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Implementation of a Flow Nurse to Increase Emergency Department Space Utilization

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Objective: Emergency department (ED) volumes continue to increase, with space often being a barrier to throughput. Most EDs have a resource nurse who serves many functions including maximizing space utilization in the ED. This study was performed to analyze if a dedicated “flow nurse” would affect utilization of ED space.

Design and Method: This was a before and after study, conducted at an academic hospital that has an ED with 55 beds and 20 sanctioned hallway spaces, seeing a volume of ~57,000 patients a year. The before phase (07/01/2016-08/30/2016) involved having a resource nurse who served multiple functions, only one of which centered on ED throughput. The after phase (09/01/2016-10/31/2016) featured a separate “flow nurse” from 11AM to 11PM Monday through Friday. Their responsibility centered on maximizing space utilization in the ED and ensuring efficient throughput. The outcome measure we compared was the number of minutes per hour where there were more than five patients in the waiting room, no patients inside the ED waiting to be seen by physicians, and less than 56 patients in the ED under evaluation. We termed this the utilization metric (UM). We used linear regression to test for a significant association between the UM and the presence of a flow nurse adjusting for confounders such as day of week, hour of day and month. Another outcome measure we compared was the left without being seen (LWBS) rate. We performed Fisher’s exact test to test for significance.

Results: We compared a total of 1,032 hours, 516 in both the before and after group. The UM improved an average of 205 minutes for the 60 hours per week when a flow nurse was on duty. We performed linear regression with the UM as the dependent variable and with the independent variables of day of week, month, hour of day, and presence of flow nurse as covariates. Presence of flow nurse was significantly associated with an improvement of UM (p < 0.001), even adjusting for the other covariates. The other significant variable, hour of day, had a p = 0.01. During the before phase a total of 4,022 patients were seen, with 87 LWBS (2.2%). The after phase had a total of 4,346 with 110 LWBS (2.5%). Fisher’s exact test yielded a p=0.25.

Conclusion: While the presence of a flow nurse did not significantly affect the rate of LWBS, it did significantly impact utilization of ED space to more effectively bring patients from the waiting room into the ED to be evaluated.

Bedside Ultrasonography for the Detection of Aortic Dissection in the Emergency Department

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Objective: Aortic dissection (AD) is a potentially life-threatening emergency requiring a high index of clinical suspicion. The most reliable diagnostic test is computed tomography (CT) angiography. Transthoracic echocardiography (TTE) has a lower sensitivity. We