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The Impact of a One-Day Free Point of Care Ultrasound Conference to Medical Students

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Authors

Lobo, V.
Joshi, N.
Chao, A.
et al.

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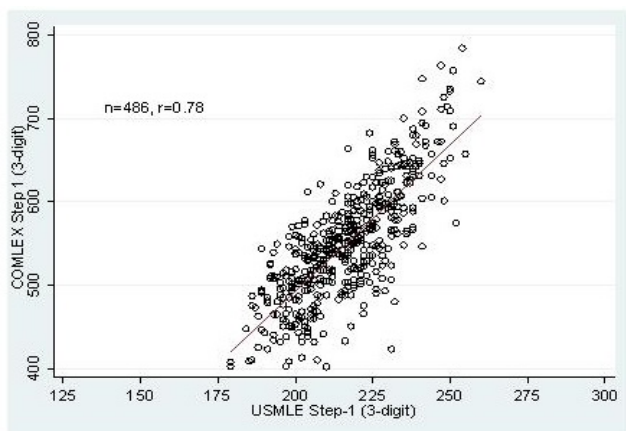


Figure 2. Scatterplot of USMLE Step-1 and COMLEX step-1 scores with least squares regression line. *USMLE*, United States Medical Licensing Examination; *COMLEX*, Comprehensive Osteopathic Medical Licensing Examination

70 The Effect of Hospital Mergers on Residency Education: The Perceptions of Residents in the New Mt. Sinai Health System

Davey K, Golden A, Rabrich J, Clark M / Mt Sinai at St. Luke's-Roosevelt, New York, NY

Background: Rising healthcare costs in the United States have pushed many hospitals to merge, including many that are home to residency programs. Information about resident perceptions of mergers could direct resident education and affect policy at a residency and hospital level.

Objectives: The primary aim of this study is to examine resident physicians' (RPs) perceptions of a hospital merger's effects on residency education and patient care across multiple specialties. To our knowledge this multidisciplinary study is the only study of its kind.

Methods: RPs at a newly merged, 5 hospital system were recruited to complete a survey on their perception of the merger with respect to education and patient care.

Results: We received 221 completed questionnaires from RPs spanning 11 specialties. Among RPs, the most anticipated educational benefits of the merger include rotating at other sites (64.6%) and improved access to electives (57.3%). The most anticipated benefit to patient care is an integrated electronic medical record (92.4%). RPs' main concerns are a change in culture at their program (20.6%). Most (67.6%) think the merger will impact their education. However, RPs at the acquiring institution are more concerned about a negative impact on the reputation of their program (17.4% vs. 4% $p < 0.01$), while RPs at the acquired institutions are more concerned about change in the culture of their program (31% vs. 17% $p = 0.03$).

Conclusion: RPs are optimistic that mergers can lead to increased educational opportunities and improved patient care through shared electronic medical record. They are wary about the impact mergers might have on the culture and reputation of their home programs. Leadership might optimize education and gain RP support by focusing on collaboration efforts, while allowing each program to retain its own autonomy.

71 The Impact of a One-Day Free Point of Care Ultrasound Conference to Medical Students

Lobo V, Joshi N, Chao A, Poffenberger C, Williams S, Perera P, Gharahbaghian L / Stanford University Medical Center, Stanford, CA

Background: Multiple medical specialties use point-of-care ultrasound (POCUS); hence medical student education may be enhanced through incorporating POCUS training. In an effort to introduce POCUS to medical students, the Stanford School of Medicine and Division of Emergency Medicine hosted UltraFest: a free POCUS symposium open to all medical students. Stanford UltraFest 2014 built on prior curricula by including novel POCUS-related simulation training to teach crisis resource management. It also evaluated knowledge gains through "UltraFest Olympics", a competition amongst medical students.

Objective: To evaluate the effect of a novel one-day ultrasound curriculum on the skill-levels of a wide cohort of medical students.

Methods: All participants pre-registered online, requiring them to complete a pre-test self-assessment of their confidence level for their current POCUS skill level. At the end of the conference, students re-took the same survey. (Figure 1). Pre-test assessment survey results from students who did not attend UltraFest were excluded.

Results: Of the 193 pre-test surveys enrolled in the study, 143 identified their pre-test POCUS skill level as 'minimal', 47 as 'intermediate', and 3 as 'advanced' (Figure 2a). Out of the 183 post-test surveys, 43 identified their post-test POCUS skill level as 'minimal', 125 as 'intermediate', and 16 as 'advanced'. 10 students who attended the event did not fill out the post-survey. We used a Wilcoxon rank sum test that showed a statistically significant shift ($p < 0.05$) in the median assessment, signifying improvement from the pre- and post-test survey (Figure 2b).

Conclusions: Our study validates the utility of hands-on learning conferences, such as Stanford's UltraFest, in teaching POCUS to medical students regardless of initial skill level. Our unique curriculum (including lectures, hands-on instruction, simulation and final "Olympics" to test skills) successfully improved students' self-assessed skill level in POCUS.

HOW WOULD YOU RATE YOUR BEDSIDE ULTRASOUND SKILL LEVEL NOW?

- **MINIMAL (CAN TURN ON MACHINE, SELECT PROBE, POSSIBLY MAKE OUT A HEART)**
- **INTERMEDIATE (CAN DO BASIC APPLIATIONS FAST, ECHO WELL)**
- **ADVANCED (CAN DO APPLICATION AS WELL AS TEACH OTHERS)**

Alkhalifah M, Deibel M, Lowry J / Central Michigan University, Saginaw, MI; Covenant Healthcare, Chicago, IL; Saginaw Valley State University, University Center, MI

Background: Minimal data exist regarding the influence of residents on emergency medicine (EM) physician productivity and flow of patients in the emergency department. A literature review revealed one study that provided the impact of residents on the number of patients seen per hour¹. Several studies provided assessment of resident performance with focus on the educational aspects²⁻⁴. We evaluated whether emergency residents have any influence on EM attending productivity.

Objectives: To evaluate the influence of EM residents on EM attending productivity.

Methods: A retrospective observational study was completed utilizing electronic chart review of EM attending 8-hour shifts in a level 2-trauma center with 85,000 visits per year. This emergency department (ED) is affiliated with a 3 year, 30 resident program. We included all ED attending shifts from January 2012 to April 2013. The total number of shifts was 4683, which included 2084 with attending alone and 2599 with a resident. Resident shifts include 1-2 residents paired with 1 attending. This study compares ED attending alone to ED attending with a resident. We looked at several productivity measures, such as patients/hour, patients/shift, admitted patient/shift, relative value units/hour (RVUs), ambulance count/shift, RVU/patient and length of stay.

Results: A one-way ANOVA was used to measure the difference between the groups (Table 1). The mean number of patients seen/shift (18.8 vs. 15) and patients seen/hour (2.24 vs. 1.9) in the resident group was significantly more than attending alone (Figure 1). Resident shifts also had higher relative value unit/hour, ambulance count and total number of admitted patients

Figure 1.

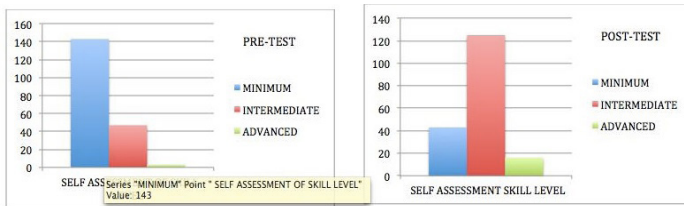


Figure 2a.

Pre-Test				
0%	25%	50%	75%	100%
0	0	1	1	3

Post-Test				
0%	25%	50%	75%	100%
1	2	2	2	3

Figure 2b.

0=no knowledge, 1=minimal knowledge, 2=intermediate, 3=advanced.
 50% is median. median is 1=minimal in the pre test and 2=intermediate in the post-test.

72 The Influence of Emergency Medicine Residents on Emergency Medicine Attending Productivity

Table 1. A graphical comparison of mean number of patients.

		N	Mean	95% Confidence interval for mean	
				Lower bound	Upper bound
Number of patients seen per hour	(attending alone)	2084	1.9020	1.8815	1.9225
	(with resident)	2599	2.2400	2.2217	2.2583
Number of patient seen per shift	(attending alone)	2084	15.19	15.02	15.37
	(with resident)	2599	18.83	18.68	18.99
Number of RVUs per hour	(attending alone)	2084	5.9508	5.8884	6.0133
	(with resident)	2599	7.4081	7.3334	7.4828
Ambulance count per shift	(attending alone)	2084	3.03	2.94	3.12
	(with resident)	2599	4.41	4.31	4.52
Admitted pt. count per shift	(attending alone)	2084	3.62	3.52	3.72
	(with resident)	2599	5.12	5.00	5.24
LOS-Minutes between patient arrival and depart ED	(attending alone)	2084	3127.0674	3081.1815	3172.9532
	(with resident)	2599	4052.0583	4004.0733	4100.0432

RVU, Relative Value Units; ED, Emergency Department; LOS, Length of Stay