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4 Reversing the Script: Peer-Based Teaching of Foundational Concepts in Emergency Medicine Using a FOAMed Curriculum

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Background: Every emergency medicine (EM) residency creates experiences allowing learners to master their most foundational skill: the approach to an undifferentiated patient. While extraordinary clinical experiences can literally roll through the door, crafting meaningful didactic experiences is fraught with the challenges of delivering content appropriate for learner ability, using faculty resources efficiently, and remaining appropriately responsive to learner preferences. At our institution, formal feedback from learners underscored these issues while also revealing a desire among senior residents for more teaching opportunities and, among junior residents, a desire for dedicated introductory content.

Educational Objectives: The objectives of our curricular innovation were multifaceted: 1) provide introductory content; 2) develop teaching opportunities for senior residents; 3) involve junior residents in the didactic process to cultivate self-directed learning, leadership, and confidence; and 4) create an additional setting that would allow junior residents to feel comfortable expressing knowledge gaps. Specifically, our innovation places the learner in the teaching role, supplanting a faculty-led program with a peer-based teaching model. Peer-based teaching allows for increased learner engagement, leadership development, and fosters an open learning environment.

Curricular Design: We implemented a modified version of the Foundations of Emergency Medicine (Foundations) curriculum. Foundations is an open-access, peer-reviewed program modeled on the American Board of Emergency Medicine Model of the Clinical Practice of Emergency Medicine (EM) and has been adopted by over 20 EM residencies. Foundations employs a case-based, flipped-classroom approach and was originally designed with three faculty members guiding residents through three cases per week. Once per month during the residency's weekly didactic session, we offer two-hour Foundations breakout sessions. First-year residents, a departmental fellow, and two senior residents meet in a separate learning space. Three preselected first-year residents, who have been provided teaching cases in advance, alternate guiding their peers through each Foundations case in an oral-boards format. Each intern is expected to review his or her case and act as a topic "expert" by supplementing their knowledge with Foundations-suggested reading. Senior residents and the fellow help guide learning as needed and provide real-life clinical perspectives.

Impact/Effectiveness: This intervention meets our

institutional goals for medical education and honors formal feedback obtained from our residents. The peer instructional model engages residents in a didactic experience that requires demonstration of knowledge while cultivating teaching skills, leadership, and confidence. The Foundations curriculum is of high quality, tailored to the learner's level of training, and fosters familiarity with the oral-boards format. The employment of a breakout session during departmental conference allows concurrent scheduling of advanced topics to be taught by faculty for senior residents. Furthermore, breakout sessions provide a setting in which first-year residents feel secure asking questions and demonstrating knowledge gaps that can be addressed by facilitators. Qualitative and quantitative feedback regarding each Foundations session was collected from learners. Overwhelmingly, learners found the sessions extremely relevant to their education and a refreshing approach. Unexpectedly, several interns reported that the sessions provided a safe space for mental health check-ins, suggesting that the small group setting of peers may have additional benefits. Areas for suggested improvement included providing a reference sheet of salient teaching points and providing paper copies of electrocardiograms. Future goals include expanding the program from monthly to weekly sessions and potentially offering an advanced peer-to-peer Foundations curriculum to senior residents.

5 Assessing How a Shared Mental Model Influences Team Performance in Blunt Trauma Resuscitation

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Background: Successful trauma resuscitation is complex and requires cooperation of several different team members. Having a shared mental model that includes emphasis on non-technical skills has been shown to reduce medical errors and improve performance in resuscitations. This is important in trauma centers where frequent turnover of residents managing resuscitations limits teamwork. Additionally, while individual technical skills are often adequately trained, non-technical skills are underemphasized. The purpose of this innovation was to assess how specific interventions to create a shared mental model and improve non-technical skills would influence trauma resuscitation performance.

Educational Objectives: Our goals were to 1) create a shared mental model for the approach to the blunt trauma patient; 2) translate this model into three educational tools – a) an instructional video simulating ideal resuscitation, b) a trauma care checklist, and c) a positioning map for each role; 3) deliver this model to all residents; and 4) assess

teamwork over time using the Trauma Non-Technical Skills (T-NOTECHs) tool, a validated tool in the assessment of teamwork skills of trauma teams.

Curricular Design: Based on a trauma roles educational slide show, institutional leaders in trauma education developed a script demonstrating the ideal blunt trauma resuscitation, which was translated into a simulated resuscitation video. The video emphasized non-technical skills believed to improve trauma team performance including leadership, situational awareness, and effective communication. A positioning map and a trauma checklist were created to ensure clear roles and Advanced Trauma Life Support task performance. The three tools were delivered to current residents via lectures and case-based discussions. Following implementation, trauma team performance was tracked by trained coders reviewing video of trauma resuscitations using the T-NOTECHs tool.

Impact/Effectiveness: Given the variety in trauma, agreement on an “ideal” resuscitation was challenging to create. Following implementation, initial surveys of both residents and attendings indicated perceived improvement in trauma team performance as compared to pre-implementation. Currently, trained coders are measuring team performance over time using T-NOTECHs tool. Results at six and 12 months are pending.

6 Advancing Diversity In Emergency Medicine: The NYU EM Summer Fellowship for Under-represented Minority Medical Students

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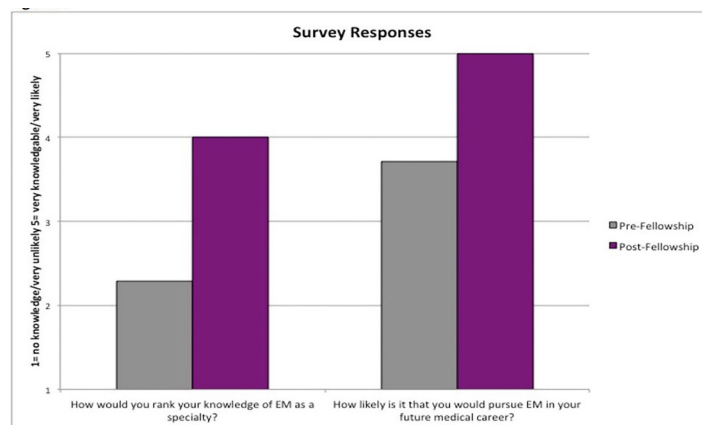
Background: Although under-represented minorities (URM) comprise 30% of the U.S. population, only 15% of medical students and 9% of emergency physicians self-identify as URM. We seek to provide early emergency medicine (EM) exposure for URM medical students in order to promote diversity and inclusion within EM. A physician workforce that more closely reflects our general population will facilitate learning and enhance cultural competency. Most medical schools do not offer exposure to EM until the clinical years, often as an optional rotation. As a result, many students are never formally exposed to EM, and thus lack the knowledge to make an informed career decision. A handful of EM programs in the country offer stipends for URM senior medical students who have already decided to specialize in EM. These programs, however, are not targeted at the early, undifferentiated, URM medical student.

Educational Objectives: Our fellowship was developed to engage pre-clinical URM medical students in EM and encourage them to pursue EM as a career.

Curricular Design: A total of 145 URM students from across the country applied to our five-week fellowship (July

2018), with full funding (housing, travel, and food) provided to the four who were accepted. Components aimed to explore the full breadth of EM and included faculty and resident mentorship, shadowing, social medicine initiatives, procedure workshops, didactics, simulation sessions, conferences, journal clubs, high school teaching, grand rounds, a wilderness medicine outing, meetings with the Office of Diversity Affairs, and a final scholarly project. A post-fellowship anonymous survey and focus group were conducted to assess their interest in pursuing an EM career. We aim to follow the fellows longitudinally to track career choice.

Impact/Effectiveness: We merged much of the curriculum with our inaugural NYU EM Summer Fellowship. Of the three NYU fellows, two were URM. Immediately post-fellowship, we conducted a focus group with all seven students and distributed an anonymous survey to assess our effectiveness in meeting our goals and the fellows’ interest in pursuing EM. The fellows’ average self-reported knowledge of EM and likelihood of pursuing a career in EM increased after the fellowship. From the focus group, students appreciated hearing from “someone [who] had [their] experience and made it to where they were.” Due to the success of our 2018 fellowship, we have received funding for 2019.



7 The New Morbidity and Mortality Conference – A Prospective Approach

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Background: In an effort to make morbidity and mortality (M&M) conference more engaging with an emphasis on cognitive biases, we launched a novel, prospective approach. Traditionally, the M&M format has been a case presentation with a retrospective analysis in a lecture-based format. Our previous conferences used a root-cause analysis to assess where errors occurred. Learners felt that the traditional format not only failed to promote engagement and faculty participation, but also lacked adequate attention to cognitive biases. Our new format, which incorporates small group learning, provides learners with a more