

Team Assessment Pull Process

Problem to Be Resolved:

- An increasing patient volume and increasing wait times with space and resource constraints.
 - Attempted to reduce ED length of stay by increasing ED capacity. Scottish Rite underwent an ED expansion that increased capacity from 38 beds to 54 beds. After one year of operating in the new facility, ED length of Stay (LOS) had actually increased not decreased.
- A patient could see a physician, nurse or technician in any order, and they could be in a room for an extended period of time without any treatment starting. Nurses assigned to more than one patient simultaneously would have to decide which set of physician orders to initiate first. Physicians were often frustrated because the orders were not completed in a timely manner.

Hospital: Children's Healthcare of Atlanta at Scottish Rite

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Category:

- A: Arrival
- C: Clinical Initial Evaluation

Key Words:

- Wait times
- TAPP
- Lean
- 5S

Hospital Metrics:

(Taken from the American Hospital Directory)

- Annual ED Volume: Approximately 90,000
- Hospital Beds: 234
- Ownership: Non-Profit
- Trauma Level: I
- Teaching Status: Yes

Tools Provided:

- **A3 Process Improvement Question Template**
A process improvement tool for a team of frontline staff to use for evaluating their process cycle time. The "A3" denotes the size of the paper used (11x17) for the one-page process improvement summary. The problem and recommended solutions all fit onto this one size paper to help people focus their thoughts and hone in on the one area for improvement. Following the A3 in order (folding over the solutions slide) keeps staff from jumping ahead to solutions before adequately defining the problem.
- **TAPP Algorithm**
This tool is an algorithm used in the emergency department by staff as a step-by-step flow chart to direct the Team Assessment Pull Process.

Clinical Areas Affected:

- Triage
- Fast Track
- Main Emergency Department

Staff Involved:

- Physicians
- Nurses
- Front-line staff

Innovation

The Team Assessment Pull Process (TAPP) is a technique to redesign emergency department patient flow to reduce waiting and delayed decision that results in wasted time for patients, nurses and physicians. Under the TAPP system, the patient is seen by the physician and nurse immediately after being placed in a room. The nurse completes the treatment plan ordered for the patient before being assigned to the next patient.

Results

Using TAPP, Scottish Rite was able to reduce the overall median length of stay (LOS) in the ED from 153 minutes to 125 minutes. Excluding fast track patients the median LOS in the ED decreased from 192 minutes to 167 minutes. TAPP has also allowed the Scottish Rite ED to reduce median door-to-provider time from 44 minutes to 28 minutes.

They utilized median as a measure of central tendency for comparative data as opposed to mean or mode in order to properly assess the skewed distribution and account for outliers in the data. One comparative measure used was ED LOS for Discharged Patients. The SR ED consistently performs as one of the top three EDs in this measure, despite their annual volume being close to three times as high as the other two top performing hospitals.

Although not part of the initial project aim, decreasing LOS led to a decrease in LWBS. Decreasing LWBS improves overall revenue, because it increases the number of billable patients who remain for treatment in the ED.

They have also seen an increase in overall customer satisfaction scores. Press Ganey scores for the ED have been in the 99th percentile ranking for “overall rating of care” for eight out of ten consecutive quarters.

From The Experts:

“Patients are no longer put in rooms simply because one is available. They are now ‘pulled’ to a room only when a physician and nurse are both ready to start their treatment plan. The patient and his or her family are not asked redundant questions because the physician and the nurse complete the assessment together. The patient and family are able to hear the physician and nurses verbalize the plan of care.”

Marianne Hatfield, RN, MSN, CENP, System Director of Emergency Services

Timeline

Children’s Healthcare of Atlanta was able to use Lean methodology; a rapid process improvement strategy derived from the Toyota Production System to improve efficiency in the Scottish Rite ED. Lean requires a brief but intense time commitment — up to one week of consecutive full- day meetings — followed by rapid process implementation trials after the week of process re-design.

At the end of this week, the team trialed a new, standardized process, front-line staff identified obstacles and barriers, and the team spent the next 30 days redesigning the process and educating staff and physicians on

the upcoming changes. The resulting standardized process was named the Team Assessment Pull Process.

Innovation Implementation

After visiting Seattle in January, 2008 to observe how Seattle Children's Hospital implemented Lean methodology, Scottish Rite established a Lean team, comprised of frontline staff — nurses, physicians, and ED technicians — who undertook the process review and re-design work. Lean places heavy emphasis on frontline staff involvement in process improvement. By mapping their processes, they were able to identify variation and waste. Waste was defined as any activity that was not seen as value-added by a customer. In the ED, this included redundant processes and re-work; searching for supplies needed for patient care; deciding which patient to see first when there are multiple sets of orders; interruptions in care; making a patient travel for a procedure; and any delays for any reason.

The team decided to focus on redesigning the flow for a segment of the ED visit with the most variation and waste. Lean emphasizes standardizing wherever possible because without a standard, you cannot measure or improve. For Scottish Rite, that one segment was the initial nurse and physician assessment.

Staff and physicians recognized there was a great deal of variation and waste in their assessment processes and particularly in terms of clinician coordination. Previously, the ED filled every available room as patients arrived for treatment, regardless of whether sufficient staff or providers were available to see the patients immediately. They determined that this process resulted in tremendous variation in treatment start times and bottlenecks in the treatment rooms. There was no standard procedure for how a patient was:

- 1) Assessed by a physician
- 2) Assessed by a nurse
- 3) Provided with a treatment plan that was immediately shared between disciplines
- 4) Provided treatment as soon as the physician determined a plan

In TAPP, work is pulled only when resources (a matched provider and RN who are both ready for new work) have been identified to start the patient care process. "Pulling" patients into an available room only when the provider and nurse are ready to begin the treatment plan eliminates the waste of mismatched resources and having patients wait for resources. TAPP standardized the arrival to room and also saves patients from having a redundant assessment, because the initial physician and nurse assessments are completed at the same time.

It also allowed for coordinated communication of the plan of care and an immediate treatment start for the newly assessed patient, because the nurse is aware of the treatment plan as soon as the physician determines that plan. Patients do not wait in a treatment room or experience delays in care provision because the nurse escorts them to the room and the physician meets them in the room.

The 5 S's

In order to further expend the benefits of TAPP the ED adopted the 5S system, which involves:

- **Sort:** Remove from workplace all items that are not needed for current operations and activities.

- **Set In Order:** Arrange items needed so they are easy to use, and label them so they are easy to find and store.
- **Shine:** Keep the workplace tidy, sweep floors, clean equipment, and generally make sure everything stays clean.
- **Standardize:** Adopt a method of working to ensure the first three pillars are maintained.
- **Sustain:** Ensure and make it a habit that everyone adopts and carries out correct procedures.

The 5S System was used to standardize the supplies in patient treatment rooms, both in the cabinets and at the head of the bed. Staff members and physicians provided input into what they needed the most when treating patients and supplies were organized to be accessible and useful. There are visual cues, such as lines and labels that indicate the par level and when a supply needs to be restocked.

Cost/Benefit Analysis

Utilizing Lean allowed the SR ED to take care of more patients with the same number of staff member. The salaries per unit of service (sal/UOS) decreased 10.5 percent.

Advice and Lessons Learned

1. Lean Methodology can only be successful if you engage front-line staff members on your improvement teams. Front-line staff members understand the workflow better than managers/leaders, ensure that process changes are practical and sustainable, and engage other front-line staff.
2. Process change cannot happen without physician buy-in. Engage your physicians and insist that they be part of the team.
3. Improving efficiency in process flow elevates staff engagement. Because they are an integral part of the process redesign, they become champions of the process change, helping you overcome the natural resistance that occurs with any change implementation.
4. Post your data regularly and celebrate your successes. This motivates your staff to keep going, even when there is vocal resistance in the early part of a change implementation.

Tools to Download

- [A3 Process Improvement Question Template](#)
- [TAPP Algorithm](#)

Related Resources

- [Urgent Matter E-Newsletter Volume 7, Issue 3: Innovations: Team Assessment Pull Process](#)
- [TAPP Outputs](#)