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Fast Track Development at Aultman Hospital

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Fast Track Development

Aultman Hospital improves ED turnaround times, patient care, and staff satisfaction

The emergency department (ED) at Aultman Hospital in Canton receives more than 80,000 patients annually, making it one of the busiest in Ohio. Like most emergency facilities, the Aultman ED sees patients with various levels of severity, and has segregated the ED to better manage the different acuity levels. Among five “pods” are 53 treatment rooms available for critical care patients (5 percent of patients); Emergency Severity Index level 1 and level 2 patients (6 percent); level 3 patients (33 percent); level 4 patients (27 percent); and level 5 patients (29 percent). The majority of patients — lowest-acuity (level 4 and 5) — were seen in a green pod, consisting of seven patient rooms.

Stacie Howard, ED Executive Director, says that hospital’s flow committee was seeking to improve throughput throughout the hospital, and, in her role, she is responsible for ED flow. Problems with flow were most pronounced for the green pod lower-acuity patients. Staff were often pulled from the green pod to care for critical patients, which led to delays in serving the lowest-acuity patients and long turnaround times (some patients waited as long as four hours before being seen during peak times).

Problems with lower-acuity patients also can eventually affect higher-acuity patients, adds Brandy Schonover, ED Assistant Nurse Manager “If we’re not seeing our green team patients fast enough, then it causes a bottleneck out in triage, and we don’t have any other beds free to see our higher-acuity patients.” For example, when green pod beds were full, lower-acuity patients might be placed in beds in other pods that could potentially be needed by higher-acuity patients. Aultman wanted to provide more time-efficient medical care to patients with minor medical conditions — which could improve patient care across the ED — and increase the satisfaction of patients as well as staff working in the ED.

To improve the performance of the green pod, Aultman planned to develop a “Fast Track” process, which would better identify and segregate lower-acuity patients. The Fast Track could improve patient flow through the ED, decrease turnaround times, and increase overall patient satisfaction. In addition, it was believed that the changes would increase overall NRC patient satisfaction scores, decrease the number of patients who leave without being seen (LWBS), and, thus, generate increased ED revenues. Changes could also impact staff satisfaction and, subsequently, decrease the department’s high employee turnover (approximately 20 percent) and training costs associated with new hires.

Aultman Hospital

Aultman Hospital in Canton, Ohio, is a Level 2 Trauma Center with approximately 700 beds. Aultman includes a fully integrated, state-of-the-art emergency department (ED), which has dedicated ultrasound, CT scan, and radiology services.

The ED received 84,205 patients in 2016, and is staffed by more than 100 nurses, 40 physicians and mid-level coverage, 35 ancillary and technical staff, and social services and utilization managers.

Lean Learning at AEH

Aultman staff had conducted a benchmarking visit to Mount Carmel Health in Columbus, where they were told about the opportunity to receive training at the Academy for Excellence in Healthcare at The Ohio State University. Aultman formed an improvement team that attended AEH training in July 2017, where they learned about or improved their understanding of lean tools and techniques, including value-stream mapping, standardized work, application of takt time to processes, data capture and analysis at the gemba, and methods to communicate and engage colleagues in improvement work. The team reported their initial improvement-project findings to AEH in October 2017.

Jim Romano, Advanced Practice Provider (APP) Director, said that most team members had “zero experience” with the lean concepts that were taught in Columbus during the initial five-day training session. “We’re all clinical-based. We decided there are inherent problems, things that needed changed, or things we wanted to work on to make things better, but none of us necessarily had the tools or the experience on how to implement those or how to go about understanding those.”

He adds that the July visit was an “eye-opening experience” and gave the team confidence that the lean and six sigma tools they were learning could help

streamline their ED processes. For example, Howard adds, the calculation and application of takt time (available time divided by number of patients, which establishes the required pace of work) and value-stream mapping helped the team to uncover causes that contributed to delays.

The Aultman team initially considered the inpatient admissions process as a means to improve throughput in the ED, but their AEH coach (Margaret Pennington, AEH Faculty Director) encouraged them to scope their project to a process that was completely within their control. “We made the decision to go from looking at admissions to looking at discharges, and then the focus became looking at our green team patients,” says Howard. “How can we get them through the ED faster?”

The team arrived at Columbus with the intent of developing an effective Fast Track system, and recognized how the AEH training could help them plan for and achieve that, says Schonover. They had considered their green pod as something like a Fast Track, but, says Romano, it was disorganized and did not really serve that purpose. “We know of other hospitals running Fast Track, and we’ve just never formally run one appropriately. We identified the need to have one, we just have never systematically done one in the correct way. [AEH] helped us to identify that and even gave us direction and purpose on how to make that come to fruition.”

Measurements such as LWBS, patient satisfaction, and staff turnover had been regularly tracked for the overall ED, but more detailed measures associated with patient flow in the green pod were new. As the

Aultman Hospital ED Improvement Team

- Stacie Howard, ED executive director
- Stephanie Reed, ED staff nurse
- Jim Romano, APP Director
- Brandy Schonover, ED Assistant Nurse Manager

Aultman team began to focus on green pod discharges, they gathered details as to why problems existed with lower-acuity patients. They developed a current-state map, which showed delays throughout lower-acuity patient flow, and recorded a discharge turnaround time of 2 hours and 41 minutes for the green pod (the average time in the green pod was 2 hours and 12 minutes). The LWBS in the ED (presumably all lowest-acuity patients) was 2.1 percent, despite green pod volumes dropping. A small sample of ED patient satisfaction scores — for timely checkin, would recommend facility, overall rating of facility, etc. — were below NRC averages and falling. The team’s financial analysis of LWBS patient volumes also indicated that more than \$1 million in revenue was being lost in the ED.

In addition, RN staff participation in ED satisfaction assessments had fallen from 100 percent in 2013 to 62 percent in 2017. Gallup staff-engagement scores had fallen overall from 3.64 average to 3.01, and all individual scores (e.g., “At work, my opinion seems to count” and “There is someone at work who encourages my development”) were below the 25th percentile for ED staff.

As the team examined current ED flow and planned for the Fast Track process, they recognized a need to more quickly and accurately identify lower-acuity patients during the triage process and move them out of the ED flow, which would enable care for higher-acuity patients in a more time-efficient manner. In examining how to establish flow, they uncovered a physical change that could resolve some issues and require little if any capital investment: one section of the ED was dedicated to pediatric patients (purple pod) and had seven beds and its own waiting room and entrance (see *Pediatric ED Waiting Area*). The area, however, was severely underutilized for pediatric patients, says Romano. Time studies confirmed the underutilization (approximately 40 hours of pediatric ED care per week), and the pediatric section was closed on weekends due to low demand. “Many times during the week we were putting adults in the pediatric section because we needed the extra beds,” adds Romano. “We don’t have the pediatric census to necessitate a full pediatric ER all of the time.”

The team believed they could safely integrate pediatric patients into the overall ED, separate out the Fast Track flow to the pediatrics area, give Fast Track its own entrance and exit, and utilize the seven beds of the purple pod. The seven beds in the green pod could then be used for flow of higher-acuity patients, thus helping to improve overall ED performance. “It’s going to allow us to see more patients, bed more patients earlier in the day, and, subsequently, try to prevent a bottleneck while keeping the Fast Track people out of the main flow of the ER,” adds Romano.

The improvement team also used value-stream mapping and gemba observations to

Pediatric ED Waiting Area



Source: Aultman Hospital

identify major issues that had contributed to green pod problems, which they would seek to remedy in the new Fast Track space. These included varied mid-level practices in ordering; lengthy registration, charting assessments, and discharge processes; poor location of AccuDose medication-dispensing equipment; and ESI level 2 and 3 patients inappropriately triaged to the green team. Triage problems had the following root causes:

- *Lack of transparency:* With the current triage physical layout, patients were hesitant to provide full details to enable an accurate triage. The Fast Track could give the green team and patients more privacy and the opportunity to ask more direct questions to identify the correct ESI level.
- *Lack of standardization:* The ED uses various groups of nurses to perform triage, “so everybody has their own kind of niche, their own idea of how triage should go,” says Romano. This variation led to different perceptions of importance with regard to patient complaints. The team would develop clearer definitions and rules for differentiating ESI levels 4 and 5 from levels 2 and 3.

The mapping, observations, and Five Whys interactive communication technique also gave the team greater awareness of all the steps within the end-to-end process and helped them to differentiate process problems from what were often thought to be staffing problems. The work also identified the dynamics of different providers, such as working at different paces (i.e., different takt times), different standards for patient orders, and a tendency to batch patients, which contributed to delays, says Schonover.

The improvement team met every two weeks to share the information they were gathering and to brainstorm and work on ideas. They also set up a gemba visit to ProMedica Toledo Hospital, which also had sent a team to AEH in July. ProMedica had implemented a Fast Track ED process in recent years. Romano says that while at ProMedica they were able to “see how a comparative hospital with very similar volume was able to do what we were looking to do. It gave us an even better sense of guidance... to see how it really works.”

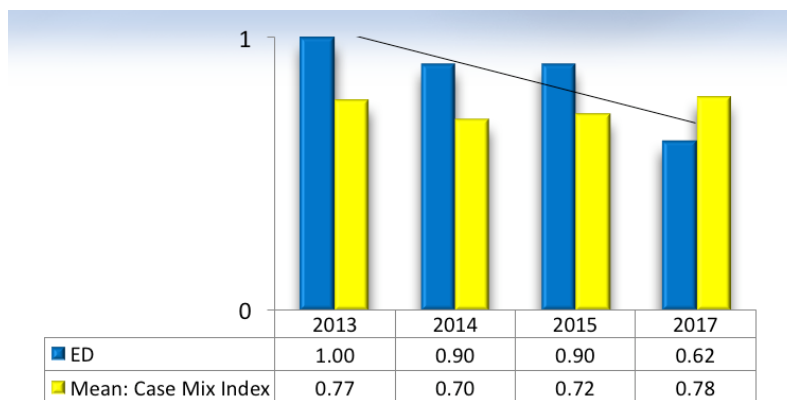
Howard says the gemba visit changed some of the team’s plans, such as the use of direct bedding for the Aultman Fast Track: “Patients don’t get vited out in triage. They come in, you get their complaint, and they go directly to a bed. So why would you get a bottleneck at triage when you could take a patient to a bed and vital them at the bed. That was one of the things that we probably felt we needed to do, but actually seeing ProMedica and seeing it be successful for them was one of the reasons that we decided to go with direct bedding, which will now [occur in] the purple pod.” The team also had considered putting chairs in some patient rooms rather than beds, but were convinced by ProMedica staff that it was an unnecessary capital expense that did not affect quality of care or the patient experience.

The team had set project goals to reduce turnaround times to 90 minutes or less (stretch goal of 75 minutes), decrease LWBS to less than 2 percent (stretch goal of less than 1 percent), decrease door-to-doc times and door-to-RN times, and increase staff and patient satisfaction scores. Howard says the turnaround and LWBS targets, represented best practices for comparable EDs. Patient satisfaction was chosen because of its importance to overall ED effectiveness, as a reflection of ED efficiency, and its

connection to the Aultman bottom line. A focus on staff satisfaction can help the ED address high staff turnover and engagement (evidenced by the declining participation rates in RN satisfaction surveys, shown in the *chart*).

To achieve the goals, the team tried to develop a countermeasure to improve nearly every single step of the Fast Track process. “Even if the step was quick, we still tried to figure out a way that we could potentially lessen that time and help each other out more succinctly as a team,” says Romano. “For a Fast Track or minor complaint, we wanted to see how we could make the turnaround time as efficient and as fast as possible.”

RN Satisfaction Results — ED Average Unit Response Rate



Source: 2017 NDNQI RN Satisfaction Survey Report vs. Mean; 7.26.17

Source: Aultman Hospital

In addition to the relocation of lower-acuity ED pod and the use of direct bedding, the team’s focus on turnaround time led them to examine and develop countermeasures to minimize a number of process steps:

- *Assessments:* A nurse conducted an assessment and then a physician assistant (PA) or nurse practitioner (NP) would perform an assessment. Romano says combined team assessments with the PA and the nurse in the room at the same time will prevent patients from having to repeat themselves and speed discharge times.
- *Discharge instructions:* A provider and then a nurse would sequentially give discharge instructions to a patient. Providing this information concurrently can improve turnaround time and offer the patient more of an opportunity to ask questions and get answers from both parties.
- *Team triaging and immediate patient movement:* With team triaging, the nurse, the mid-level, and the technician will evaluate the patient immediately, and then if an image is ordered, the patient will be taken to radiology by an ED technician rather than waiting on radiology to come for the patient, as was previously done.
- *Quick registration:* Fast Track patients could be quick registered and then full registered in the room after a complaint is received to expedite care, if needed.
- *Gauging patient satisfaction:* NRC patient satisfaction surveys, distributed after patients were at Aultman, were rarely returned (approximately 30 from nearly 7,000 patients) and typically

negative. The team wanted to develop a brief survey that would be handed to patients as they were discharged, with questions focused on communication and waiting time, which were usually the two biggest complaints from patients, says Schonover. This new data will be compared to the formal NRC survey results.

The team engaged stakeholders (registration, radiology, pharmacy, housekeeping, etc.) who would need to buy in to the changes and new workflow, and established dates to pilot Fast Track. It helped with buyin efforts that Howard was in an ED leadership position, that Romano reported to a group director who was aware of and on board with the changes that the team wanted to make, and that the directive for Fast Track was driven by Aultman’s committee to improve flow. “I report to the chief nurse officer, Anne Gunther, and she gave us her complete support when [ED physician Dr. Paul Hrics] and I first brought this to her,” says Howard. “And at the end of the day, she said just provide updates. Our CEO Chris Remark has been supportive of this endeavor also. When you have support from your CEO and your CNO, it’s like they are basically giving us the ball to do what we need to do. From Day One we have done that. We’re not tearing down buildings and building new buildings, we’re changing processes to improve the care we provide for our patients.”

Many of the Fast Track changes have the designed benefit of improving teamwork in the ED. As the team evaluated processes and developed countermeasures, they also established a broader core team and began to educate this group about the Fast Track workflow: quick registration and triage; vitals and assessment; treatment; and discharge. To get frontline buyin, the team first enlisted the support of ED staff who wanted improvements. “We came back, and we identified some strong individuals with a good work ethic, people who are energetic, people who are insightful, and people who want to help,” says Romano. Many individuals in the ED met that criteria, he adds, and they would be the ones to champion and pilot Fast Track.

Fast Track Pilot

The Fast Track was piloted for three days — October 2-4 — from 10 am to 10 pm each day in the purple pod. Improvement team members participated and/or staffed the process; captured feedback from core team members and radiology (daily huddles at the beginning and end of each day); and, based on observations and feedback from the first two days, modified the process for the third day of the pilot.

This initial effort attempted to address all the major problems observed by the team. For example:

- Purple pod staff would not be pulled from the Fast Track to other ED areas
- Triage RNs were provided additional education for identifying ESI level 4 and 5 patients
- Patients received comment cards at discharge in order to get a larger sample of patient satisfaction with the Fast Track process

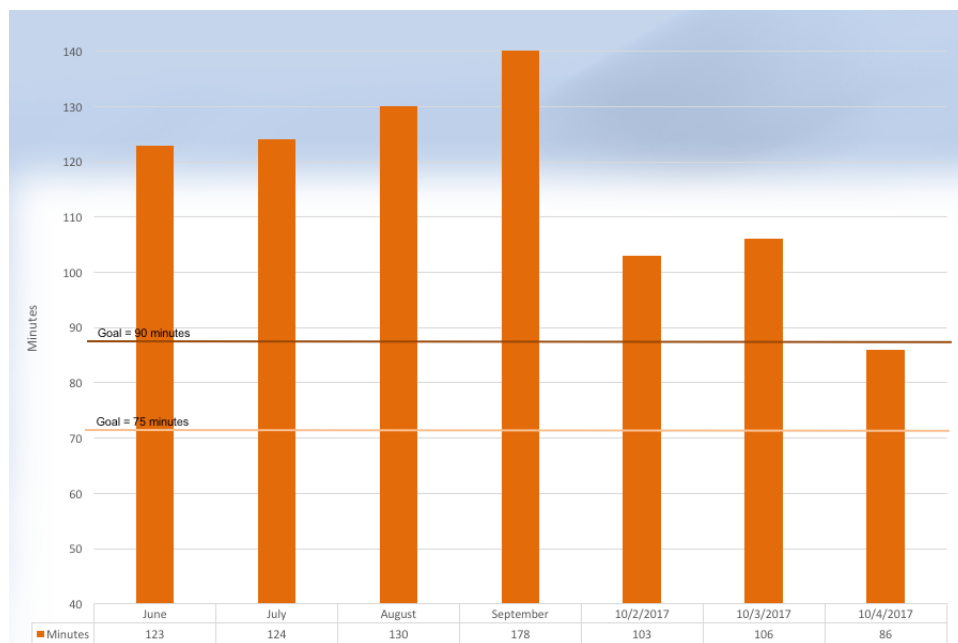
During the three days of the pilot, no patients had to wait or even use the purple pod waiting area, but were instead immediately placed out of triage into one of the purple pod’s seven beds. The team also tracked metrics for the three days in the purple pod, including:

- Number of patients
- Patients by injury/complaint
- Average length of stay
- Admissions
- Discharge turnaround times
- LWBS

All the key project measurements — length of stay, turnaround times, and LWBS — improved. For example on October 4, the purple pod average discharge turnaround time was 1 hour and 26 minutes and LWBS was 0.0 percent, compared to 3 hours and 7 minutes and LWBS of 3.9 percent on September 5. The team believed the pilot was a “tremendous success.”

In addition, variances in average and median turnaround times helped the team to see areas where improvement was still needed. For example, on the first day of the pilot, the average turnaround time was 1 hour and 43 minutes and the median time was 58 minutes. This disparity occurred because six patients had been incorrectly triaged as lower acuity and were then transferred out, admitted, or discharged, which resulted in much longer turnaround times for those few patients. During the pilot of Fast Track, the team worked to reduce the number of incorrect placements of patients.

Green Team Turnaround Times 2017 (through Pilot)



Source: Aultman Hospital

The distribution of comment cards at discharge resulted in 60 completed cards from patients in three days, which previously would have taken three months or more. Patient comments indicated satisfaction at getting in and out of the ED in a timely manner (e.g., “Super fast and efficient,” “Quick, efficient, and friendly,” and “I think the Fast Track is an awesome thing”).

Go-Live Date and Next Steps

The pilot results and staff feedback were shared throughout the department, and the improvement team worked at getting every department that interacts with the ED up to speed on how the Fast Track would function when it was fully implemented on December 4, says Schonover.

From October to December, the team conducted triage classes; continued to educate staff on ESI scoring; and developed systematic rules for triage. (But, as Romano notes, “We proved that with our trial for three days, we only had a small handful of people that were deemed inappropriately placed as opposed to what we would get on a daily basis.”) The team also set new expectations for all roles involved in the Fast Track and developed ways to:

- Cover lunches and breaks for Fast Track personnel
- Minimize RNs being pulled to other areas
- Made permanent the physical changes to the new Fast Track area, while working to ensure that the ED was pediatric-friendly
- Modify staffing across the ED as necessary
- Continue to speed up the registration process
- Improve the stocking of rooms

From December 4 in to early January 2018, measurements for the Fast Track process within the Aultman ED were:

- Purple pod discharge turnaround times of 115 minutes
- LWBS of 1.87 percent
- Patient satisfaction ratings had not yet been tallied because the sample (21 respondents) was insignificant.

Howard says ongoing success and improvement of the Fast Track will take buyin and a lot of work from all involved — physician teams, nursing staff, technicians, medics, radiology, housekeeping, registration, etc. — and “we can’t just focus on the first few days. It is going to be a continual auditing of the process. If you don’t audit it, why are you doing it? People tend to go back to the way they are used to do things.” The team will evaluate the process daily, weekly, monthly, and then at the three-month mark, which would include operation during the flu season with high demand.

AEH Commentary

The Fast Track development project at Aultman Hospital illustrates, as the name implies, the importance of speed in ED healthcare processes — to both improve the quality of patient care and patient satisfaction. Many lean concepts, such as evaluation of takt time and process mapping, are directly applicable to ED functions and processes, and at Aultman these lean tools helped the ED team to pinpoint and address root causes that caused delays. Benchmarking trips to other hospitals also helped to convince the Aultman team of the efficacy of lean methods and gain insights into how they could be applied in the ED.

The Aultman ED project also highlights the necessity of having a diverse team that includes frontline staff, such as a physician assistant and nurse practitioner, engaged in an improvement project from the very beginning. Frontline personnel are the ones that will be working in and often responsible for the changed process, and their participation provides a realistic perspective of issues and challenges and can help when it comes time to enlist others to champion changes in the work area.

Healthcare providers are under intense financial pressure — seeking ways to grow revenues as they try to improve care while lowering their costs. The Fast Track project shows that improved care — e.g., an ability to see more patients and reducing the number of patients who leave the ED without being seen — can also have a significant, positive impact on a healthcare provider's bottom line.

About AEH

The Academy for Excellence in Healthcare blends in-person class time with hands-on project work, interactive simulations, and recurrent coaching, all aimed at helping healthcare teams spark actionable change at their organization. At the heart of this program is a real-world workplace problem each participant team selects and commits to solving through five intensive days on campus, followed several weeks later by two days of project report-outs and lean leadership training. This project-based approach pays immediate dividends and lays the groundwork for transformational change.



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