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Gamification through Low-Fidelity Simulation to Teach Early Clinical Application of Point-of-Care Ultrasound

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suggested areas of improvement and desired expansion for the future curriculum.

Table 1. Retrospective pre-post-survey.

Q6 BEFORE DEI course: My knowledge of...						Q7 AFTER DEI course: My knowledge of...							
	NONE	A LITTLE	SOME	A LOT	TOTAL	WEIGHTED AVERAGE		NONE	A LITTLE	SOME	A LOT	TOTAL	WEIGHTED AVERAGE
Radiobiology historical impact	0.0%	15.0%	57.0%	28.0%	7	3.12	Radiobiology historical impact	3.00%	0.0%	26.0%	69.0%	20	3.62
Currently competent care of the LGBTQ+ community	3.0%	33.0%	42.0%	19.0%	7	2.81	Currently competent care of the LGBTQ+ community	3.00%	0.0%	42.2%	54.8%	20	3.46
DEI in radiology/ultrasound	0.0%	38.4%	48.0%	13.6%	7	2.77	DEI in radiology/ultrasound	3.00%	0.0%	38.4%	57.6%	20	3.50
DEI impact in academic medicine	7.0%	34.0%	48.0%	11.0%	7	2.62	DEI impact in academic medicine	3.00%	0.0%	42.2%	53.8%	20	3.40
Formation of an anti-racist professional identity	25.0%	28.0%	38.0%	9.0%	7	2.82	Formation of an anti-racist professional identity	3.00%	0.0%	34.2%	62.8%	20	3.54
Reflection/racism strategies case discussions	7.0%	42.0%	38.0%	13.0%	7	2.94	Reflection/racism strategies case discussions	4.00%	1.0%	9.0%	86.0%	25	3.44

Table 2. Participant impact.

Q9 Do you think this course impacted or changed your current practice? Why or why not?

ANSWER CHOICES	RESPONSES
Yes	73.00%
No	7.69%
I don't know	19.31%
Total Respondents: 26	

made me become aware of what terms I can use to be helpful	It has made me more aware of terminology associated with trying to make our environment more inclusive and has made me more aware of the struggle people face with getting care as well as other physicians may face in the professional environment. It has made me aware of my privilege in this sector and given me tools as to how I can work to create a more inclusive environment.
I'm better equipped to care and advocate for diverse patient populations	Yes. It has made me more mindful of potential biases I may have and given me strategies to combat them.
While I have spent a lot of time in the health equity space there is constant need for learning and improvement. I think this course allows us to slow down from our fast paced environment and reflect on mistakes and how we can do better. Similar to other M&Ms.	These are concepts that are persistent in my everyday life, not just my practice in EM. Great course, please keep it for future years!
This course created a shared understanding and language to discuss these important issues in our emergency department. Since we took this course as a residency as a whole, we now can hold each other accountable to important changes and discuss errors in a more productive manner.	I think I just to be more aware in every patient interaction and also helped to help residents navigate these complex situations.
I think that it has allowed me to be ok with what I don't know and allow me to ask questions as a learner and physician that at first I was not comfortable asking. I enjoyed the safe space to have conversations around topics that have been challenging for me in the past. Thank you.	I will be more aware of these topics and how to deal with them in real time.
I now feel more confident addressing and interacting with patients who have many different racial/ethnic identities.	broadened some of my knowledge base
I think I am much more aware of the racism in the work place and can be a better advocate	

Design: During each CCC meeting scores for each sub-competency (e.g., Patient care, Medical Knowledge, etc.) within each of the six core competencies were summed for each postgraduate year (PGY). Median scores are calculated for each of the six core competencies based on gender and UIM status, as defined by the Association of American Medical Colleges (AAMC). A median difference of greater than or equal to 0.5 triggers a review of the scores in real-time and if sustained over 2 CCC meetings a root cause analysis is implemented.

Impact/Effectiveness: The equity dashboard was piloted for one 4-year EM residency program for 3 CCC meetings, from 2021-2022. Once the milestone scores were finalized during the meeting, any differences in medians were discussed and the data was reviewed by CCC members. Real-time changes were made to ACGME milestone scores to ensure internal consistency and interrater reliability. Over 3 CCC cycles, a root cause analysis has not been needed thus far.

17 Gamification through Low-Fidelity Simulation to Teach Early Clinical Application of Point-of-Care Ultrasound

Daniel Saadeh, Lauren McCafferty

Introduction/ Background: Point-of-care ultrasound (POCUS) has become an integral part of EM residency training, but pre-residency exposure is highly variable. Efficiently teaching the many core POCUS applications to new EM interns in a 1-day bootcamp in a way that is effective, engaging, and clinically relevant can be a challenge. Gamification and simulation have been demonstrated to be valuable mediums through which to teach POCUS to undergraduate and graduate learners. Especially early in training, the emphasis is often on image acquisition and interpretation skills rather than clinical application, which is learned more in clinical practice throughout residency.

Educational Objectives: We utilized gamification and simulation as engaging educational techniques to introduce interns to the clinical application and integration of POCUS from the beginning of residency.

Curricular Design: As part of a POCUS bootcamp for EM interns in July, we incorporated a gamified approach into the curriculum. After learning the basics of image acquisition and interpretation, the learners were placed into teams for a competition stage where they rotated through seven low-fidelity simulation stations, each composed of a clinical scenario in which POCUS is commonly incorporated. Progression through each scenario depended on the learner's ability to successfully apply bedside ultrasonography to clinical care.

Impact/Effectiveness: This educational symposium

16 Educational Continuous Process Improvement: Implementation of an Equity Dashboard for ACGME Milestone Score Assessment

Jillian Mongelluzzo, Esther Chen, Evelyn Porter, Christopher Fee

Introduction/ Background: Studies have shown inequities in assessment within Graduate Medical Education (GME) based on race/ethnicity and gender identities of residents. Accreditation Council for Graduate Medical Education (ACGME) milestone assessment scores can serve as a warning sign for deeper issues in methods of assessment, well-being, or opportunities for residents. To help mitigate bias in assessment, we piloted an equity dashboard to compare outliers in semi-annual milestone scores by gender and underrepresented in medicine (UIM) status from one emergency medicine (EM) residency program.

Educational Objectives: 1. Implement an educational continuous quality improvement (ECQI) process, the equity dashboard, to identify outliers in ACGME milestone scores by gender and UIM status 2. If persistent discrepancies are identified, utilize a root cause analysis framework to gain a deeper understanding of the causes and formulate potential solutions.

included over forty EM interns from five institutions. The vast majority completed post-event surveys which showed overwhelmingly positive feedback for the structure of the course. After a one-day session at the beginning of residency, interns gained the experience of applying POCUS to clinical practice. Future directions include additional evaluative feedback and continued minor curricular improvements.

18 High Risk, Low Frequency Emergency Medicine Resident Asynchronous Simulation Curriculum

Taylor Petrushevski, Adriana Segura Olson, Nathan Olson

Introduction/ Background: Integrating high risk, low frequency cases into EM resident education remains a challenge and are often integrated into SIM. There is an increasing focus on asynchronous curricula in medical training, but little on blending asynchronous and SIM.

Educational Objectives: We instituted a pilot asynchronous SIM curriculum for high risk, low frequency cases; our goal was to assess the effect of the curriculum on EM resident knowledge retention and confidence.

Curricular Design: A needs assessment showed that the majority of EM residents at a 3-year academic residency did not feel confident managing high risk, low frequency cases, but did feel that pre-existing SIM and asynchronous curricula were valuable for knowledge retention. We implemented an asynchronous SIM curriculum to address this need. A SIM for EM PGY 1-3s involved an inferior STEMI complicated by unstable complete heart block requiring pacing. Asynchronous FOAMed content was curated with different modalities. Residents were randomized to participate in SIM alone or in SIM and asynchronous curriculum. A survey assessing knowledge retention via quiz and resident confidence via Likert scale was administered to both groups directly after SIM and at 1 month.

Impact/Effectiveness: Directly after SIM, less than 50% of participants (n=22) were confident identifying complications of STEMIs and managing complete heart block, demonstrating the educational need that can be met by an asynchronous SIM curriculum. The asynchronous group had no change in average knowledge quiz score at 1 month while the non-asynchronous group had an average change in score of 1 at 1 month. These non-significant findings are likely secondary to a small sample size; data collection is ongoing as we are approximately 1-month post SIM. The theoretical value of blending debrief-focused SIM with different modalities of asynchronous material allows for spaced repetition with practical, balanced, and individualized education.

19 Implementing A Mutually Educational Measure for ACGME Residency Core Didactic Participation Tracking

Kelly Roszcynialski, Ashley Rider, Yvonne Landeros, Sara Krzyzaniak

Introduction/ Background: The COVID-19 pandemic necessitated moving core residency didactics to a virtual platform. The inability to use in-person sign-ins and physical evaluation forms posed challenges for tracking attendance as part of the ACGME conference participation including an evaluative component. (ACGME 2011) Objectives: To develop an attendance tool that is reliable and convenient for didactic participants in a hybrid setting, offers a reflection opportunity for learners, and provides specific and actionable feedback to educators.

Design: Program leadership designed a novel conference feedback form (CFF), consisting of two free text response assessments for each didactic activity. The first prompts a reflection on what the resident learned. The second asks for feedback from the resident to the lecturer. The CFF was built in Smartsheets and made accessible to residents through a physically posted QR code, hyperlink in Zoom chat, and on our program's secure webpage. Completion by the end of the day qualified as participation for attendance tracking.

Impact: The CFF was piloted May-June 2022. Pilot feedback to learners was that answers must be concrete, and an empty field or 'N/A' would not suffice. The CFF was formally implemented in July 2022. To date, we have gone from no formal qualitative feedback to presenters to 864 submissions. Residents reported they are more attentive to lecture content in anticipation of synthesizing a learning point to earn participation credit. This confirms the objective in alignment with a constructivism theory to increase learning by self-reflection. This simple CFF can be implemented in any residency program looking to both formalize attendance tracking and add a mutually educational tool for residents and presenters to align with ACGME core program requirements.

20 Improving Emergency Medicine Resident Ophthalmologic Management Skills via Simulation

Jessica Pelletier, Alexander Croft, Michael Pajor, Matthew Santos, Ernesto Romo, Douglas Char, Marc Mendelsohn

Introduction/ Background: Ophthalmology education in emergency medicine (EM) residencies is lacking, with the majority of EM physicians feeling they could benefit from additional training in this domain, and less than half of EM physicians comfortable performing a lateral canthotomy. To