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Authors

Cotarelo, Adrian
Hsieh, Alex
Arena, Alexander
et al.

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1 Implementation of Vertical Split Flow Model for Patient Throughput at a Community Hospital Emergency Department

Adrian A. Cotarelo; Alex Hsieh; Alexander W. Arena, MD; Anthony Oraha; Mary E. McLean; Norman Mok; Raffaele Milizia

Objectives: The objective of this study was to evaluate the impact of vertical split flow (VSF) implementation on emergency department (ED) patient length of stay (LOS) and throughput at a community hospital.

Background: Hospitals have implemented innovative strategies to address overcrowding by optimizing patient flow through the ED. Vertical split flow (VSF) refers to the concept of assigning patients to vertical chairs instead of horizontal beds based on patient acuity.

Methods: This was a retrospective cohort study of all emergency severity index (ESI) level 3 patients presenting to a community hospital ED over a three month period before and after VSF implementation between 2018 and 2019. A vertical area with 10 chairs was separated from the existing ED space and staffed by reassigned advanced practice providers. On arrival, ESI level 3 patients were assigned to the vertical area if they could maintain sitting position during treatment, did not require cardiac monitoring or airborne precautions, and presented no detectable risk of harm to self or others. Unpaired t-tests compared time intervals between cohorts with the primary outcome being ED LOS, as defined by the electronic medical record timestamps for patient arrival to disposition. Secondary outcomes examined throughput using time from patient arrival to bed placement and provider assignment.

Results: In total, 5,262 patient visits in the pre-intervention and 5,376 in the post-intervention group were included in the analysis. There were no significant demographic differences between the two groups. There was a significant reduction in mean overall LOS in minutes between the pre-intervention group (M=283, SD=1.9) and post-intervention group (M=251, SD=1.8), $t(10545)=12$, $p<0.001$. There was also a significant reduction in arrival-to-bed (M=9.2, 95%CI 7-11, $t(9268)=9.8$, $p<0.001$) and provider assignment to disposition time (M=31.9, 95%CI 26-36, $t(10355)=12$, $p<0.001$) in minutes with VSF implementation. There was no significant difference in time from arrival to provider assignment (M=0.64, 95%CI -1.2 to 2.4, $t(10237)=-0.64$, $p=0.525$), despite a small increase in bed to provider time.

Conclusion: Community hospital ED implementation of VSF for ESI level 3 patients was associated with significant reduction in overall length of stay and improved throughput. This model provides a solution to increase the number of beds in the ED and improve throughput for urgent acuity patients.

2 Efforts to Diversify Faculty Within Emergency Departments: A National Survey of Department Heads

Alexis Jones; Darian Harris; Evrim Oral; Jessica Fox; Lisa A. Moreno; Stacey Rhodes

Objectives:

1. To determine how diverse are emergency departmental faculty nationally
2. To determine what modalities emergency medicine department faculty are utilizing to achieve diversity within their departments
3. To determine how effective those modalities have been in achieving diversity in emergency medicine departments

Background: There has been a growing amount of evidence that clinician bias, racism, inequality, stereotyping, and discrimination has indeed contributed to health inequities. These variables have been proven to have negative effects on patient care and health outcomes. Countless studies have shown that diversifying the physician workforce can produce better patient outcomes and decrease the number of health disparities. Patients are more likely to communicate a higher level of care satisfaction when treated by health professionals who share the same racial, ethnic, or cultural background as them. Although many health centers, hospitals, and divisions are determined to promote diversity among their faculty and staff, minority representation has made very little progress. This study aims to determine how diverse are Emergency Medicine departments nationwide, how is diversity being promoted, and how effective are those methods.

Methods: This is a national convenience sampling of 263 Emergency Medicine department heads including medical directors, section chiefs, and department chairs. A REDCap based questionnaire was developed and distributed to the listserv. Participation was tracked and weekly follow-up reminders were sent to participants. Interim analysis was conducted on participants. All statistical analyses were carried out in SAS 9.4. Fisher's exact tests were used to assess the associations between variables.

Results: For the interim analysis, we look at the first 24 responses which consisted of 17 males (70.8%) and 7 (29.2%) females with aligning gender identity. Participants were white (91.7%), black (8.3%), and Hispanic/Latino (4.2%). Looking at suburban vs urban programs where 3 to 5, 6 to 10, and > 10 physicians of color were hired, suburban (0, 0, 0) vs urban (4, 3, 3) respectively; ($p=0.0483$).

Conclusion: Upon assessing the first 24 respondents for this interim analysis, we can conclude that 66.7% of the participants classify as white males. While 66% of the leaders who were non-white hired 6 to 10 physicians of color, only 5% of white leaders hired 6 to 10 physicians of color. When