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Creation of an Innovative Quality and Patient Safety Curriculum for an Emergency Medicine Residency during COVID-19

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14 Creation and Evaluation of Free Open Access Medical Education (FOAM) Resources: Electrocardiogram Triage as a Virtual Infographics Challenge in EM Resident Didactic Conference

Kathryn Fisher, MD; Anisha Turner, MD; Malford Pillow, MD, MEd

Learning Objectives: Our objective for this initiative was to create a novel and interactive activity that would be feasible in the virtual setting and challenge the residents to collate and evaluate information to create an infographic resource, all while reviewing FOAM evaluation and the content area selected.

Abstract:

Emergency Medicine (EM) residents utilize free open access medical education (FOAM) sources, and many create them to distribute publicly. They often lack training on creation of educational resources despite serving in educator roles within their communities. During the COVID-19 pandemic, use of virtual resources increased with medical professionals seeking information from FOAM sources. The transition to virtual didactic conferences posed the challenge of creating active learning opportunities. Here we present a novel, interactive FOAM creation challenge for EM residents. Our objective was to create a unique challenge where residents would compete while creating, evaluating and disseminating FOAM resources. In May 2020, all 42 EM residents were placed in groups of 5-7 with diversity in training level and were tasked with creating a single-page infographic using free online sites to be used on-shift as a point-of-care reference. Groups met virtually during conference. We chose ECG interpretation and triage in the emergency department as the topic. At our institution, PGY-3 residents are allowed to “sign” triage 12-lead electrocardiograms (ECGs), a process including determining if it meets ST-elevation myocardial infarction (STEMI) criteria and identifying other pathologies needing immediate intervention. We further subdivided the topic into determination of STEMI, STEMI equivalents, STEMI mimics and other emergent findings. The residents and faculty jointly created and validated a novel grading rubric (Figure 1). Infographics from each team were then de-identified and assessed using the rubric and disseminated.

This innovation can be utilized in any level and on any topic in medical education. It created an interactive activity challenging residents to work together virtually while applying knowledge to create usable on-shift resources. This intervention was met with positive feedback on its novelty, ability to make virtual learning interactive, and its relevance.

The figure shows a digital grading rubric interface. It starts with a dropdown menu labeled 'Which infographic are you evaluating?'. Below are five Likert scale questions, each with a 1-5 rating and descriptive anchors. The questions are: 1) 'What is your impression of its visual appeal? (Is it an appealing resource to you?)' with anchors 'unorganized, unappealing' and 'visually appealing, ideal formatting'. 2) 'What is your impression of the content selection? (Is the content covered completely and accurately?)' with anchors 'incomplete coverage of content area' and 'complete coverage of content area'. 3) 'What is your impression of the usability of the EKG infographic? (How likely are you to use on-shift?)' with anchors 'difficult-to-use on shift' and 'easy-to-use and ideal for on-shift use'. 4) 'Is the infographic clearly evidence-based? (Do you trust its sources?)' with anchors 'unclear sources, not up-to-date, or not evidence-based' and 'clear sources cited in-text with up-to-date sources'. 5) 'What is the infographic's utility? (Is it relevant to you?)' with anchors 'information not relevant to EKG interpretation and triage in Emergency Medicine' and 'information covered extremely relevant to EKG interpretation and triage in EM'. At the bottom, there are two text input fields: 'Total Score (out of 25 possible points): Your answer' and 'Additional comments or feedback? Your answer'.

Figure 1. Online grading rubric utilized based on 5 categories: content, usability, evidence-based, and utility.

15 Creation of an Innovative Quality and Patient Safety Curriculum for an Emergency Medicine Residency during COVID-19

Samita Heslin, MD, MBA, MPH, MA; Robert Schwaner, MD; Richard Dickinson, MD; Candice King, RN, MSN, NP; Somair Malik, MD; Scott Johnson, MD; Scott Weingart, MD; Eric Morley, MD, MHA, MS

Learning Objectives: Our goal was to create a Quality and Patient Safety Curriculum for EM Residents that included interactive lectures, resident projects, infographic emails, and simulations. This curriculum was developed during COVID-19 and therefore was adapted for virtual and in-person socially distant education.

Abstract:

Introduction/Background: The American College of Graduate Medical Education (ACGME) requires residents develop skills to analyze quality assessment methods; identify system errors; and participate in quality improvement projects. When surveyed, 52% of EM residencies had <4 hours/year of

quality education and 62% had <4 hours/year of risk education.

Educational Objectives: Our goal was to create a Quality and Patient Safety Curriculum for EM Residents that included interactive lectures, resident projects, infographic emails, and simulations. This curriculum was developed during COVID-19 and adapted for virtual and socially distant education.

Curricular Design: We created our Quality and Patient Safety curriculum based on initiatives important to our ED, such as sepsis care. We designed 4 main educational programs:

- 1) Quality Corner: Weekly, a colorful infographic on quality metrics, new patient safety initiatives, or EMR tips was emailed (Image 1: Example Quality Corners).
- 2) Monthly Lectures: A 45-minute interactive quality lecture was given monthly at conference. Residents were given case-based scenarios followed by an online poll; real-time results were displayed. This was followed by a 1-hour deep-dive on a patient case.
- 3) Resident Projects: Each resident was assigned to a group and focused on a quality metric. The groups were taught how to do a literature review; write an IRB; create a datasheet; and implement a project.
- 4) Quality Simulations: During resident shifts, a chief resident ran quality group and individual case simulations.

Impact/Effectiveness: Residents completed anonymous surveys. For the residency lectures, 39 of 48 (81%) residents responded - 82% stated they were helpful; 84.6% learned something new; and 84.6% recommended they be continued. For the Quality Simulations, 28 of 30 (93%) residents responded - 100% said they were helpful; 93% learned something new; and 100% recommended they be continued.

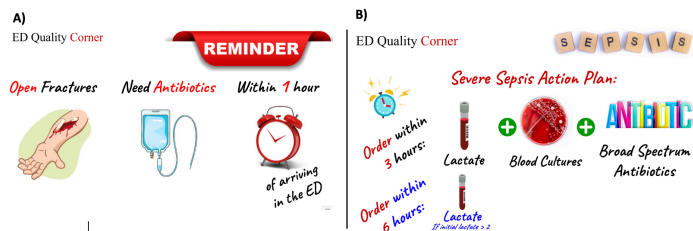


Figure 1

16 Cultivating Shame Resilience Through Connections: A Curriculum

Jillian Duffy, Laura Welsh, MD; Elmira Andreeva, MD; Avery Clark, MD; Kerry McCabe, MD

Learning Objectives: We sought to provide Emergency Medicine (EM) interns with a framework for understanding the prevalence of the shame experience and its effect on professional growth and identity, and developing shame resilience to improve their education and wellness.

Abstract:

Introduction: From errors to imposter syndrome, shame is pervasive in medical training. It causes disengagement from learning, impaired empathy, and burnout. Transition periods, such as intern year, are high risk for emotional events leading to prolonged shame experiences. Shame resilience can be fostered by reframing our emotional response to adopt a growth mindset and improve education for learners.

Curricular Design: We designed a three-part workshop series to address EM interns' vulnerability to feeling shame while navigating internship. Content was based on a needs assessment of current residents, literature review, and consensus from a group of faculty and residents. Each workshop consisted of a ninety minute in-person session led by residents and attendings aimed at identifying, normalizing, and discussing the shame responses unique to the EM resident. Sessions spanned over 6 months to allow for a variety of experiences to inform discussions. Each session built upon the concepts and conversations from the prior, guiding interns through skills to build shame resilience within oneself and amongst the peer group. Skills were reinforced by small group discussions, self reflection through journaling, and normalization via first-hand accounts of shame experiences from senior residents and attendings.

Impact: Initial qualitative feedback by participants has been overwhelmingly positive. Participants were eager to discuss errors and feelings of imposter syndrome in a space that normalized these experiences. Interns continued these shame conversations through informal group texts and on shift. Further research is needed to explore the effectiveness of this curriculum over the course of residency.

17 Direct Observation Teaching Shifts (DOTS): An Approach to Using 360-degree Assessments

Caroline Molins, MD; Carmen J Martinez Martinez, MD MSMEd

Learning Objectives: This innovation creates a Direct Observation Teaching Shifts (DOTS), in order to facilitate 360-degree evaluations. You will learn how DOTS increased these and the feedback EM residents receive.

Abstract:

Background: ACGME requires that residencies must provide evaluation and feedback from multiple evaluators such as faculty, fellow residents, medical students, patients and ancillary staff. These are called Multisource feedback (MSF) or 360-degree assessments. Direct observation of resident's patient encounters and their individual performance is an essential aspect of competency-based education. We created the direct observation teaching shifts (DOTS). DOTS are scheduled shifts in which paired faculty/