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Evaluation of a Blended Curriculum on Medical Student Outcomes in an Emergency Medicine Clerkship

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evaluate medical students may result in improved evaluation of medical students by residents.

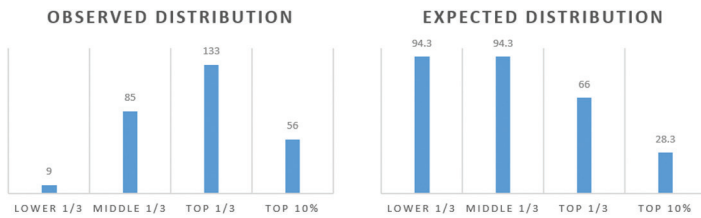


Figure 1.

28 Evaluating the Effect of Resident Physicians in a Supervisory Role on Clinical Efficiency in a University-Affiliated Community Emergency Department

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Introduction: While patient throughput and emergency department (ED) length of stay (LOS) are recognized as important metrics in the delivery of efficient care, they must be balanced with the educational mission of academic centers. Prior studies have examined the impact of learners on ED throughput and LOS when staffing directly with attending physicians and have yielded mixed results. Herein we sought to examine the impact of a staffing model involving a supervisory resident “pre-attending” (PAT) on ED throughput and LOS, as this model offers a valuable educational experience for residents, but may do so at the expense of operational efficiency. **Methods:** 26,702 unique patient encounters at a university-affiliated community ED between 7/1/2017 and 1/1/2019 were retrospectively analyzed (Table 1). The experimental group was comprised of patients seen primarily by midlevel providers (APP), who staffed with a PAT, who, in turn, staffed with an attending physician. The control group was comprised of patients seen by an APP and staffed directly with attendings without a PAT (Figure 1). A parametric hazard model was used to analyze the effect of the presence of a PAT on service time, controlling for potential confounders including timing of presentation and patient demographics.

Objective: To determine the effect of a supervisory resident “pre-attending” physician (PAT) on the clinical efficiency of a university-affiliated emergency department (ED).

Results: The presence of a PAT is associated with a statistically significant increase in service time of 5 minutes ($p = 0.006$). Holding other variables equal, predicted service time in the experimental group was 173 min (95%CI 171-176), while that for controls was 168 min (95%CI 165-171).

Conclusion: The presence of a PAT is associated with a statistically significant increase in service time, but the magnitude (5 minutes) is likely operationally insignificant.

The negligible increase in service time is offset by the benefit to residents’ training. The results of this study may be helpful for residency programs considering a PAT shift structure for their training program.

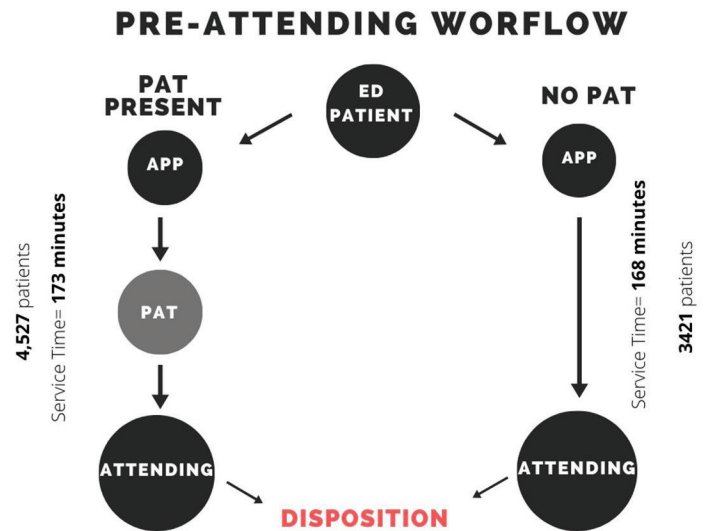


Figure 1. Workflow for ED patients seen by PAT vs ED patients not seen by PAT with associated adjusted mean service times.

Figure 1.

Table 1. Patient demographics for control and experimental groups.

	Pre-attending Encounters (N = 4527)	Non Pre-attending Encounters (N=3421)
Age	47.7(47.1-48.4)	45.8(45.0-46.5)
Female Gender	57.8(56.3-59.2)	54.4(52.7-56.0)
Proportion Discharged	78.4(77.2-79.5)	80.5(79.1-81.8)

29 Evaluation of a Blended Curriculum on Medical Student Outcomes in an Emergency Medicine Clerkship

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Background: Educational programs have adapted to incorporate instructional strategies that better align with how adults learn. In response to a needs analysis of the Emergency Medicine (EM) clerkship at the Sidney Kimmel Medical College at Thomas Jefferson University, the clerkship was changed to a blended format consisting of internet-based, asynchronous learning, flipped-classroom, and in-person sessions. The goal of the study was to compare the effectiveness of the new format compared to the traditional lecture series.

Objective: The goal of the study was to compare the effectiveness of a blended curriculum consisting of internet-based, asynchronous learning, flipped-classroom, and in-person sessions compared to a traditional lecture series.

Methods: We performed a causality-comparative study, gathering data from fourth-year medical students (MS-IV) in the clerkship and faculty over a six-month period: 3 months with the didactic series and 3 months with the blended format. Data included final examination scores, simulation performance and satisfaction surveys of students and faculty. The student t-test was used to compare means between groups.

Results: Seventy-four MS-IVs were in the pre group and 63 MS-IVs were in the post group; 10 faculty were enrolled. Examination scores were statistically higher ($p < 0.01$) for the post-group (84.8%, 95% CI 83.1-86.5) compared to the pre-group (80.8%, 95% CI 79.1- 82.5). Simulation scores were significantly higher ($p < 0.0001$) for the blended curriculum in weeks 1 and 2, but not in week 3. Students rated the blended curriculum higher ($p < 0.001$). Overall difference in means for faculty satisfaction was not statistically significant.

Conclusion: The blended curriculum model is an effective educational intervention to teach EM medical students. Longitudinal follow-up with students may provide insight into the enduring impact of the blended curriculum on learning outcomes.

30 Focusing Feedback: A Resident Based Intervention

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Background: Feedback and evaluation are crucial in residency training. Constructive feedback allows residents to develop while honing in on weaknesses to improve their clinical practice. Due to time constraints, protection of relationships, privacy, and lack of feedback training, giving and receiving quality feedback is difficult.

Objectives: The purpose of this study is to determine if there is qualitative improvement in feedback or evaluations when residents are encouraged to set a goal for each shift. To assess for quality improvement in resident evaluations following an intervention.

Methods: This is a retrospective before-after study of a resident self-initiated feedback intervention at a single EM program. The resident feedback intervention included the introduction of a paper evaluation form called "Self-Initiated Resident Feedback is Utterly Phenomenal" (SIRF's UP) where residents would select pre-shift goals to focus on based off of ACGME requirements for evaluation. Evaluations were assessed for improvement with focus on clarity, subjectivity, actionability, and specificity. Three blinded reviewers scored evaluations on a Likert scale for each domain. Post-intervention evaluations were rated on whether the faculty evaluation met the resident's stated goal. Descriptive statistics and repeated measures regression were used to test for differences in pre- and post-intervention evaluation data.

Results: There were 183 pre- and 183 post-evaluations.

Resident evaluations after the intervention were more specific (mean difference[MD] 0.56, $p < 0.001$), more actionable (MD: 0.56, $p < 0.001$), more clear (MD: 0.43, $p < 0.001$), and less subjective (MD: -0.69, $p < 0.001$) than evaluations before the intervention. In the post-evaluations, 90.4% of the faculty evaluations were rated to meet (Strongly Agree/Agree) the resident's pre-stated goal for the shift.

Conclusions: This intervention was feasible and resulted in feedback that was less subjective and more specific, actionable, and clear while also aligning with individual resident feedback goals.

31 Foundations of Emergency Medicine: Trends in Use, Perceived Benefits, and Barriers to Implementation

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Background: Foundations of Emergency Medicine (FoEM) was introduced in 2016 as a novel, nation wide open-access emergency medicine (EM) curriculum that provides interactive instruction specific to learner level. Limited data exist on stakeholders' attitudes toward its implementation.

Objective: To evaluate use, perceived benefits, and barriers to implementation of FoEM.

Methods: This was a survey study of FoEM site leaders and learners. Surveys were administered online and consisted of Likert scale and multiple choice items. Survey items were piloted prior to implementation. Sites were excluded if they registered after December 2018 or reported nonuse or limited use of content. Descriptive statistics were reported.

Results: 130 of 247 US EM residency programs (53%) registered for FoEM for 2018-2019. 102 programs were eligible to participate in the study. 98 site leaders (96%) and 1618 learners (54%) completed the surveys. Enrollment data (Table 1) shows highest use of Foundations I (F1) and II (F2), EKG I, and In-Training Exam (ITE) Review materials. 37 sites (38%) allowed structured resident-as-teacher opportunities. Site leaders reported 100% satisfaction and limited required preparation (mean 1.16 hr/wk) (Table 2). 60% felt learners came prepared for meetings and 61% reported that F1 small group cases helped identify learners who required extra support. Barriers to implementation include limited conference time (67%) and faculty oversight (48%). Learners reported high satisfaction (93%) and indicated adherence to asynchronous assignments (mean 1.6 hr/wk). 87% reported a perceived reduction in the chance of making a medical error as a result of exposure to FoEM content.

Conclusions: FoEM has been widely implemented across