UC Irvine

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

Title

Using Interprofessional Education to Improve Patient Safety Education Amongst Preclinical Medical Students

Permalink

https://escholarship.org/uc/item/4h55h4d9

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 21(4.1)

ISSN

1936-900X

Authors

Andrabi, Sara
Gill, Anne C.
Huynh, Phuong
et al.

Publication Date

2020

Copyright Information

Copyright 2020 by the author(s).This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

eScholarship.org Powered by the California Digital Library
University of California

2018) and after (2018-2019) introducing QR shift cards. We evaluated the number of shift card submissions and number of words per card. We utilized surveys of both residents and attendings to evaluate preferences and perceived quality.

Results: There was an increase in total shift card submissions with QR codes (2,817) compared to paper cards (2,600). There was no statistically significant difference in words per card (p=0.40), although the number of words per card varied more within the QR group (p<0.001) and had more cards with zero word count (18% vs 9%, p=0.01). 31/60 (52%) of residents and 37/71 (52%) of attendings responded to the survey. The majority of attendings (89%) and residents (65%) preferred QR codes, and a majority reported equal or greater satisfaction with quality and quantity of feedback.

Conclusion: Overall, the data suggests that implementing a new QR based electronic shift card feedback system may increase the number of shift card submitted and may not change the quantity of feedback on each card. The change was widely accepted by both attendings and residents in our emergency department.

51 Too Much on Their Plate? A Survey on Resident Multitasking in the Emergency Department

Abbas D, Turner-Lawrence D, Traylor S, Todd B / Beaumont Health System; Mount Carmel Health System

Background: The emergency department (ED) presents a challenging multitasking environment for emergency medicine (EM) trainees due to a large task load, limited clinical experience, frequent interruptions, and ED overcrowding. Multitasking has been associated with increased resident fatigue, physician burnout, and medical error. However, little is known about EM resident ability to multitask and its progression throughout training.

Objectives: We aimed to determine how EM residents are stressed by multitasking and how this changes throughout training. We hypothesized that early trainees would report greater multitasking difficulty than senior residents. At the conclusion of this activity, participants will be able to describe challenges posed by the ED environment on EM trainees and identify the trend of how ED multitasking progresses over the course of training.

Methods: We performed an observational, cross-sectional study investigating EM resident self-assessment of multitasking skills, stress associated with multitasking, and task management strategies. We administered a 5-point Likert scale survey anonymously to PGY1-3 residents at our large community teaching hospital.

Results: A 6 question survey completed by 34 residents was analyzed with one-way ANOVA with two-tail t-test (Fig 1). Residents reported improved ability to manage tasks efficiently (p=0.003) and decreased difficulty in prioritizing tasks (p=0.00004) from the PGY1 to PGY3 year. The feeling of being overwhelmed by tasks decreased as training progressed (p=0.00002). There was no significant difference found in the ability to leave shifts on time (p=0.09) or utilization of a task prioritization strategy (p=0.07), although these items trended towards improvement based on year of training. There was a trend for early learners believing they would benefit from a task management tool (p=0.1).

Conclusions: EM residents are stressed by multitasking, however this improves through training. Our study was limited by sample size at a single site. These results indicate that early learners in particular would benefit from education to improve multitasking.

52 Using Interprofessional Education to Improve Patient Safety Education Amongst Preclinical Medical Students

Andrabi S, Gill A, Huynh P, Hatfield C, Scheller S, Lye C / Baylor College of Medicine; University of Houston College of Pharmacy; Texas Woman's University

Background: Interprofessional education (IPE), collaboration, and communication are all important to EM. We created a Patient Safety, IPE activity in based around an EM clinical case. The activity was iteratively scaled-up, comprising of 118 pharmacy, 95 nursing and 180 medical students with 100 facilitators participating. Superlative evaluations revealed statistically significant student learning outcomes that we published in MedEdPORTAL. Successful learning activities are subject to degradation. Maintaining academic integrity and student satisfaction is a continual process that requires continual evaluation and intervention.

Objective: This study's purpose is to determine how medical, nursing and pharmacy students rate their satisfaction and self-efficacy before and after a required, IPE activity. We hypothesize that using multi-modal measures will help assess this. This also helps fulfill LCME accreditation standards.

Methods: Recruitment included experienced facilitators, housestaff, and providers. A facilitator orientation was provided. Students were assigned into proportionate groups of preclinical medical, nursing and pharmacy students and two facilitators consisting of a physician and either pharmacy or

nursing faculty. The learners work through a case requiring participation from all professionals to prevent a patient safety error. At closing, all learners complete an online survey rating self-efficacy pre and post activity. Facilitators attend a debrief to share experiences and provide feedback.

Results: 335/340 students completed the survey. All 8 objectives were statistically significant ($p < .001$) when analyzed using a Wilcoxon Signed-Rank test. Effect sizes were calculated to determine the magnitude of the increase. The highest effective size was 0.54 for the item, "I was able to recognize how others' skills and knowledge complement and overlap my own" and the lowest was 0.46 for, "I was able to include the patient/family in decision making." Typically, values in the range of 0.4 to 0.6 are considered moderate effect size, which is appropriate to the length of this intervention.

Conclusions: Using multi-modal measures to collect feedback from both learners and facilitators maintains academic integrity and can move the needle from good to great.

53 Utility of Amazon-Inspired Algorithm for Resident Procedure Logging

Bacharouch A, Goyal N / Department of Emergency Medicine, Henry Ford Health System, Detroit, Michigan

Background: Accurate procedure logs allow residents to demonstrate procedural competence and meet accreditation requirements. Residents often perform multiple procedures on the same patient but may only remember to log a single primary procedure. To mitigate this, Henry Ford Hospital Emergency Medicine (HFHEM) developed two logging tools that recommend additional procedures to record when a primary procedure is submitted. The first tool ("Website") provides suggested procedures based on a static linkage list predetermined by residency leadership. The second ("App") uses an Amazon-inspired algorithm to provide dynamic suggestions based on selection patterns of other residents. For example, the App would say "Residents who logged I&D frequently logged Local Anesthesia or Ultrasound" (Figure 1).

Objectives: To determine whether the dynamic algorithm leads to a greater frequency of procedure co-logging compared to the static linkage list. Secondarily, to determine whether such suggestions successfully prompt residents to log procedures which they may have otherwise forgotten when using traditional logging tools. To develop an innovative tool that would reduce the effort required by residents to log their procedures. To develop an algorithm that would improve the accuracy of the procedure record by capturing procedures that would potentially be forgotten if traditional logging tools were to be used.

Methods: Procedure logging data at HFHEM for academic year 2018-2019 were retrospectively analyzed. The rates at which residents co-logged 1, 2, or ≥3 procedures using the Website or the App were compared.

Results: 8,656 entries were logged: Website 6,804 (78.6%) and App 1,852 (21.4%). The App was superior to the Website in promoting procedure co-logging (Table 1). Overall, 34.8% of submissions had at least 2 procedures co-logged.

Conclusions: The Amazon-inspired algorithm improved procedure co-logging when compared to the residency leadership generated static list. Suggesting procedures (regardless of the algorithm used) led to a high rate of co-logging. This innovative algorithm may decrease the time needed to log procedures and may improve the accuracy of the record by capturing procedures potentially forgotten when using traditional logging tools.

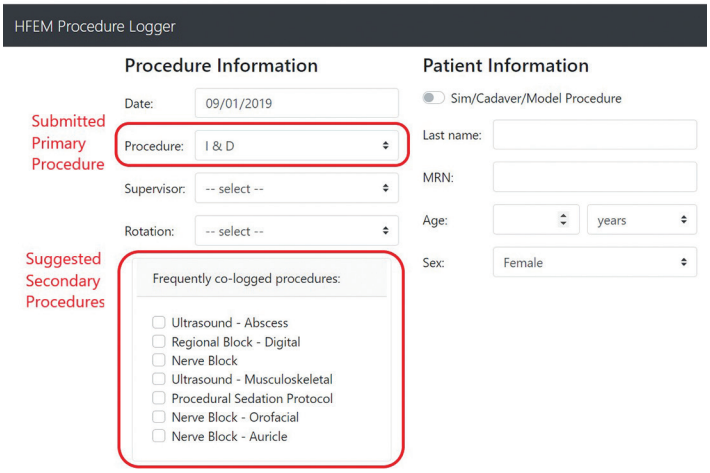

Figure 1. Procedure logging app example.

Table 1. Primary results.

Number of co-logged procedures	Website	App	p-value
1	4687 (68.9%)	957 (51.7%)	<0.001
2	1237 (18.2%)	588 (31.8%)	
≥3	880 (12.9%)	307 (16.6%)	
1	4687 (68.9%)	957 (51.7%)	<0.001
>1	2117 (31.1%)	895 (48.3%)	
1 or 2	5924 (87.1%)	1545 (83.4%)	<0.001
≥3	880 (12.9%)	307 (16.6%)	

54 Validity Evidence for the Core Physical Examination in Medical Students

Guth T, Yudowsky R, Park Y, Hanson J / University of Colorado, University of Illinois - Chicago, Washington University

Background: The Core Physical Exam (CPE) has been proposed as a basis for the Core + Cluster curriculum for teaching and assessing physical examination (PE) skills in medical students.

Objective: This study provides initial validity evidence for a modified, institution-specific CPE as an assessment of