

UC Irvine

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

Title

Decreasing Stroke Alerts in the Emergency Department: A Lesson in Resource Utilization

Permalink

<https://escholarship.org/uc/item/6z0491mw>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 20(4.1)

ISSN

1936-900X

Authors

DeWitt, D
Muckey, E
DiMiceli, E
[et al.](#)

Publication Date

2019

Copyright Information

Copyright 2019 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/>

provides a uniform assessment of student performance, regardless of rotation site. Despite its perceived importance, no prior research has actually correlated objective SLOE performance data with final match status.

Objectives: The purpose of this study was to determine whether lower-third performance on the SLOE global assessment (GA) was predictive of final match status, with the hypothesis that a lower-third ranking would be associated with an increased risk of not matching into emergency medicine (EM).

Methods: We conducted a retrospective cohort study evaluating Liaison Committee on Medical Education (LCME) applicants to a single EM residency program in the mid-Atlantic region during the 2018 match cycle. GA SLOE rankings from all applications were extracted and compared to National Resident Matching Program (NRMP) data for each applicant on match outcome. We conducted comparative analyses between SLOE groupings and calculated odds ratios (OR).

Results: A total of 919 SLOEs were reviewed from 364 applicants, representing 20% of all EM applicants for the 2018 match cycle. Of these, 93 applicants (26%) had one GA ranking in the lower third, which significantly decreased an applicant’s odds of matching in EM by 79% (OR 0.21, 95% confidence interval [CI], 0.11-0.39). Additionally, 11 applicants (3%) had two or more lower-third rankings, decreasing the odds of an EM match by 92% (OR 0.08, 95% CI, 0.02-0.30).

Conclusion: This study was the first to evaluate the effect of SLOE GA ranking on matching into an EM residency. One or more lower-third rankings on the GA significantly reduced an applicant’s chances of matching into an EM program. Given the strong correlation between lower-third GA ranking and a non-match in EM, EM faculty advisors, while keeping the confidentiality of the SLOE in mind, may want to consider ongoing review of EM applicant files during the SLOE upload timeframe and strongly advise students with lower-third GA rankings to use a parallel plan. Potential limitations of this study include the use of data from a single program during a single application cycle, without the identification of specific performance factors that place students in the lower-third GA.

	Match (%)	No Match (%)
All applicants	306 (85)	52 (15)
Applicants with No Lower Third	242 (91)	23 (9)
Applicants with 1 Lower Third	60 (73)	22 (27)
Applicants with More than 1 Lower Third	4 (36)	7 (64)

Figure 1. Percentage of students successfully matching into EM residency, categorized by the number of lower third GA rankings in the SLOE. (Note: Six applicants did not have any SLOE data as part of their application and are not represented above.)

22 Decreasing Stroke Alerts in the Emergency Department: A Lesson in Resource Utilization

DeWitt D, Muckey E, DiMiceli E, Ishida K, Rossan-Raghunath N, Femia R, Wu T / New York University School of Medicine, New York, New York

Background: Stroke code activations are a valuable tool in providing prompt care to stroke patients who may be eligible for treatments such as tPA and endovascular interventions. However, stroke codes involve the immediate attention of many members of the healthcare team and significant hospital resources. The National Institutes of Health Stroke Scale (NIHSS) is commonly used to evaluate stroke severity; however, even patients with an NIHSS score of zero can have ongoing neurologic symptoms and disability. Confusion over the goals of stroke codes and the appropriate situations for their use may contribute to unnecessary activations.

Objectives: The purpose of this analysis was to evaluate the frequency of stroke code activations in situations where activating a stroke code provides little potential benefit in terms of therapeutic options over a non-emergent neurology consult.

Methods: We reviewed the records for all emergency department (ED) stroke code activations over the first five months of 2018, looking specifically at cases with an NIHSS score of zero. Within this pool, we identified cases where the patient was documented as being asymptomatic during initial ED evaluation as their symptoms had resolved (transient ischemic attack), as well as those who had been symptomatic for over 24 hours and were outside the therapeutic window. These patients were not eligible for emergent therapeutic intervention. Thus, these were cases in which a stroke code activation was avoidable.

Results: Of the 120 stroke codes with an NIHSS of zero, 39 (32.5%) involved patients whose symptoms had completely resolved prior to arrival. Another three cases involved patients who had been symptomatic for over 24 hours and were outside the therapeutic window. Thus, of the stroke code activations with an NIHSS of zero in this time period, 42 (35%) were avoidable as these patients would not have been considered candidates for emergent treatment.

Conclusion: Clarification and reinforcement of appropriate criteria for stroke code activation have the potential to reduce overutilization of resources in situations unlikely to affect acute therapeutic management. Addressing this would allow for a reduction in the burden on healthcare professionals and ED resources.

