

Improving ED Flow through the UMLN II

Thomas Jefferson University Hospital
Philadelphia, PA
957 beds, XX ED beds
www.jeffersonhospital.org/

Thomas Jefferson's emergency department (ED), located in Center City Philadelphia, serves almost 100,000 ED visits per year. It is a Level I trauma center and regional spinal cord injury center of the Delaware Valley.

The Problem

Inefficiencies in the fast track at Thomas Jefferson University Hospital have long been a source of frustration for ED leaders, staff and patients. Between December 2008 and February 2009, there were 1,759 fast track patients and the average length of stay was 122 minutes. ED leaders believed that they could serve these patients faster.

The Solution

Department leaders established, for the first time, a goal for fast track: patients should be discharged within 90 minutes. In order to achieve this goal, a team from the ED used the Lean methodology process to identify problems and streamline processes. The improvements included: a dedicated fast track team consisting of a nurse practitioner, nurse and tech; improved signage at the ED entrance; and readily available resources and supplies for fast track staff.

STEEP

Timely—With the adjustments, the fast track can serve patients faster
Patient-Centered – A new welcome sign in entryway clearly directs patients to the ED

Results

Although many of the improvements were sustained, there are still times when fast track staff and resources are diverted to support the care of patients elsewhere in the ED. Between December 2009 and February 2010, there were 1,779 fast track patients, and the length of stay was not statistically different from the previous year. Early data indicate that patient length of stay is improved on the days when fast track is staffed by a dedicated (i.e., full) team.

Background

Establishing an ED fast track to treat low acuity patients has the potential to reduce length of stay and improve patient flow. However, despite the widespread use of fast tracks, hospitals struggle to efficiently manage them.

At Thomas Jefferson University Hospital, the fast track had long been a source of frustration for ED leaders, staff and patients. The ED staff had the perception that the fast track took resources away from the ED, and that fast track nurse practitioners (NPs) did not work quickly enough. The NPs were frustrated by the limited availability of equipment and supplies (including computers), and the frequency with which higher acuity patients (ESI IIIs) were inappropriately triaged to fast track. However, the NPs' primary frustration was the absence of a dedicated team to support the fast track. The fast track was staffed by an NP and a tech, with the tech playing a critical role managing the flow of patients. However, the NP needed additional support, and often the tech was pulled out of the fast track when the ED became busy. The result was long patient lengths of stay and higher-than-desired LWBS rates.

Recognizing the potential to improve the fast track and make it an important service line for the hospital, department leaders approached hospital and nursing administration for additional resources to support the fast track. Specifically, they requested funding for a dedicated fast track team that consisted of an NP, nurse, tech and registrar. Administrators agreed to provide funding for a nurse to work with the NP. However, before committing more resources for a tech and registrar, the administrators wanted to see data on how Jefferson's fast track compared to other fast tracks nationally. Unfortunately, such data do not exist, therefore department leaders were unable to make their case to hire for those two positions.

The addition of a “dedicated” nurse to fast track did not solve the flow problems in the fast track. The nurse assigned to fast track was constantly being pulled from fast track when the ED was busy or when ED nurses called in sick.

But two changes in hospital and department leadership created greater opportunity to address the issue. In 2008, the hospital hired a new chief operating officer who saw a need to provide Jefferson staff with resources to improve performance. He hired GE to teach 45 employees the methods of Lean and Six Sigma. These 45 facilitators were made available to departments to lead Lean-driven improvements.

Second, there was a restructuring of staff within the ED. An emergency medicine physician was hired as the vice president for clinical operations in the ED, a newly created position that reports to both the COO and the chair of the emergency medicine department. Additionally, nurses and other support staff (e.g. clinical secretaries), who traditionally reported to nursing administrators, were brought under the purview of the new vice president. The result of this change was that all physicians, nurses and support staff (with the notable exception of registrars) report to the same individual. The dissolution of scattered reporting structures made it easier to focus staff on common goals. The vice president elevated the issue of patient flow as a priority within the department, and served as the executive sponsor for the department's Lean efforts. In partnership with the department chairman and director of strategic initiatives, he identified four processes

that would benefit from a Lean tools: the patient evaluation process, the medical admission evaluation process, CT turnaround times, and fast track turnaround times.

Participation in the Urgent Matters Learning Network II was another factor that facilitated change. The department's director of strategic initiatives volunteered Thomas Jefferson for the collaborative after discussing it with the vice president, chair of the department, and hospital leaders including the CEO, COO, and CNO. The director was familiar with the work of the original UMLN and believed in its mission. The fast track project was chosen because it is independent from other departments in the hospital therefore within the control of the ED leaders and staff.

Improvement Strategy

The Lean-trained facilitators began by conducting interviews with fast track and ED staff. They observed work processes in the ED and documented how long it took to complete various tasks. Through this process, the facilitators discovered that the NP spends less than 40 percent of his or her time on NP tasks and the nurse spends less than 6 percent of his or her time on nursing tasks. They also discovered sources of waste. For example, nurses spent a lot of time searching for equipment and supplies.

Next, nine ED staff members were asked to participate in a three and one-half day Kaizen event. The team spent the first two days observing and creating a value stream map of all tasks that occur between patients' arrival and discharge. After identifying value and non-value added tasks, the team determined that the fast track could meet a goal of a 90-minute turn-around time for patients with following changes:

- Dedicating a NP, nurse and tech to staff the fast track and be pulled away under extreme circumstances (i.e., not when the ED becomes crowded).
- Posting a welcome sign in the doorway, directing patients to the registration window.
- Having a tech serve as a patient greeter, identifying fast track patients in the waiting room Those patients will be directed immediately to the fast track, rather than going through the usual triage process.
- Enabling all fast track computers to print discharge instructions.
- Educating the nursing staff on ESI triage procedures so that mid-acuity patients are better identified and sent to the main ED.
- Continuously stocking supplies and equipment. Relocating the fast track close to the front of the ED.

Implementation

During the last day and a half of the Kaizen, the team implemented the changes listed above (with the exception of changing the fast track location) as a test run. There was a lot of enthusiasm among the Kaizen team members, fast track staff and ED leadership about the changes identified; however, more work was needed. In order to sustain the changes, the team had several follow-up tasks, including ordering a permanent welcome sign for the waiting room; planning ESI education and competency assessment for triage nurses; developing written guidance about the roles of the NP, nurse, and tech in fast track; and cleaning and organizing the

fast track supply cart. The team met weekly for a month after the Kaizen event to discuss progress of these follow-up tasks, as well as any other issues associated with the implementation and maintenance of the changes. After a month, follow-up tasks were completed and responsibility for the maintenance of improvements was turned over to the director of strategic initiatives.

Department leaders and staff were in agreement that the changes suggested by the Kaizen team were appropriate. However, the department was not given any additional resources to support all of the improvements identified. The primary challenge associated with implementing and maintaining the changes was staffing. No new staff was hired. Having a dedicated NP, nurse and tech meant that the rest of the ED would have to make due without these staff. And there was a general perception that staffing of nurses and techs in the ED was already very tight.

Tight staffing of techs in the ED meant that the role of the greeter in the waiting room could not be maintained. Department leaders have made a true effort to keep a dedicated team supporting fast track, even on busy days. However, the fast track nurse is still pulled to care for ED patients, fast track beds are occasionally used to accommodate ED patients, and the fast track tech is used for both the fast track and ED. Because the staffing issues were not addressed, the changes could not be maintained at all times.

One positive staffing change was moving from a staffing model where nurses and techs were assigned to fast track to one where nurses and techs volunteer for fast track placement. This ensures that only those who want to work in fast track do so.

Aside from staffing, another challenge was setting up the computer in fast track to allow the nurse to print discharge instructions. What was once thought to be a simple software fix turned out to require the vendor to rework the system. However, the problem was remedied within two weeks of the Kaizen event.

Inappropriate triage – i.e., assignment of patients to triage who require more resources, and should not be counted toward the 90-minute goal – continues to be a problem. One of the NPs on staff is conducting research to develop a method for identifying these patients during triage, so that they may be sent to the ED instead of fast track. In the meantime, those patients who are inappropriately sent to fast track require considerably more staff time and slow down the flow of the unit.

As suggested by the Kaizen team, a sign was created for the entryway to direct patients. Also, the availability of fast track supplies improved considerably. It is regular practice for a night-shift tech to replenish fast track supplies. Additionally, techs also replenish supplies in the middle of the day. Finally, the department underwent a major construction project in 2009, resulting in placement of the fast track at the front of the department.

Use of the Lean process was an important facilitator to the improvement of the fast track. Previously, performance improvement initiatives within the department were led by committees of staff. The committees often made useful suggestions, but rarely did the suggestions lead to

sustained improvement. Because the department's Lean initiatives were part of the larger hospital-wide improvements, they were taken more seriously by staff.

Resources

There were no purchases associated with the implementation of the improvement strategies. The relocation of the fast track was part of a major construction project in the ED, and designed prior to the Kaizen event. The primary resource required to support the improvements was staff time. The Lean facilitators and Kaizen team members spent a total of approximately 450 hours on the project. Also, the director of strategic initiatives spent a significant amount of time monitoring the progress of the interventions, and was responsible for overseeing them after the Kaizen event. Additionally, other department leaders - namely the vice president of operations - spent some time during the planning stage.

Results & Continuous Improvement

Interviews with staff about the changes implemented under the Urgent Matters collaborative indicate that one of the greatest benefits of the fast track improvement efforts has been the change in attitude about fast track among ED staff. After the Lean event, there was greater recognition of the importance of fast track, and the resources needed to facilitate its efficient operation. Further, fast track staff reported that they are much happier since the implementation of the changes. Having – on most days – a dedicated fast track team facilitated a stronger sense of teamwork and camaraderie. The fast track team now huddles at the beginning of each shift to discuss any issues that might arise during the day.

The greatest threat to sustainability remains the ability to staff fast track with a dedicated team. ED leaders are using data to monitor progress after the Lean intervention. The director of strategic initiatives is collecting daily information on the operation of the fast track, including whether a nurse and tech were available during the shift, the number and percentage of patients who were triaged inappropriately to fast track, the number and percent of fast track patients that left without being seen, and the average length of stay for fast track patients. Early data indicate that patient flow indicators are better when fast track is staffed by a dedicated (i.e., full) team.