



IMPROVING STAFF EFFICIENCY

SWARMING IS NOT JUST FOR BEES:
LEAN TECHNIQUES TO IMPROVE ED STAFF EFFICIENCY





Emergency departments continue to seek more efficient processes to manage increasing demand in a climate of decreasing capital availability. Many are considering Lean, the Toyota production methodology, to streamline their processes.

Although Lean tools were designed with a manufacturing setting in mind, there are aspects that can be applied to EDs. But we should not forget there are significant differences from manufacturing such as the inherent and unpredictable variability of patient arrival time and provider practices.

As we like to say, “People are messy; they’re not widgets.”

The underlying goal of Lean in healthcare is to improve value for patients by minimizing waste, defined as any step during a care protocol that does not add value to the outcome. The amount of time a patient spends in the ED is dependent upon staff processes, so we first identify inefficiencies in those processes that could be considered “waste.”

Common forms of waste expended by ED staff are time spent waiting, unnecessary searching, unnecessary processing, and unnecessary motion. In our current state evaluations, we frequently observe RNs spending between 10 and 15% of their time “hunting and gathering” for supplies, equipment, and information.



All too often, ED processes that route the patient to individual staff members sequentially rather than bringing multiple staff to “swarm” the patient simultaneously build handoff waste into both the patient’s stay and the care provider’s day.

Eliminating waste doesn’t solely benefit the patient; it should translate to helping ED staff and physicians complete their jobs more efficiently by:

- Reducing redundancy
- Removing barriers
- Staging resources closer to the point of care
- Fostering a greater degree of collaboration
- Breaking down silos by staff type, discipline or area

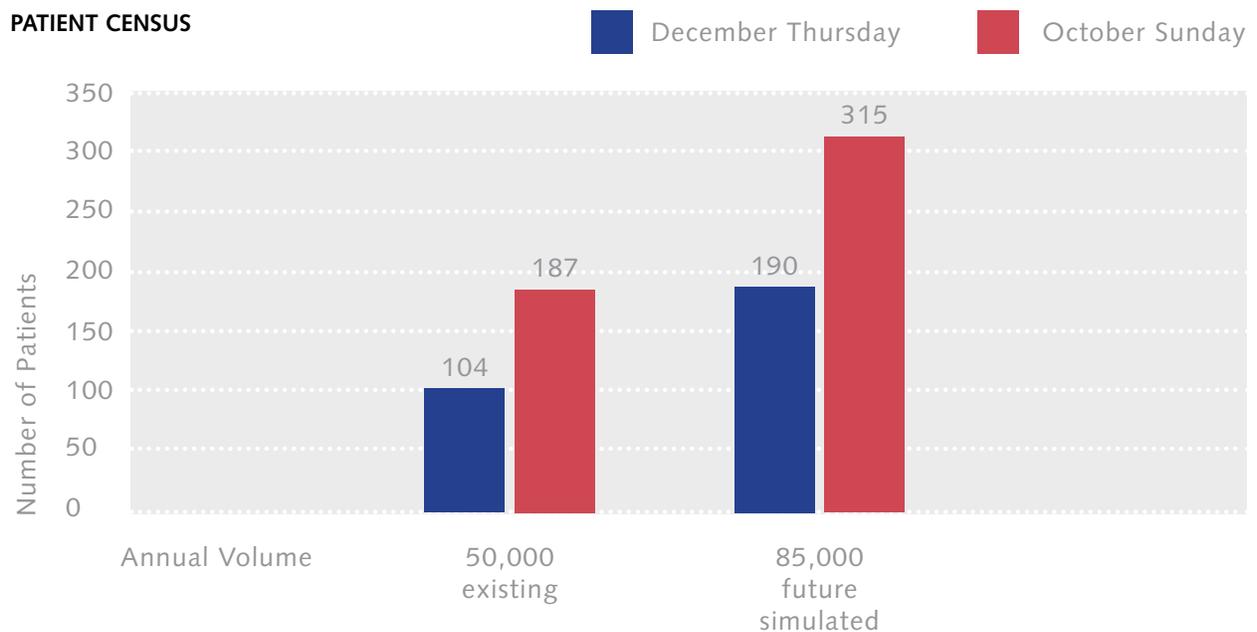
A hospital’s most precious resource is its staff, who have superior insight on how a department operates. When they participate in designing their own workflow as part of a Lean effort, they become empowered to shift from doing their work to looking at ways to restructure it more effectively. In the following paragraphs, we discuss three Lean ED processes where staff are organized in relation to the patient for increased operational efficiency.



CENTERING THE TYPES AND QUANTITIES OF STAFF AROUND VARYING PATIENT POPULATIONS

For one of our ED clients located in a college town, the patient census is 80% higher on game day Saturdays than on their quietest day. And while many of the types of patients reflect conditions that can come from watching a football game (e.g. intoxication and injuries sustained from altercations) often the acuities can be very high during that time period.

PATIENT CENSUS

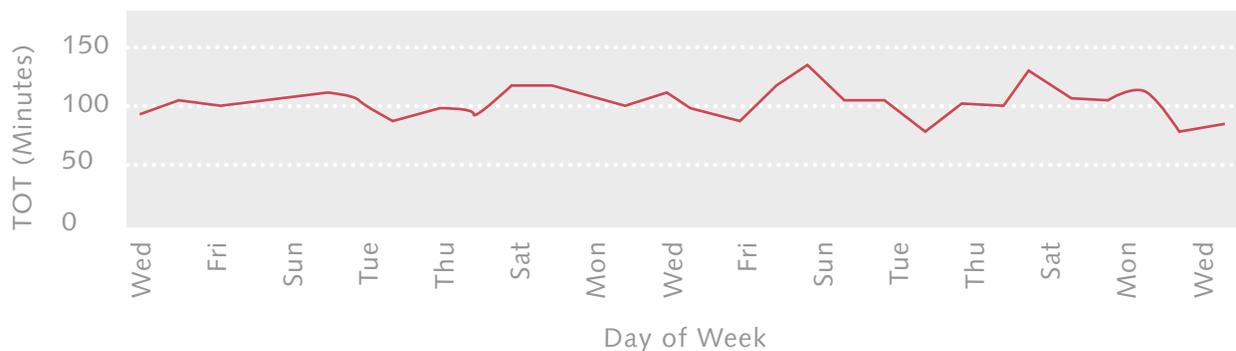




In order to streamline staffing quantities and types, it was not sufficient to look at arrivals by hour, because the day of the week and season of year had such a significant impact. By matching staffing patterns to seasonal, daily, and hourly arrivals, we proposed increased quantities of specific types of staff on football Saturdays. More sitters are needed to monitor intoxicated patients who act out. More security staff are needed to monitor the waiting room. Ensuring the right number of registrars are scheduled can reduce the time spent pulling insurance information and gathering patient data.

A data-driven approach to match the staffing need with patient arrivals and types resulted in a carefully calibrated staffing plan that could reduce patient wait times. Patients spend less time waiting because an appropriate number of staff are able to manage the volume. Knowing which patients and conditions are most likely to present increases the likelihood that the department has the right materials and equipment ready and available.

ED VISIT TURNAROUND TIME (TOT) BY DAY OF WEEK IN OCTOBER





Matching staffing levels to daily census achieves the following:

REDUCED REDUNDANCY

Appropriate staffing allows staff to concentrate on the “right” tasks and work at the top of their license. For example, nurses don’t have to transport patients to inpatient rooms because there are a sufficient number of available techs.

FEWER BARRIERS

In an understaffed ED, patients awaiting care in an internal subwait or treatment area must be monitored by staff who are simultaneously caring for other patients. Appropriate staffing levels remove the barrier of having to monitor a backlog of patients and allow the staff to focus on their primary responsibility of giving care.

SWARMING: BRINGING THE STAFF TO THE PATIENT IN UNISON

According to our ED clinical expert Kathy Clarke, “When a traumatic injury patient comes to the ED, we all know what to do, and that’s when we do our best work. Our responsibilities are predefined and we ‘swarm’ the patient to meet his/her needs as quickly as possible, but trauma patients normally represent only 2% of ED patients. So why can’t we do our best work all the time on behalf of all of our patients, regardless of acuity?”

Swarming takes a certain degree of advance coordination and communication, but maximizing parallel tasks by assessing the patient together can reduce LOS significantly. Waste is eliminated because the patient doesn’t have to repeat intake information to a series of caregivers and a plan for care can be started immediately.



By aligning their efforts, the primary nurse and physician obtain a history while a technician or another nurse takes vital signs, all simultaneously. Within fifteen minutes, assessments are complete, an IV is started, labs are drawn, and imaging studies and treatment are initiated. Then registration staff finalize the paperwork. Another example might include a junior and senior resident evaluating a patient together, briefly discussing the case, and determining a treatment plan together. This would happen in lieu of a junior resident evaluating the patient individually, and discussing the case and treatment plan with the senior resident at some future point in time.

Swarming reduces time the patient spends waiting for care, increasing available bed capacity, and thus reducing the total number of waiting patients. Fewer waiting patients mean that staff can overcome the barrier of having to monitor a backlog of patients

while simultaneously focusing on their primary responsibility of giving care.

Swarming can be facilitated by a design that was developed for that staffing model. When you work in close proximity with a team and can see your teammates, it is easier to get in sync through eye contact and with regular speaking voices. Centrally located communication hubs are of a sufficient size to support 6-8 staff who may collaborate: junior and senior residents, a physician, two nurses, and a tech.

BRINGING REGISTRATION TO THE PEOPLE

From a Lean standpoint, a full patient registration doesn't add value to the patient's visit but it does enable the provider and the hospital to be paid - an important success factor. In spite of the value it offers to the provider, full registration must be a lower priority than stabilizing an ill patient. Even though



registrars are non-clinical staff, we recommend including them on clinical teams to collect registration data on a mobile device or at a bedside computer instead of behind a desk.

Alternatively, we may recommend that clinical staff are trained in selecting the correct patient from the MPI index and thus completing a quick registration or patient identification so that the patient is added to the ED information system. This works well as long as the clinical staff error rates are comparable to those of registration staff. Once the patient is stabilized, the registration staff collect the remaining registration data at a later time.

Admittedly, we often receive negative feedback when asking registrars to work at the patient bedside. Registrars express concern about the potential for distraction because registration responsibilities must

not be compromised due to the cost and re-work required to fix an error in the medical record. And some registrars would just prefer to not see “blood and guts” in the course of a normal day.

To mitigate these valid concerns, we recommend separating the location of information gathering from the location of information processing. Phone calls to insurers can occur in an enclosed room in the back of the department. We also suggest that registrars are hired for their strong stomachs and customer service skills as well as for their technical capabilities.

ED staffing processes are dynamic and fluid. We are often on the leading edge of change. We are interested in hearing how your emergency department has changed and what you’ve had to do to adapt as a leader. Drop us a line:

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ABOUT THE AUTHOR

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Delia Caldwell is responsible for project and client management, solution design and implementation, and generating recommendations for operational process improvement. She excels at managing the details and timelines that are critical to complex initiatives. Building rapport is important to Delia, who believes a trusting relationship leads to the best solutions.

“In no other industry would I have the opportunity to work on such complex and meaningful projects with hospital staff who, every day, need the right tools, the right skills and the right space to improve and save lives. It is greatly rewarding to help put these systems in place.”

