Title

The Correlation Between USMLE and COMLEX Exam Scores for Applicants to a Dually Approved Emergency Medicine Residency: An Eight Year Experience

Authors

Kane, K.
Yenser, D.
Semler, L.
et al.

a management plan rapidly. Complex cases can be anxiety provoking and difficult for a resident to make appropriate clinical decisions.

Educational Objectives: 1. Teach the National Institute of Health Stroke Scale (NIHSS) 2. Apply the NIHSS in a controlled setting 3. Determine a treatment plan based on NIHSS 4. Emphasize the inclusion and exclusion criteria for TPA 5. Reinforce the risks and benefits of using TPA 6. Review current literature on treatment for non-TPA candidates.

Curricular Design: We created a team based learning exercise to help residents diagnose and treat strokes. The exercise started with a test to identify knowledge gaps. Residents were then led through 6 stroke cases in groups. They were supplied with the patient's history and computed tomography followed by a video of an actor/resident displaying deficits based upon a stroke syndrome. The residents tallied the patients NIHSS based on the video. The groups submitted their NIHSS and any discrepancies in scoring were discussed. The groups submitted a treatment plan for the patient's case. At the conclusion, key teaching points about diagnosis, management, and treatment were reviewed with faculty.

Impact: The resident groups initially had significant variability in their scoring on the NIHSS for the patient, but by the end of the session the accuracy greatly improved. The repetition of the cases increased familiarity with the NIHSS as well as the inclusion and exclusion criteria. Session feedback showed the residents enjoyed applying the NIHSS in a nontraditional teaching format and are more confident on stroke treatment decisions.

69 The Correlation Between USMLE and COMLEX Exam Scores for Applicants to a Dually Approved Emergency Medicine Residency: An Eight Year Experience

Kane K, Yenser D, Semler L, Weaver K, Barr G, Goyke T, Burckhart A, Leonetti A, Yoshioka I, Kane B / Lehigh Valley Health Network, Bethlehem, PA; Morsani College of Medicine, University of South Florida, Tampa, Florida

Introduction: With the announced single graduate medical education system, emergency medicine (EM) residencies may see an increase in applicants who submit unfamiliar standardized exam scores. To date, there is limited information positively correlating United States Medical Licensing Examination (USLME) and Comprehensive Osteopathic Medical Licensing Examination (COMLEX) scores for EM applicants.

Objective: To determine the correlation between USMLE and COMLEX scores for applicants to an EM residency.

Methods: After institutional review board (IRB) approval, we retrospectively gathered all exam scores for applicants to our 4 year, 56 member, dually approved EM residency from 2006-13. Included were applicants who submitted scores for both exams. Demographic analysis was descriptive. Scatterplots were used to visualize pairwise relationships. Multiple linear regression models, stratified by test step were created with COMLEX score as the outcome and USMLE score as the predictor value. Participant age and sex were included in each model.

Results: The identified 556 applicants are show in Figure 1. Pair 1 is applicants with both COMLEX Step-1 and USMLE Step-1 scores (n=486). Pair 2 are those with both COMLEX Step-2 and USMLE Step-2 scores (n=356). For Pair 1 66% were male with an average age of 28. For Pair 2, 64% were male; the average age was 28. Mean, standard deviation, and median for Pair 1 on the COMLEX was 551, 69 and 548. For the USMLE it was 216, 16, 217. Results for Pair 2 on COMLEX were 566, 80, 562. USMLE results for Pair 2 were 228, 18, 229. As shown in Figure 2, a strong correlation was observed for Pair 1 ($r=0.78$, $p<0.001$). A linear regression model controlling for sex and age, a one point increase in USMLE Step-1 is associated with a 3.55 point increase in the COMLEX Step-1 score ($\tilde{A}\ddot{Y}=3.55$; 95% CI:[3.30-3.80], $p<0.001$). A similar strong correlation was observed for Pair 2 ($r=0.72$, $p<0.001$).

Conclusions: In our cohort a strong positive correlation between USMLE and COMLEX was found. This relationship may aid EM residency evaluation of applicants who submit test scores with which they are not familiar.
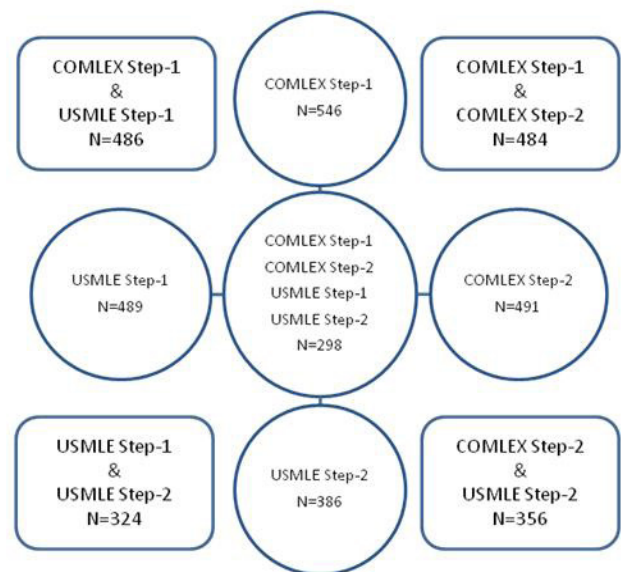

Figure 1. Participant test data.
USMLE, United States Medical Licensing Examination; *COMLEX,* Comprehensive Osteopathic Medical Licensing Examination
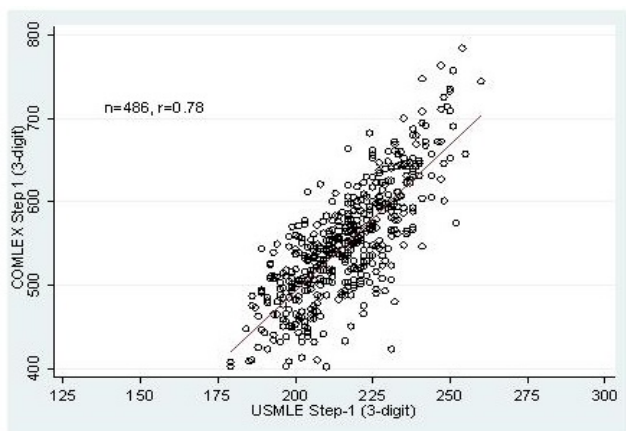
Figure 2. Scatterplot of USMLE Step-1 and COMLEX step-1 scores with least squares regression line. *USMLE,* United States Medical Licensing Examination; *COMLEX,* Comprehensive Osteopathic Medical Licensing Examination

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 RP's 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%). RP's 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 RP's 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 Wilcoxan 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.