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Development of Critical Communication Skills in a Boot Camp Simulation Curriculum for Emergency Medicine Interns

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Background: Every year, medical students compare residency training programs and develop their personal rank list in preparation for Match Day. There are multiple factors that are considered in the decision, including overall program quality. Despite external sources attempting to define program quality, EM as a specialty has not defined training outcomes that are most valued.

Objectives: The purpose of this study is to develop consensus on metrics for residency training outcomes for EM residency programs through engagement with multiple stakeholders in the training process. This will allow standardized program assessment and research practices.

Methods: We performed a comprehensive literature review and assembled a list of potential residency training outcomes. We then assembled a Delphi panel consisting of 32 participants whose roles were: attendings with medical education leadership positions (15), deans or department chairs (3), recent residency graduates (3), current residents (6), and medical students (5) from multiple different institutions to investigate consensus on these outcomes through two rounds of a modified Delphi protocol using a web-based survey instrument.

Results: Round 1 response rate was 100% (32/32) and Round 2 was 25/32 (78%). Of the initial 49 possible residency training outcomes, 35 were removed after round 1 due to low agreement on importance of the outcomes, 4 moved on to round two in medium agreement category, and 10 moved on to round two in high agreement. Of the 14 that moved on to round 2, consensus with a high level of agreement was achieved on 10 outcomes.

Conclusions: Our study found consensus support by our Delphi panel for a list of 10 outcomes relevant to standardized assessment of an EM residency program. These findings are useful for development of a standardized reporting method for evaluation by prospective residents as well as those evaluating training outcomes or graduates of a program.

Table 1. Final High Agreement Outcome Metrics for Residency Programs.

Outcome	Level of Agreement
Average Number of Adult Medical Resuscitations per Graduating Resident	High (Mean 4.52)
Average Number of Adult Trauma Resuscitation per Graduating Resident	High (Mean 4.40)
Average Number of Pediatric Medical Resuscitations per Graduating Resident	High (Mean 4.40)
Average Number of Pediatric Trauma Resuscitations per Graduating Resident	High (Mean 4.36)
Board Pass Rates for Past 5 Years	High (Mean 4.72)
Number of Months in the Standard Curriculum of Critical Care	High (Mean 4.12)
Number of Months in the Standard Curriculum of Pediatrics & Pediatric EM	High (Mean 4.20)
Number of Months in the Standard Curriculum of ED Months	High (Mean 4.36)
Program Accreditation Status	High (Mean 4.72)
Complete Residency Block Curriculum	High (Mean 4.20)

15 Development of Critical Communication Skills in a Boot Camp Simulation Curriculum for Emergency Medicine Interns

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Background: Residency programs are increasingly implementing intensive, preparatory courses prior to patient care to ease the transition from medical school to residency. These “boot camps” have demonstrated increased confidence and procedural competence of new interns, but few studies have evaluated a boot camp’s ability to teach non-technical skills (NTS) such as leadership, problem solving, communication, teamwork, situational awareness, and resource utilization. The Drexel Emergency Medicine (EM) boot camp curriculum was designed to improve medical knowledge and procedural skills, and also allow for deliberate practice of the NTS required of EM physicians.

Objectives: This study aimed to improve NTS of new interns through an intensive boot camp simulation curriculum.

Methods: This was a prospective cohort study using a convenience sample of fifteen EM interns in June and July of 2015. All interns were given a short didactic presentation of the principles of NTS and then divided into three teams to participate in 9 simulation scenarios during the boot camp. Following each simulation scenario, teams were debriefed on both the medical management and the NTS required during the case. Initial and final simulation scenarios during the boot camp were observed and scored by two independent raters using a previously validated assessment tool, the Ottawa Crisis Resource Management Global Rating Scale (GRS). A paired t-test compared initial and final NTS performances during the boot camp. The interns also completed a survey to self-assess their improvement in NTS.

Results: Results demonstrated a statistically significant improvement in overall NTS, leadership, problem solving, communication, teamwork, and resource utilization skills (Figure 1). Communication skills had the highest rate of improvement, with initial average team scores of 3.5 increasing to 6.5 on the seven point GRS ($p < 0.001$). The inter-rater reliability was Kappa = 0.5851, 95% CI (0.4844, 0.6858). Self-assessed improvement in NTS also showed that the interns believed all domains of NTS improved, with communication again having the highest degree of improvement (Figure 2).

Conclusions: Critical communication and other NTS can be improved over the course of a two-week boot camp through a simulation boot camp curriculum.

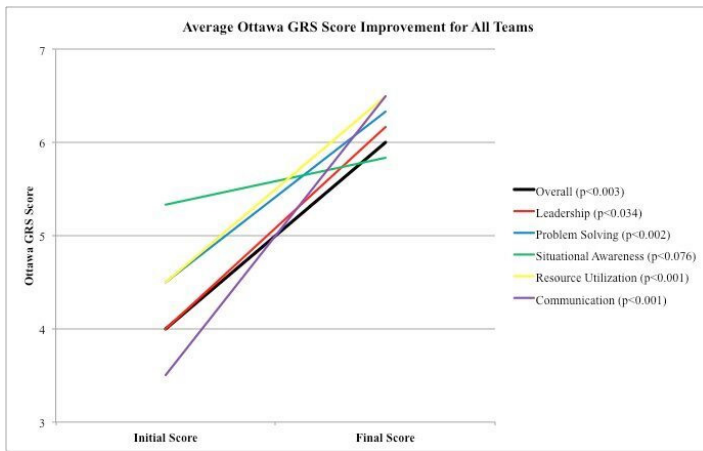


Figure 1.



Figure 2.

16 Do Medical Students Match into Emergency Medicine Programs where they Rotate?

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Background: Visiting rotations have become an increasingly important part of the application process to Emergency Medicine residency programs. Most programs require that students submit applications containing at least one Standardized Letter of Evaluation (SLOE) from an institution other than their own, which necessitates visiting rotations. However, there is little information regarding the effect of visiting rotations on the matching of medical students to EM residency programs.

Objectives: Our goal was to examine whether or not medical students are matching at residencies where they complete visiting rotations, with the hypothesis that visiting rotations would have a positive effect on an individual’s chances of matching at a particular program. We also asked questions about the awarding of interviews to applicants.

Methods: We preformed a cross-sectional survey of program administrators subscribed to the CORD listserv after completion of the 2015 Match. Questions focused on specific demographics of individuals who matched into residency in

emergency medicine, as well as the interview practices of residency programs in regards to away rotators.

Results: Survey responses from 67 separate institutions were analyzed, accounting for 757 residency positions. Of these positions, 38.4% went to medical students who rotated at the institution into which they matched. Furthermore, 15.3% of those spots went to medical students that were based at that institution, while 22.5% of the spots went to students who completed a rotation as away students. 62.2% of the positions were awarded to individuals who did not rotate at the program where they matched. The differences between these three percentages were statistically significant ($p < 0.0001$). 62.7% of programs offered interviews to all students performing away rotations.

Conclusions: Visiting rotations have a positive effect on the matching of medical students in EM, with nearly a quarter of positions awarded to away rotators. The majority of positions are awarded to students who did not rotate where they matched. The majority of programs offer interviews to all applicants, which may help explain the higher likelihood of an away rotator matching at a program, however our analysis of the timing of awarding interviews to these applicants did not show any statistical significance.

Table 1.

Residency spots going to individuals from the home institution.	116/757	15.32%
Residency spots going to individuals who performed away rotations at that institution.	170/757	22.46%
Residency spots going to individuals who completed neither a visiting rotation nor home elective at that institution.	471/757	62.22%

Table 2.

	Positions going to individuals from that institution.	Positions going to individuals who performed an away rotation at that program.	Positions going to individuals who did not participate in an elective at that program.
Distribution of residency spots among the 42 programs that interviewed all away rotators at some time during the interview process.	72/478 (15.06%)	93/478 (19.46%)	313/478 (65.48%)
Distribution of residency spots among the 12 programs that interview students while on their visiting rotations.	23/144 (15.97%)	35/144 (24.31%)	86/144 (59.72%)