SYNOPSIS

KEY POINT SUMMARY

OBJECTIVES

To examine the impact of the FCA on ED throughput measures.

The impact of a flexible care area on throughput measures in an academic Emergency Department

McGrath, J., LeGare, A., Hermanson, L., & Repplinger, M. D. 2015 | *Journal of Emergency Nursing* Volume 41, Issue 6, Pages 503-509

Key Concepts/Context

The Institute of Medicine considers the issue of overcrowded emergency departments (EDs) a national epidemic. From 2003 to 2009 there was a 25% increase in average ED wait times, with longer times in urban EDs compared to nonurban EDs. Numerous strategies have been employed in EDs around the nation to improve throughput, such as the implementation of "fast-track" areas and keeping patients "vertical," which means evaluating and treating them without the unnecessary use of a stretcher. This paper explores the implementation of a novel strategy which involved the creation of a "flexible care area" (FCA), a space designed for initiating patient evaluations and treatments at the beginning of a patient's visit.

Methods

- The FCA was implemented in a 34-bed ED located in a midsized Midwestern U.S. city. Data analyzed in this retrospective study were collected from 2011, when the ED had a total of 44,989 patients, and 2012, when the ED had 46,937 patients.
- The FCA itself was made up of three rooms staffed by a nurse, an emergency physician, and an ED technician from 4 p.m. to 11 p.m. on an as-needed basis. Its purpose was to evaluate and treat low- and moderate-acuity patients while keeping them vertical, and it prioritized moderate-acuity patients to expedite the ordering of diagnostic tests.
- An electronic health record (EHR) was accessed to gather data on when the FCA was open during the two-year study period. Data were also gathered on average daily ED measures, such as arrival-to-room time, arrival-to-physician time, length of stay (LOS), and whether certain patients were seen in the FCA. The primary outcome was ED LOS, which was ascertainable by analyzing time stamps recorded by the EHR.

- The Emergency Severity Index (ESI), which is a 5-level triage tool that rates incoming patients on a scale of 1 to 5 (1 representing life-threatening conditions and 5 requiring no resources), was used in the ED workflow, and data on these ratings were stratified by year (2011 or 2012) and ESI level. Since ESI level 1 patients are often admitted to the hospital quickly, only levels 2-5 were considered in this study.
- Since the purpose of the FCA was to reduce patient throughput times on days experiencing high volumes, two separate analyses were conducted on "high-volume" days and "all days," with high-volume days being defined as a day with over 120 patient visits. Throughput measures were compared on days both with and without FCA ability, as well as all days when the FCA was available versus days without it, regardless of the patient volume.

Findings

In 2011 the FCA was available for 165 days, and for 252 days in 2012, for a total of 417 days within the two-year study period. There was a 16-minute decrease for ESI level 3 patients on high-volume days in 2011. Regardless of patient volume or year, ED LOS decreased significantly during days with FCA as opposed to those without for ESI level 4 patients. There were no significant changes for ESI level 2 and 5 patients throughout all analyses. Additionally, the number of patients leaving the ED without being seen decreased significantly on days when the FCA was operating.

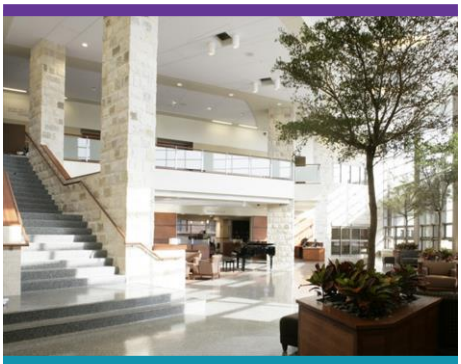
Design Implications

One of the defining features of the FCA is the fact that it is made up of three rooms; allotting space within an ED for processes similar to the FCA or fast-tracking may help reduce crowding by dispersing patient populations more quickly and may ultimately improve throughput measures. The authors note that ED optimization strategies should be flexible and multifaceted; rooms could be designed to shift necessary resources, materials, and personnel throughout the day to adjust to anticipated high-volume days or times in a fashion similar to the FCA.

Limitations

The authors listed several limitations within the study. Since the study was retrospective, there is a possibility of multiple unmeasured confounders when the FCA was or was not used. Variables such as the number of trauma patients and stroke codes seen during FCA hours were not evaluated. Data extracted from the EHR were not verified by any other resources. It is also difficult to apply the effectiveness of the FCA to other healthcare facilities since different centers might have differing degrees of impact after implementing spaces similar to the FCA,

depending on proportions of patients with lower acuity and physician acceptance of nurse-driven orders.



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