

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Crash Course — A Critical Care Curriculum for PGY-1 Emergency Medicine Residents

Permalink

<https://escholarship.org/uc/item/1vn2011h>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 26(3.1)

ISSN

1936-900X

Authors

Jagtiani, Tina Anjali

Simon, David

Khowong, Timothy

et al.

Publication Date

2025-06-16

DOI

10.5811/westjem.48643

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

toxic plants in their natural setting led to both increased comfort with identification of poisonous plants and toxin-mediated pathophysiology, as well as enhanced recall of knowledge regarding toxidromes. This session served as an effective and engaging learning experience that deviates from the traditional classroom setting. We hope that this project leads to further outdoor and hands-on didactic sessions in emergency medicine education.

65 Enhancing Resident Preparedness and Interest in Critical Access Hospital Emergency Departments through a Specialized Curriculum

Kjerstin Hensley, Sydney Miller, Robert Calleja, Bopha Hang

Background: Critical Access Hospitals (CAHs) face staffing shortages as most EM graduates pursue urban positions. A MedEd Portal review showed no standardized curriculum training residents for CAH roles. With saturated metropolitan EM job markets and ongoing CAH staffing needs, this study's rural-focused curriculum – including didactics, simulations, and procedural training – aimed to increase residents' interest and preparedness for CAH roles.

Objective: To assess whether a specialized curriculum improves resident preparedness and interest in critical access hospital EDs, we hypothesize that implementing such a curriculum will significantly enhance residents' preparedness and comfort in managing critically ill patients in these environments.

Methods: This prospective study between 2023-2024 included 29 residents in an urban, academic Level 1 Trauma center. The participants were surveyed on their comfort, experience, and interest in rural EM through pre- and post-surveys surrounding a novel 6-month curriculum. The curriculum included lectures on CAH foundations, EMTALA, pharmacology, and rare procedures, supplemented by a solo simulation and hands-on labs for limited-resource stabilization techniques. The training's impact was analyzed post-curriculum with paired t-tests and effect sizes via Cohen's d, with the Shapiro-Wilk test confirming normality and Bonferroni correction setting a 0.0125 threshold.

Results: Comfort in managing critically ill patients in both urban ($p < 0.001$, $d = 1.27$) and rural ($p < 0.001$, $d = 1.05$) settings improved significantly. An increase in comfort speaking with transfer centers ($p = 0.010$) was not significant after adjustment, though the medium effect size ($d = 0.61$) suggested practical relevance.

Conclusions: The curriculum enhanced residents' comfort in managing and stabilizing critically ill patients in urban and rural settings. Improvements in transfer center communication were observed but not statistically significant post-adjustment.

Table 1. Statistical analysis of interventions for critically ill patient management across different settings.

Variable	Mean Difference	t-Statistic	Unadjusted p-value	Adjusted p-value	Conclusion	Effect Size (Cohen's d)
Identifying Critically Ill Patients	0.52	2.166	0.042	0.168	Not Significant	0.47 (Medium)
Managing Critically Ill Patients in Urban Settings	1	5.831	< 0.001	< 0.001	Significant	1.27 (Large)
Stabilizing Critically Ill Patients in Low-Resource Settings	1.43	4.831	< 0.001	< 0.001	Significant	1.05 (Large)
Speaking with a Transfer Center	0.95	2.817	0.01	0.04	Not Significant	0.61 (Medium)

66 Crash Course – A Critical Care Curriculum for PGY-1 Emergency Medicine Residents

Tina Anjali Jagtiani, David Simon, Timothy Khowong, Kyle Vincent Soldevilla, Catherine De Guzman

Introduction: The hallmark ability of the Emergency Physician (EP) is to quickly assess a patient in extremis and deploy interventions to save lives. However, there is a lack of formal training in resuscitation for early trainees. To address this, we developed a structured, four-session curriculum with a combination of individualized interactive didactics and simulation to standardize resuscitation training for emergency medicine interns.

Educational Objectives: By the end of the course EM interns will:

1. Describe the pathophysiology of shock
2. Prescribe the correct hemodynamic agent for a patient in shock
3. Identify a physiologically difficult airway
4. Intubate a patient with normal airway anatomy
5. Describe the modes of invasive and non-invasive ventilation
6. Define reversible causes of cardiac arrest
7. Describe indications to cease a resuscitation
8. Conduct a basic goals of care discussion

Curricular Design: The curriculum consists of four 2-hour, 1-on-1 sessions. Prior to the course, interns take a pre-test with Likert scale and short-answer questions. Each session includes a 15-minute simulation followed by a 15-minute debrief, leading into a 90-minute interactive lecture related to the simulation topic. The remaining time is dedicated to supervised procedure practice and addressing questions. The 1-on-1 format promotes psychological safety for intensive learning, while the use of interactive didactics and simulation aligns with learner preferences in emergency medicine. The sequence of cases is scaffolded, building on knowledge from previous sessions. A post-test is administered immediately after the course.

Impact: The course effectively transferred the knowledge, skills, and attitudes needed for EPs in resuscitation, achieving success at Kirkpatrick Levels I and II. To date, 19 learners ($n=19$) have successfully completed the course. Pre- and post-test results show subjective confidence

in critical care increased from 2.47 to 4.13 ($p < 0.001$) on the Likert scale, and average written exam scores improved from 49% to 74% ($p < 0.001$). Learners provided overwhelmingly positive feedback. Though time-intensive, the curriculum represents a valuable investment in a crucial skill for Eps.

67 Bingo! A Multiplayer Synchronous Serious Game to Increase Weekly Conference Engagement and Learning

Tina Anjali Jagtiani, Thomas Sanchez, Brian Smith, Timothy Khowong

Background: Weekly conferences are a crucial component of medical residency education; however, maintaining consistent engagement among residents during these sessions can be challenging. We have implemented a novel intervention, content-related conference bingo, to address this issue, aiming to improve resident participation, satisfaction and knowledge retention.

Objectives: By participating in this serious game, EM residents will:

1. Actively listen to all didactics during weekly conference
2. Identify teaching points related to their individual game boards
3. Engage with their peers in a friendly competition
4. Formulate a teaching point for every completed box on their game boards

Curricular Design: We introduced a conference bingo initiative at our weekly resident conference via an online platform that is easily accessible from mobile devices. Bingo cards are created with terms and concepts directly related to each week's specific content. Residents play throughout all conference sessions, and the winner of the bingo game is prompted to present one learning point about each crossed-off tile on their card, which reinforces the information and facilitates peer teaching. We assessed engagement levels through a post-intervention survey, direct observation, and participation rates.

Impact: Following the implementation of conference bingo, we observed an increase in resident engagement. Post-implementation survey results ($n=21$) show a favorable reaction toward this novel activity with an average score of 4.24/5 on a bipolar Likert scale, demonstrating a Kirkpatrick Level I impact. In addition, 71.4% of participants report feeling "very engaged" or "engaged" in conference content with the incorporation of bingo, and 100% of learners expressed interest in future participation. The unanimous desire to continue participating in conference bingo demonstrates its strong appeal among residents, giving us the opportunity to leverage their enthusiasm for further educational enhancements

68 Navigating Clinical Feedback in Emergency Medicine: A Scoping Review

Neha Raukar, Dea Kehler, Bo Madsen

Background: Clinical feedback is essential to emergency medicine (EM) education, shaping residents' learning, decision-making, and patient care. However, barriers often limit the effectiveness of feedback. This review synthesizes current research to identify challenges and opportunities in delivering clinical feedback to EM residents.

Objectives: This review examines the role, impact, and challenges of clinical feedback in EM residency, focusing on how real-time feedback affects learning, patient care, and the perspectives of residents and attending physicians.

Methods:

Design: A scoping review of literature from 2013 to 2023 was conducted using Medline and Embase databases.

Setting: Studies were selected from diverse clinical environments, including community hospitals, tertiary centers, and urban trauma centers.

Participants/Subjects: Eleven studies from the US and Europe were included based on relevance to clinical feedback in EM residency. Interventions/Observations: Feedback approaches were reviewed, emphasizing optimal conditions and the educational value of timely, observation-based feedback. Data analysis revealed key barriers to effective feedback, such as time constraints, limited observation, workload pressures, and residents' emotional responses.

Results: Findings show that effective feedback improves clinical skills and operational efficiency but is often hindered by barriers, leading to missed opportunities. Results indicate feedback is most impactful when targeting modifiable behaviors and delivered as real-time, structured input from supervising physicians. Training residents to receive feedback effectively is also emerging as a valuable tool.

Conclusions: Feedback is critical to EM resident education, yet further studies are needed to understand its impact on resident performance in clinical settings. Recommendations include implementing structured faculty development and feedback training for both residents and educators to support continuous learning. Limitations include variability in study design and focus, along with limited literature, which may affect the generalizability of findings.

Innovation Abstracts

1 Shifting Training Preferences in Emergency Medicine Residency Applicants: A Post-Interview Analysis from 2020 to 2024

Christopher Woodard, Jennifer Campoli, Stephen Lucas

Objectives: This study aims to investigate the changing