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Development of an RCU Vertical Care Expedites Low Acuity Patients Through the ED

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Vertical Care Expedites Low Acuity Patients Through the ED

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Background

The number of Emergency Department (ED) visits increased in the United States by 34% between 1995 and 2010. During the same period, the number of EDs decreased by 11%. As a result, EDs experience overcrowding which hampers the delivery of safe and quality care. Factors that influence the degree of overcrowding include patient volume, flow within the ED, boarding, and physical space limitations. Overcrowding in the ED can lead to decreased patient satisfaction, rushed and unpleasant treatment environments, suffering for those who wait, and poor patient outcomes.

Urgent care centers effectively treat lower acuity patients thereby diverting them from EDs. In turn, nearby EDs may experience a higher percentage of patients who require extensive and lengthy evaluations, delaying the evaluation and treatment of lower acuity patients who do present to the ED.

To encourage EDs to address these issues, the Centers for Medicare & Medicaid Services (CMS) implemented throughput benchmarks that must be met and are nationally reported. These include:

1. OP18-Median time from ED arrival to ED departure for outpatients (includes observation patients). National benchmarks are top decile: 91 minutes, median: 131 minutes
2. OP20-Median time from ED arrival to diagnostic evaluation by a qualified medical personnel for outpatients (includes observation patients). National benchmarks are top decile: 11 minutes, median: 23 minutes

Since opening its doors in 2011, the ED at West Kendall Baptist Hospital (WKBH) has experienced yearly volume increases of 10-15%. With insufficient space to develop a separate "fast-track", we developed a Rapid Care Unit (RCU) in our triage area to address the issues listed above.

Project Goals

The main goals of this project were to:

1. Reduce the median length of stay in the ED for low acuity patients.
2. Reduce the median time from arrival to diagnostic evaluation by qualified medical personnel for low acuity patients
3. Maintain patient satisfaction scores at or above the 90th percentile.
4. Utilize existing staffing and space within the ED

Methods of Implementation

A triage room is designated for private evaluation, testing, and treatment of Emergency Severity Index (ESI) Level 4 & 5 patients.



Instead of lying in beds, patients sit in recliners in a previously underutilized discharge lounge adjacent to the triage area, pending evaluation and results. Staying "vertical" facilitates the patients' movement through the ED.



This Rapid Care Unit (RCU) is staffed by an Allied Health Professional (ARNP/PA), a registered nurse, and an ED tech. An ED physician located in the main treatment area is immediately available for consultation.

By modeling patient flow, IT Process Reengineering has created a virtual ED that provides updated recommendations for optimal staffing hours. This model, using FlexSim simulation software, is able to assess the impact the RCU and related changes will have across the ED.

The location in triage facilitates movement of patients from the RCU to the main treatment area if the ESI level was underestimated. It also allows the assigned Allied Health Professional to assist in the main treatment area if RCU volume is low.

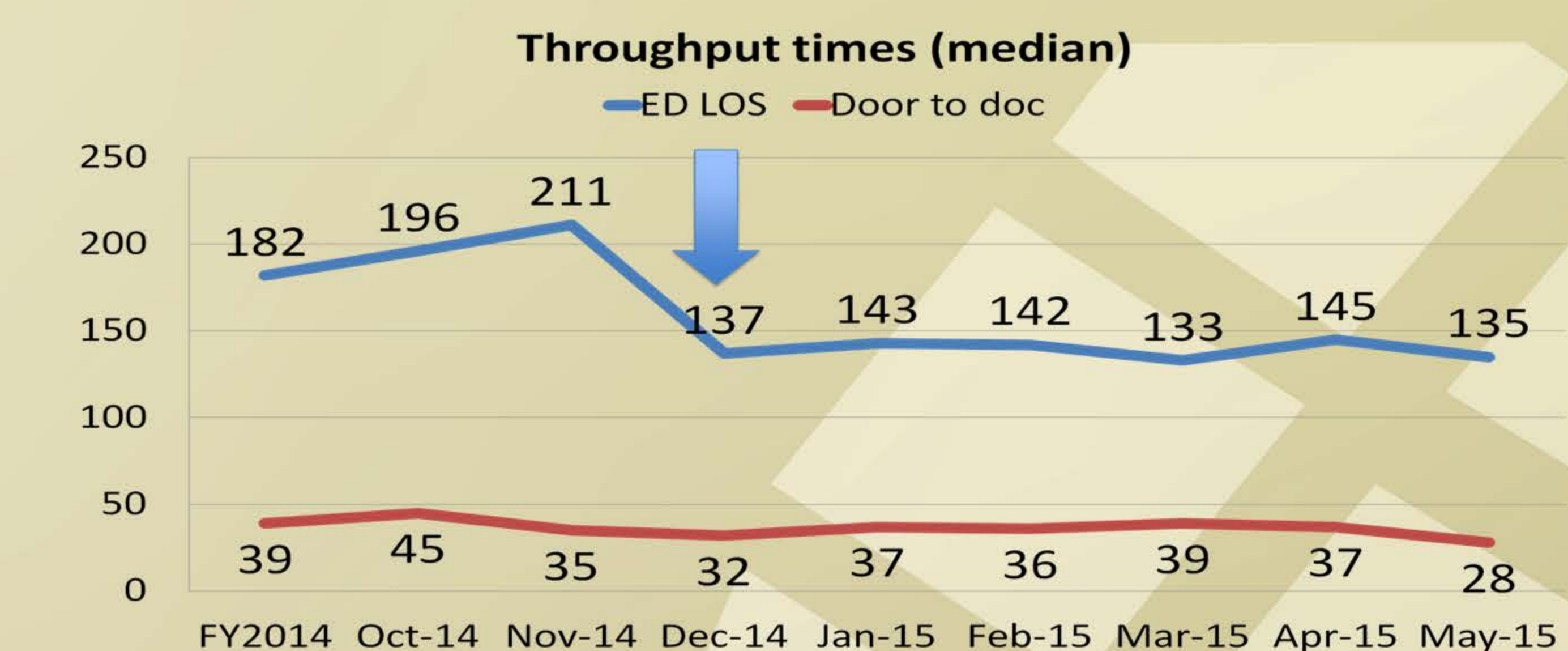
Opening date: December 1, 2014

Outcomes

The median time from arrival to diagnostic evaluation (OP20) for FY2014 for adult patients of acuity 4 and 5 was 39 minutes. After implementation, the median time decreased significantly to 36 minutes ($z = 4.405, p < 0.001$), still higher than the national median of 23 minutes.

The median LOS (OP18) for FY 2014 for adult patients of acuity 4 and 5 was 182 minutes. After implementation, the median time decreased significantly to 133 minutes ($z = 19.997, p < 0.001$), comparable to the national median time of 131 minutes.

The Press-Ganey patient satisfaction scores remained above the 95th percentile throughout the process.



Discussion

Our RCU model demonstrates that dedicating a portion of the triage area to this population can result in improved flow, and efficient care without sacrificing patient satisfaction. The relative decrease in OP20 (7.6%), although statistically significant, was less important clinically than the decrease in OP18 (26.9%). The decrease in LOS put our median very close to the national median.

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