

# IMPACT OF A PLANNED WORKFLOW CHANGE: CrossMark

## SUPER TRACK IMPROVES QUALITY AND SERVICE FOR LOW-ACUITY PATIENTS AT AN INNER-CITY HOSPITAL

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**Problem:** ED volume and acuity were anticipated to increase at an inner-city hospital. A strategy to mitigate the impact was needed.

**Methods:** A multidisciplinary team facilitated a workflow modification project implementing a Super Track to treat low-acuity patients. A literature review led to the creation of an evidence-based framework. Staff education regarding the change process and the results of an analysis in the strengths, weaknesses, opportunities, and threat format, along with simulation exercises and a pilot project, supported implementation of this strategy.

**Results:** Simulation exercises demonstrated that the proposed workflow with a Super Track had the potential to reduce the length of stay among level 4 and 5 patients coming to the

emergency department. Implementing a Super Track reduced the patient arrival-to-provider time for low-acuity patients, but length of stay was not affected. After implementation, the number of patients who left without being seen decreased by 40%, and patient satisfaction increased by 36%.

**Implications for practice:** A modified front-end workflow process produced a statistically significant, sustainable improvement in patient flow of low-acuity patients in our emergency department. Use of an evidence-based, multidisciplinary team approach supported the change process.

**Key words:** Emergency department; Patient throughput; Provider in triage; Super Track

According to American Hospital Association Annual Survey data,<sup>1</sup> ED visits in the United States swelled from 90.8 million in 1992 to 133.2 million annual visits in 2012, representing a 46% increase. At the same time, the number of emergency departments treating these patients

decreased by 11%, from 5035 to 4460. Not only is ED volume increasing, but patients coming to the ED are older and sicker, requiring more complex and time-consuming treatment.<sup>2</sup> Wait times to see a provider are increasing,<sup>3</sup> and the ED staff faces continual stress to meet the expectations of patients, their

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families, and the health care organization that employs them.<sup>4</sup> Removing delays in the input-throughput-output steps of ED care is essential in providing timely care, and many strategies have been introduced in the emergency department to reduce patient wait times and length of stay with inconsistent results.<sup>3–8</sup> Most of the interventions described in the literature are focused on the input phase, with an emphasis on reducing the time the patient waits to see a physician or waits to have treatment initiated.<sup>6</sup> Stationing a provider in triage is one of several front-end interventions being implemented by emergency departments to decrease time to provider evaluation, diagnostic testing, treatment, and disposition.<sup>3</sup> A designated provider is assigned to intervene early in the patient's ED course to guide triage or accelerate the initial evaluation and provide treatment and disposition for low-acuity patients.<sup>7</sup> Placing a provider in triage will allow earlier patient contact with a provider, earlier advanced decision making, and a potentially decreased length of stay.<sup>8</sup>

### Specific Aims

The purpose of this project was to improve the service and quality of care provided to low-acuity patients seen at our emergency department as a result of implementing a Super Track. We selected 4 specific key ED operating metrics to determine the effectiveness of the intervention: a reduction in time from arrival to being seen by a provider, decreased length of stay, a lower rate of patients who leave without being seen by a provider, and overall patient satisfaction.

### Context

The emergency department of our Magnet-designated academic medical center cared for 40,000 patients in 2014 and was not unique in facing the challenges of crowding and delays in providing treatment. During the preceding 3 years, the emergency department implemented a number of strategies to improve patient flow. A “greeter” nurse was assigned to rapidly screen patients upon arrival at the emergency department for the presence of a life-threatening condition. An immediate bedding process was implemented to place patients in an open bed when available, bypassing the triage nursing interview. Advanced nursing protocols were approved, allowing the triage nurse to initiate diagnostic tests and treatments when a patient might experience a wait to be seen by a physician. Lastly, our emergency department had a Fast Track program for low-acuity patients that was staffed 12 hours each day by nurse practitioners, an emergency nurse, and an ED technician. Our emergency department uses the Emergency Severity Index (ESI) to triage patients. The ESI is a 5-level ED

triage algorithm that provides clinically relevant stratification of patients into 5 groups from 1 (most urgent) to 5 (least urgent) on the basis of acuity and resource needs.<sup>9</sup> More than 30% of the patients being treated in our emergency department were classified as low acuity using ESI<sup>9</sup> level 4 or 5. Despite these flow improvement initiatives, crowding and long wait times continued.

In 2014, our emergency department expanded capacity from 20 to 48 treatment spaces and renovated the physical space for the front-end processes of triage and registration. This ED expansion and renovation project was part of a larger health system strategy that would transition a level I trauma program to our emergency department in January 2015. The ED leadership team was concerned about the impact on overall ED operations that would accompany this anticipated volume and acuity increase and seized this opportunity to implement a Super Track for low-acuity patients in the new front-end space. In this article, we describe the planning, implementation, and outcomes of this evidence-based process improvement initiative and its impact on ESI level 4 and 5 patients' arrival to physician time, length of stay, and patient satisfaction and the left without being seen (LWBS) rate of all patients seen in the emergency department.

### Interventions

The ED leadership team is composed of the ED medical chairman, assistant chairman, nurse manager, and clinical nurse specialist. They held a biweekly multidisciplinary operations meeting, which included an ED technician, pharmacist, social worker, patient access supervisor, and quality improvement analyst. The operations group became the steering committee to facilitate change and remove barriers and impediments related to this workflow modification project. Anticipated obstacles included allocating physician and nursing staff resources for project planning and implementation and the financial resources required for supplies and equipment that might be needed. Within our ED nursing shared governance structure, the stewardship committee was charged with supporting the nursing workflow process changes that would develop from the project. Both the ED steering and stewardship committees participated in analysis and simulation exercises to test the proposed workflow modification, as well as acting as department champions for the change.

The first step in the improvement process was to conduct a literature review about strategies to improve the intake process in the emergency department. Search parameters were (1) published in 2010 or later and (2) published in an academic, peer-reviewed journal. The search terms (Triage AND Physician) AND (emergency\*) were used. Databases searched

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