

## 4 The Association of Emergency Medicine Residency Training In Medically Underserved Areas And Current Practice In Medically Underserved Areas

Mary Haas, Laura Hopson, Caroline Kayko, John Burkhardt

**Background:** Recent publications are heralding concerns of oversupply and geographic maldistribution of the emergency medicine (EM) workforce. Patients in medically underserved areas (MUAs) are more likely to rely on care by emergency physicians (EPs). It remains unclear if establishing more residency programs in MUAs will increase the likelihood of EPs remaining locally to practice.

**Objectives:** We explored the relationship between residency location and ultimate practice location with regard to MUAs. We hypothesized that training in an MUA would increase the likelihood of currently practicing in an MUA.

**Methods:** We geocoded 2021 AMA Masterfile data using ArcGIS Pro, analyzed current EP practice location, and merged it with the ACGME roster of EM residency programs. Using spatial analysis tools, we mapped the intersection of practice location, residency, and U.S.-government-designated MUAs.

**Results:** Of 253 EM residency programs in existence at the time of the analysis, 44% (112/253) are located in MUAs. Of the 43% (25,672/59,588) of EPs who trained in MUAs, 30% (7828/25,672) currently practice in MUAs. Of the 57% (33,916/59,588) of EPs who did not train in MUAs, 22% (7530/33,916) currently practice in MUAs. Being trained in a program based in a MUA was associated with a slightly higher odds of future practice in an MUA (OR 1.52, 95% CI:1.46-1.58).

**Conclusions:** Training in an MUA was associated with higher likelihood of currently practicing in an MUA. Our data was limited to the residency program's main site and

current primary practice location and does not account for all locations that an individual EP has or currently practices so may underestimate true prevalence. This information may help to strategically locate EM residencies to address shortages.

## 5 An Examination of Trauma-Informed Medical Education in the Emergency Medicine Clerkship: Opportunities for Learner-Centered Curricular Development

Ahmed Taha Shahzad, Giselle Appel, Kestrel Reoppelle, Stephen DiDonato, Dimitrios Papanagnou

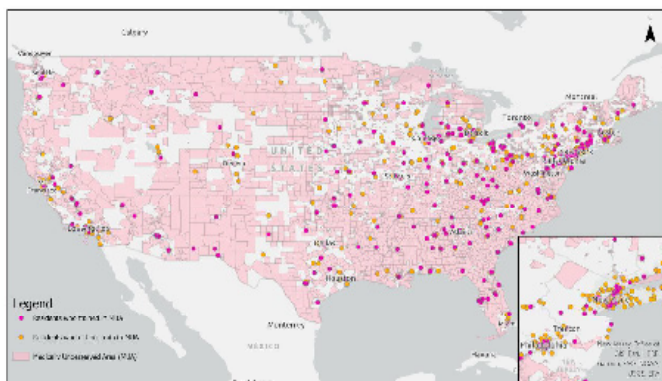
**Background:** During the Emergency Medicine (EM) clerkship, medical students are immersed in stressful or traumatic incidents with their patients and clinical teams. Trauma-informed medical education (TIME) applies trauma-informed care (TIC) principles to help students manage trauma.

**Learning Objective:** To collect, describe, and analyze medical students' EM clerkship experiences from the lens of TIME to guide curriculum development. We applied the critical incident technique (CIT) to 1) qualitatively capture students' critical incidents and 2) identify gaps in trauma-informed approaches to education.

**Methods:** We employed a constructivist grounded theory approach to explore experiences of medical students. We used the CIT to elicit narratives to better understand the six TIME components as they appear in the EM clerkship. In August 2022, twelve third-year medical students were interviewed and asked to describe a traumatic incident they observed/experienced and the impact the clerkship had on their ability to manage the situation. Using the framework method, transcripts were analyzed 1) inductively by making assertions about each clerkship incident's relevance to TIME and 2) deductively by categorizing elements into one of the six TIME principles.

**Results:** Consistent with current literature, the EM clerkship exposes students to trauma as they navigate learning and patient care. Preliminary analysis (Table 1) has revealed the need for debriefs that emphasize closure; correction of disparities between morally and academically acceptable actions; and educational structures that foster trust in students' skills.

**Conclusions:** Our early data supports TIME as a framework to guide trauma-informed and learner-centered educational programming. Despite a small sample size, preliminary data from medical student's clerkship experiences clarifies opportunities for curricular development in the EM clerkship that better support students working through trauma.



**Figure 1.** Geographic distribution of residency training by medically underserved area location.

**Table 1.** Preliminary data from deductive analysis of interviews.

TIME Principle	Synthesized Assertion	Representative Quote
Peer Support	Students in the clerkship are expected to navigate the hidden curriculum of performing well in the clerkship for a "good grade" with what is morally acceptable for the patients they are treating.	"And so I think that made me feel like I had to be the one responsible for owning that this woman was able to get home and avoid further intimate partner violence. I really felt like I was the one who decided, like, whether she would be undergoing more violence that night."
Empowerment, Voice, and Choice	Lack of closure on such a significant event, despite several opportunities to debrief, continued to loom over the student and the student's perception of their grade.	"I don't think I've ever seen someone...been there when they pronounce someone dead. It was kind of my first experience and seen then, I was still positive. [Counseling] was like, "I was going to reach out to you anyway. We made a list of those people who came up at the school counseling center meeting." I was feeling fine, so it wasn't like, "Wow, that's great", but it was like kind of nice for someone to be, "It's okay that you feel fine. You shouldn't feel bad that you're not, like, haunted by this", if that makes sense."
Collaboration and Mutuality	Students are expected to acknowledge, address, and reconcile intrinsic medical complications with their team and take ownership of their actions.	"The physician brought the event up quickly...and he said, "It's really important that we take ownership of what happened here. Instead of lying under making excuses, we take ownership and say what happened". But then he still had to go do other things, and then I was the one who initiated [more conversation about the event], which I think was appropriate from my sense and from the attending sense, a conversation about the event, really for a learning experience for me to talk about what happened."
Trustworthiness and Transparency	Clerkship education lacks opportunities to debrief about racism and bias incidents due to the lack of awareness of sensitivity of the provider.	"I think it would have been nice to have some acknowledgment because like, part of the frustration is feeling like you're the only person who sees it this way, you know? And it's like, it would have been nice if my attending turned to me and was like, "Hey, like that was kind of problematic. I hope you don't think that we all think that way because we don't like that kind of thing." I think it would have counteracted a little bit of the disillusionment I feel towards medicine in general."
Safety	Despite being in demanding situations and often being the most untrained members of the care team, students can be empowered to do their best because of the trust that care-team leadership places in them.	"If I wanted to express my thoughts/opinions during [after the situation] I think I probably could have. I probably could. I don't know what I would have said. It wasn't like the situation where I felt like I had something I wanted to say, and I didn't say it. I didn't think I had anything to say, but I talk like if I had shared something, I think it would have been received fine. I mean, it might have seemed a bit weird for a med student to speak up like that, but I don't think it would have been like actively discouraged by any means."
Cultural, Historical, and Gender Considerations	Gender stereotypes in clerkship education discourages overt emotional expression by students and can foster impostor syndrome.	"I think there's always that feeling, especially like as a young female trainee, I feel like I kind of have to put on a brave face and not show that much emotion... I don't know. Like it's good to appear involved in your patients, but it's not good to be like, "Oh, like this is the worst thing that's ever happened, blah, blah, blah." Because obviously all these people have seen worse. So, no, I don't think that anyone would have written me a bad review if I was showing that I was upset. But I do think it subconsciously impacts what people think of you. Like, you know, maybe she's not cut out for this field or something."

## 6 Emergency Department Slit Lamp Interdisciplinary Training with Longitudinal Assessment in Medical Practice (ED SLIT LAMP) - A Preliminary Report on Physician Skill Acquisition

Samara Hamou, Shayan Ghiaee, Kelly Kehm, Christine Chung, Xiao Chi Zhang

**Background:** Ocular emergencies account for up to 3% of Emergency Department (ED) visits in the US, requiring emergency physicians (EPs) to have the skills and confidence to identify and manage ocular pathology. Due to insufficient ophthalmic training during residency—and infrequent use in clinical practice—EPs report a lack of confidence in performing a slit lamp exam.

**Objectives:** To design an evidenced-based, simulation-based mastery learning (SBML) curriculum to empower EPs to perform a structured slit lamp exam.

**Methods:** EPs at a tertiary academic institution were enrolled in an SBML curriculum and evaluated using pre- and post-test assessment, and follow-up skill utilization. Ophthalmology and ED faculty created the curriculum and a 20-item checklist based on targeted needs assessment. Participants first completed an in-person baseline slit lamp exam at Wills Eye Hospital (WEH), then received a learning packet, instructional video, and an independent readiness assessment (IRAT). Passing the IRAT (>90%) permits the

EP to schedule in-person SBML deliberate practice and final exam at WEH. Participants must score above 90% on the final checklist and complete a 3-month follow-up survey on provider confidence and knowledge dissemination to graduate.

**Results:** 17 EPs enrolled, with only 17% feeling confident in performing a comprehensive slit lamp exam for ocular complaints at the start of the study. All EPs successfully completed the final exam in one attempt. There was a significant increase between pre-curriculum (11.0, 2.78) and post-curriculum (19.22, 0.78) scores; with an average increase of 8.22,  $p < 0.001$ .

**Conclusions:** This is the first interdisciplinary SBML pilot curriculum between the Dept. of Ophthalmology and EM that demonstrated a significant improvement in clinician skillset. Further analysis will evaluate knowledge dissemination and physician attitude in regards to ED SLIT lamp with goals of dissemination and replication by other EM programs.

## 7 InnovateEM: Boosting Scholarly Productivity

Latha Ganti

**Introduction/Background:** Scholarly activity is the cornerstone of an academic emergency medicine training program. It is well known that a positive experience with research and scholarly activity during training is directly correlated with whether one will continue in academics. For this reason, designing a curriculum that has clear milestones and easily achievable publication goals is instrumental.

**Educational Objectives:** 1. To instill the love of scholarly writing in trainees and faculty. 2. To boost the numbers of publications in our program.

**Curricular Design:** Our curriculum consists of 2 components: 1) a longitudinal didactic curriculum of 12 lectures covering study design, critical appraisal of literature, and biostatistics, and 2) a formal 3 week rotation during the PGY-2 year. At any time prior to the rotation, the resident submits a written plan for what they will do with their time during their InnovateEM block. Once approved, any pre-work such as IRB approvals or data requests are handled by the research director. Templates for different types of publications are provided. The project can focus on clinical research, case series, survey, or quality improvement. They are also required to perform five journal article reviews, to gain an appreciation of what it is like to critique another's work. Trainees also learn to write an abstract for national EM meetings. The end-goal is publication in a peer-reviewed pubmed indexed journal.

**Impact/Effectiveness:** The impact is tracked by the number of pubmed indexed publications, which rose exponentially in the 5 years that the program has existed, from 1 per year in the first year to more than 65 in the current year 5. (figure 1). It also impacts residents' career choice with over