of assessment of medical students' clinical skills. This study aimed to pilot test a multistation series of short (5-10 minutes) objective structured clinical examination (OSCE) stations[1,2] with standardized patients (SPs) as evaluators

to assess students' clinical and reasoning skills objectively and reliably in a standardized format.

Methods: We followed the multistage, iterative model of instructional systems design process (assess, develop, design, implement, and evaluate) to pilot test 12 stations for summative OSCEs. We invited clinical faculty to help us in the identification of key clinical skills to be evaluated, development of OSCE units with SPs, development of checklists, recruitment and training of SPs, and two pilot administrations of the stations. During the pilot administrations, students were evaluated by the SPs and faculty using the same electronic checklists. After each pilot administration, the observing faculty, SPs, and students were invited to evaluate the content and format of the stations.[3] The scenario, checklists, and SP instructions were modified based on their comments.

Results: The 12 OSCE stations that were pilot-tested included six SP stations to assess history-taking and contextual communication skills, and six follow-up scenarios with long-menu questions to assess clinical reasoning. Interrater reliability for the first pilot administration was low (<0.43). Discussion with the SPs and faculty about the interpretation of items and rating criteria improved the interrater reliability to >0.63 by the second administration. The mean scores for the final checklists ranged between 6.43-8.69/10 (SPs) and 6.75-8.21/10 (faculty).

Conclusion: Using an instructional systems design process and with significant ongoing input from faculty, students and SPs, we piloted 12 OSCE stations with increasing interrater reliability. This allowed a successful transition to summative OSCEs, with SPs as the evaluators.

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