Title

Implementation of an Educational Dashboard with a Financial Incentive Improves Faculty Participation in Residency Evaluations

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23 Effect of a Pediatric Critical Care Bootcamp on the Knowledge and Confidence of Emergency Medicine Interns

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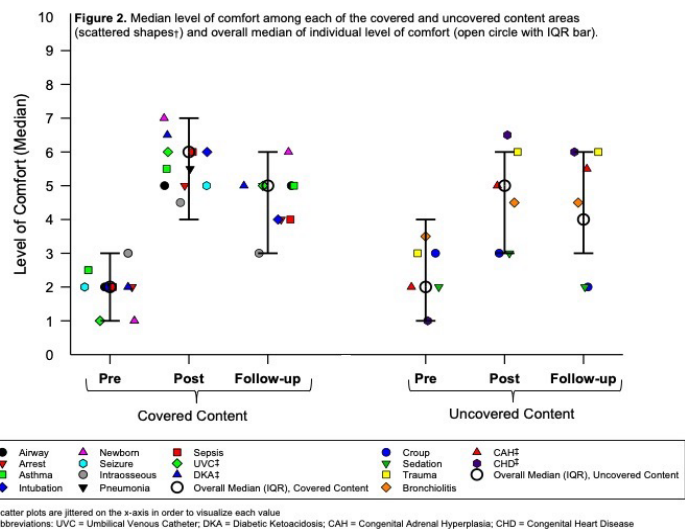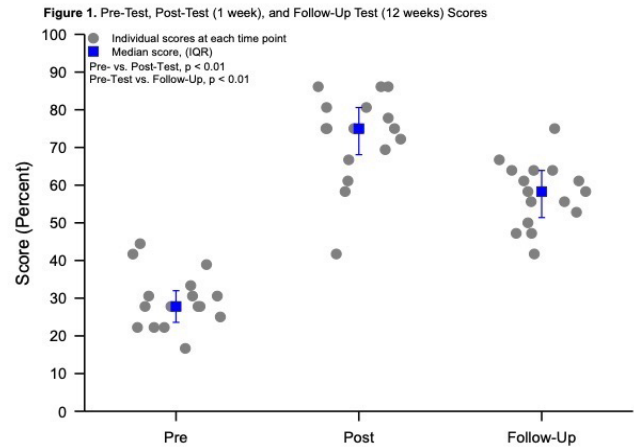
Background: Emergency medicine (EM) residents may not receive adequate pediatric training, particularly in the care of critically ill children. EM residency programs must develop novel and efficient educational tools to provide residents competence and confidence in the care of critically ill pediatric patients.

Objectives: We hypothesized that following completion of a single-day, intensive pediatric critical care bootcamp, EM interns would demonstrate improved knowledge and increased confidence in caring for critically ill children.

Methods: This was a prospective pre-test/post-test cohort study. We sent a survey to senior EM residents and recent graduates to identify areas of educational need; the most-requested topics were respiratory equipment, newborn resuscitation, cardiac arrest, sepsis, diabetic ketoacidosis, status asthmaticus and status epilepticus. A multidisciplinary group designed a simulation-based curriculum. The bootcamp was five hours long: a 30-minute lecture on neonatal resuscitation; three neonatal resuscitation simulation stations; five high-fidelity simulations covering the identified topics above; and an airway station. A test of 23 fill-in-the-blank questions and 17 questions on confidence of caring for critically ill children (scale 1-10), including both content covered and not covered in the bootcamp, was given prior to the bootcamp (pre-test), one week after (post-test), and 12 weeks after (follow-up test).

Results: Sixteen of 17 interns were included in the study, and all 16 completed the three tests. Post-test median scores showed significant improvement from pre-test medians (27.8 [interquartile range (IQR) 23.6-32.0] vs 75.0 [IQR 68.1-80.6], p<0.01) and follow-up median scores remained significantly different from pre-test scores (58.3 [IQR 51.4-63.9], p<0.01). There was a significant increase in the comfort levels associated with caring for critically ill pediatric patients, both for topics covered in the bootcamp, as well as for topics that were not covered (Figure 2).

Conclusion: We saw significant improvements in both the knowledge and confidence of EM interns in the care of critically ill pediatric patients following a single-day intensive curriculum. These gains persisted through the follow-up test, suggesting retention. Interestingly, confidence levels increased even for topics not covered in the curriculum.

Figure 1. Pre-Test, Post-Test (1 week), and Follow-Up Test (12 weeks) Scores

Figure 2. Median level of comfort among each of the covered and uncovered content areas (scattered shapes†) and overall median of individual level of comfort (open circle with IQR bar).

† Scatter plots are jittered on the x-axis in order to visualize each value
‡ Abbreviations: UVC = Umbilical Venous Catheter; DKA = Diabetic Ketoacidosis; CAH = Congenital Adrenal Hyperplasia; CHD = Congenital Heart Disease

24 Implementation of an Educational Dashboard with a Financial Incentive Improves Faculty Participation in Residency Evaluations

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Background: The ACGME requires all emergency mediciine (EM) training programs to evaluate resident performance and also requires core faculty to attend didactic conference. Assuring faculty participation in these activities can be challenging. Previously, our institution had neither a formal tracking program nor a financial incentive for faculty participation in these activities. In 2018 we initiated an Educational Dashboard, which tracked and published all full-time university faculty conference attendance and participation

in resident evaluations and other educational activities.

Objectives: We sought to determine if the implementation of a financially incentivized Educational Dashboard would lead to an increase in faculty conference attendance and the number of completed resident evaluations.

Methods: We conducted a pre- and post-intervention observational study at our EM residency training program between July 2017–August 2018. Participants were 17 full-time EM attendings at one training site. We compared the number of completed online resident evaluations by faculty (MedHub) and number of conference days attended (call-in verification) before and after the introduction of our Educational Dashboard, which included a financial incentive for faculty. The incentive required 100% completion of resident evaluations and at least 25% attendance at eligible didactic conference days. We calculated pre- and post-intervention averages and made comparisons using a chi-square test.

Results: Prior to implementation of the Educational Dashboard with a financial incentive, the 90-day resident evaluation completion rate by faculty was 72%. This increased to 100% after implementation.

Conclusions: Attaching a financial incentive to a tracked Educational Dashboard increased faculty participation in resident evaluations but did not change conference attendance. This difference likely reflects the minimum thresholds required to obtain the financial incentive.

25 Increased Space for Comments on End-of-Shift Card Associated with Longer Comments

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Background: Emergency medicine (EM) faculty members are expected to provide end-of-shift feedback to EM residents to enhance and focus their learning. However, quantity and quality of feedback is difficult to measure. We use paper cards to prompt an end-of-shift conversation, record faculty assessment of a Milestone and allow written comments for later review by the resident, clinical competency committee, and program leadership. We altered our end-of-shift feedback cards to allow for more space for comments hoping faculty would write more.

Objectives: Our primary objective was to assess length of written comments for three months before and after altering the structure of our feedback cards. A secondary objective was to assess how specific and actionable the comments were.

Methods: This was a prospective, observational study in which the authors counted the number of words written on each card for all residents for three months before and after use of the new cards was implemented. Reviewers also rated how specific and actionable the comments were on a three-point scale (0 = not at all, 1 = somewhat, 2 = yes). To assess inter-rater reliability, we had 49 cards reviewed by two authors. Word count variables were summarized descriptively and compared using Wilcoxon rank-sum tests. We assessed inter-rater agreement using Cohen's kappa.

Results: Nine EM faculty reviewed 1204 cards for 32 residents. On the new-format cards, faculty wrote a significantly higher number of words, both overall and for each "List tasks or behaviors done well" and "List specific suggestions for improvement,",when compared to word count on the previous cards. The rating of whether feedback was actionable was also significantly different when comparing the new cards with the previous cards, with a trend toward more actionable feedback on the new cards. There was no significant difference in rating regarding specificity between the two card types. For the subset of cards evaluated for inter-rater reliability, for specificity of feedback, kappa = 0.5837, and for rating on whether feedback was actionable, kappa = 0.9275.

Conclusion: By simply allowing more space on end-of-shift cards for comments, our faculty wrote 50% longer comments for our residents, including significantly more positive feedback and suggestions for improvement.

Table 1. Comparison of word count and whether feedback is actionable and specific, by type of card.

Variable	Original Cards (N=640)	New Cards (N=563)	p-value
Total word count, median (IQR)	10 (10)	16 (16)	<0.0001
Tasks or behaviors done well word count, median (IQR)	7 (6)	9 (9)	<0.0001
Suggestions for improvement word count, median (IQR)	0 (7)	0 (13)	<0.0001
Actionable (N, %)			0.0003
Not at all	362 (56.56)	280 (49.73)	
Somewhat	108 (16.88)	74 (13.14)	
Yes	170 (26.56)	209 (37.12)	
Specific (N, %)			0.1305
Not at all	150 (23.44)	149 (26.47)	
Somewhat	213 (33.28)	158 (28.06)	
Yes	277 (43.28)	256 (45.47)	

26 Mapping Emergency Medicine: Geographic Distribution of Emergency Medicine Clerkship and Residency Positions Based on 2016-2017 eSLOE Statistics

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Background: Visiting rotations are an essential part of the