

The Extinction of Triage

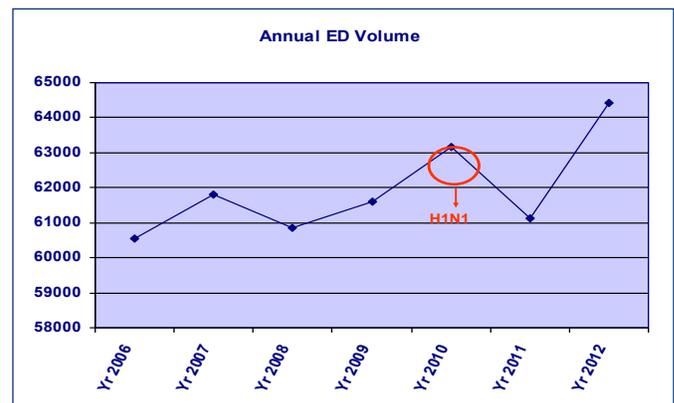
CHRISTOPHER P. ZABBO, DO; KATY E. WELZBACHER, DO; LYNNE RIVARD, MBA, BSN, RN; PETER F. GRAVES, MD

In the past few decades, the volume of patients seeking emergency department care has risen, while the number of hospitals across the U.S. has declined. This means that today's hospitals must evolve to accommodate more patients. Facilities are operating with limited staff and space resources, and seek to optimize their processes to achieve the highest efficiency, without sacrificing quality or safety. Triage is one part of emergency department management that has undergone a critical re-evaluation to enhance efficiency, while following standards of care. We describe the results of our hospital's process redesign.

The concept of triage is believed to have originated in France during the Napoleonic era. Baron Dominique-Jean Larrey, Napoleon's surgeon, was credited with both the creation of a precursor to the modern ambulance unit and a classification system for prioritizing the wounded on the battlefield.¹ In its earliest medical origins, military triage placed highest value on those soldiers who could be quickly returned to battle. Arguably, however, it was not until the Vietnam era that military triage principles were brought to American soil and applied to the civilian hospital setting. During this time, civilian helicopter ambulances, paramedic services, and resources to handle mass casualties began to evolve on the home front. As hospital emergency department's grew in volume, size and sophistication, so too did the variety of triage processes nationwide.

The current comprehensive triage goal is to gather enough information about the patient to determine the acuity, or level of severity of the illness, of the patient. This level determines the rapidity of care that needs to be delivered to the patient; i.e. whether that patient has an immediate or urgent potentially life- or limb-threatening illness, or can safely wait for the care that is expected. There are many different examples of triage systems currently in use in the United States; for example, some hospitals use a two-level triage (emergent versus non-emergent), while others use up to a five level triage (Resuscitation, Emergent, Urgent, Non-urgent, Referred). The Emergency Severity Index (ESI), a five-level triage scale developed by Drs. Richard Wuerz and David Eitel, has become the most widely used system in the US.² The ESI triage system sorts patients based both on their need for medical attention and their anticipated use of resources (lab, imaging, etc) in the emergency department. Many hospitals have developed nursing order protocols or experimented with physician or midlevel providers at triage.

Figure 1. Annual ED volume at Kent Hospital in Warwick, RI. The discrepancy in 2010 can be attributed to the increase in patients due to the H1N1 outbreak.

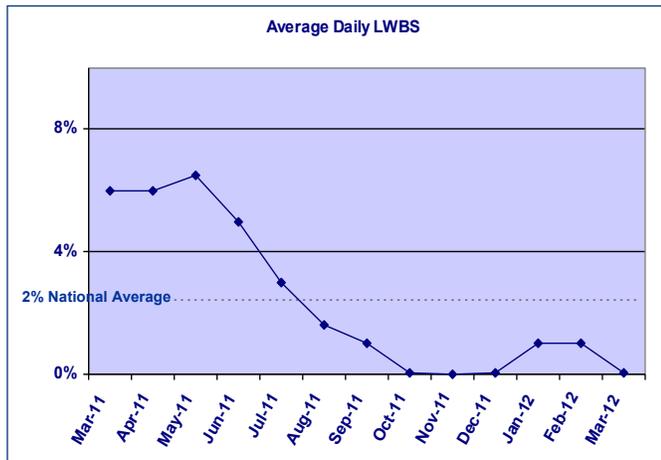


At Kent Hospital, in Warwick, RI, we report on a delivery of care model designed to rapidly and safely bring the appropriate patients to the appropriate area of the emergency department.

Before the process changes in patient triage and evaluation that were implemented in July 2011, the Emergency Department (ED) at Kent Hospital was typical of many larger-than-average-sized community hospitals across the U.S. (Figure 1). Patients would present at the ED entrance via private vehicle, ambulance, or other means and would be triaged by a registered nurse. Some patients arriving by ambulance would have this evaluation process completed after being placed in a patient bed. This process would involve the collection of demographic information, vital signs, and a nursing assessment of the patient's presenting complaint and current medical condition. Full registration of the patient was also frequently accomplished in this model. This process would often take 5-15 minutes, and based on the results of this triage evaluation, the patient would be placed in a patient care room where they would subsequently wait for evaluation by a medical provider, or in a chair in the ED waiting room if the patient was deemed to be medically stable and there were no available patient care rooms.

We abandoned this triage process because of its many flaws. Patients would not necessarily have rapid access to medical care, and as a result would often wait for long times before necessary treatment and testing were initiated. At our hospital, and at many emergency departments nationwide, patients would often wait up to several hours before

Figure 2. Average daily percentage of patients left without being seen at Kent Hospital in Warwick, RI. The RAA was implemented in July 2011.



being evaluated by an advanced practitioner or physician, and up to ten percent of patients would become frustrated and leave without being seen by a medical provider. This “Left Without Being Seen” metric was substantially higher than the national average of 2% (Figure 2). This flow model inevitably created a bottleneck that hindered timely access to care.

As in most hospitals dealing with similar challenges, our hospital administration recognized these deficiencies in addressing the needs of the community. ED Leadership, front line staff, and Hospital Administration worked in collaboration to envision and redesign a new triage model that would reduce the time required to triage patients while maintaining patient safety, reduce the wait time to see a medical provider, enhance the patient experience, and improve overall throughput time to patient discharge from the ED. Typically these types of cultural and process changes are best accomplished with strong administrative support, as well as staff involvement and education.

The new model developed by this team affected clinical space, staff function, and patient flow. At Kent Hospital, the team opted to convert an area of the ED formerly used to treat low acuity patients and a portion of the existing waiting room into a new 10-bed area titled the “Rapid Assessment Area” (RAA), open from 8 AM to 1 AM each day. This model also involved a redistribution of existing nursing staff and medical providers. In the new model the triage process has evolved into a rapid intake process, during which a technician collects only basic demographic patient information and vital signs when a patient presents for care. The goal of this new process is to place every patient in a treatment bay within five minutes. The team leader nurse (TLN) in the RAA is ultimately responsible for all patients presenting to this intake area. Those patients requiring cardiac monitoring will bypass the Rapid Assessment Area and be sent to a monitored bed in the main emergency department under the direction of the TLN. If a patient is deemed appropriate

for an unmonitored bed, they are placed in one of the available beds in RAA for evaluation by the nurse and licensed independent provider which may be a physician, physician assistant, or nurse practitioner. Patients arriving by EMS are evaluated by a registered nurse who determines bed placement based on the patient’s chief complaint and, if assessed to be stable for evaluation in the RAA, are sent there for further care.

There are infrequent situations where the RAA provider evaluates the patient and determines the patient needs to be moved or “re-triaged” to a cardiac monitored bed, in which case an appropriate hand off communication is given to the treatment team in that area. This early provider evaluation ensures the highest quality of care for these patients. Patients with low acuity complaints have testing and treatment initiated in RAA, and are subsequently moved to a comfortable area to await disposition. Patients deemed appropriate for RAA but requiring more time-consuming testing or treatment are moved to another treatment area where they receive this ongoing care under the continued management of the RAA provider team. This ensures optimal utilization of RAA treatment bays.

The patient care process is further improved by the use of a dedicated diagnostic imaging area in RAA where patients receive basic radiological studies. This area is staffed by a diagnostic-imaging technician during the hours of operation of RAA. Point-of-care testing is done in RAA, and transport personnel dedicated to RAA transport other laboratory specimens to the main laboratory when needed. Lastly, the full registration process is completed only after the patient care process is complete. The registered nurse reviews all discharge instructions, prescriptions, and teaching with the patient. The registrar completes the full registration process in an area adjacent to the RAA next to the main exit from the ED, then provides the patient with all discharge documentation, including prescriptions.

Perhaps most crucial to the success of the entire process was the need to change the culture in which medical care was provided to patients. The traditional triage process had been in place for decades, as had the notion that patients should stay in an ED bed once placed there, as opposed to considering the overall department’s need to maintain patient flow when considering where to locate patients during various components of their care. Efforts had been made previously to improve the triage process at Kent with variable success, and the environment was ripe for change. After a number of planning meetings between ED leadership and leadership of all ancillary departments, a plan was developed to include a ten-day “test for change” of the new model of care. Everyone involved in the patient care process, from technicians to nurses to physicians to registrars, needed to reevaluate their mindset about how patient care and patient flow had previously been provided.

The implementation of the Rapid Assessment Area at Kent Hospital clearly shows an improvement in average

Figure 3. Average door to provider time for all patients in minutes at Kent Hospital in Warwick, RI. The rapid assessment was implemented in 2011.

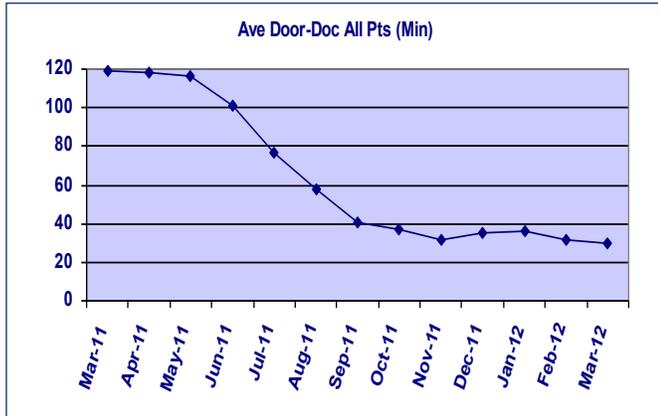


Figure 4. Average turnaround time for all patients in the emergency department at Kent Hospital and average ED daily volume. As one can see, even though the daily volume increased, the turnaround time still decreased.

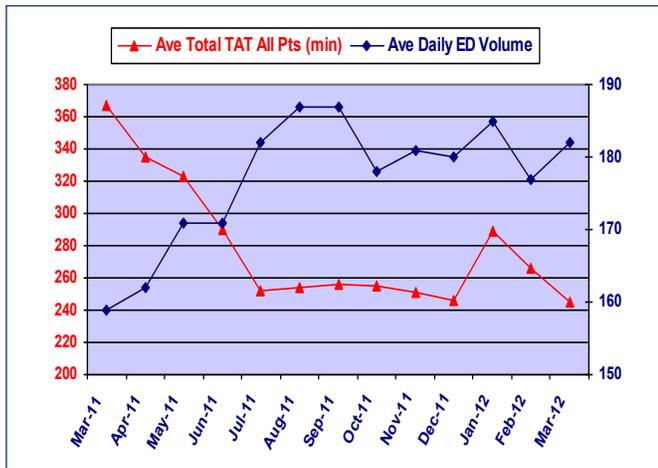
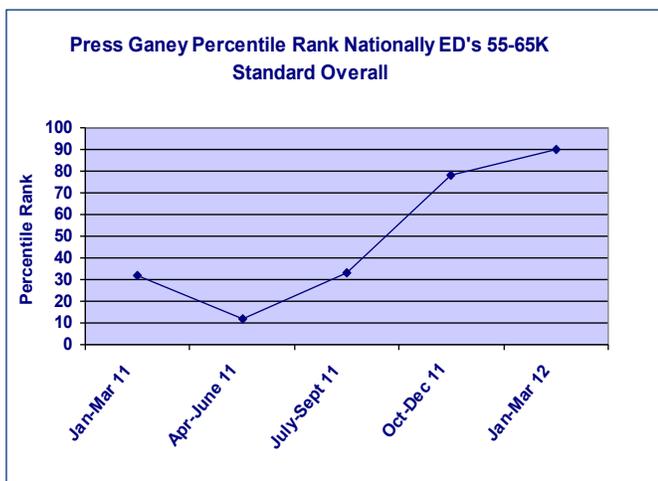


Figure 5. Percentile rank of Press Ganey scores for Kent Hospital in Warwick, RI when compared nationally to similarly sized emergency departments. The RAA was implemented in 2011.



door to doctor time (time from arrival into the ED to being evaluated by a medical provider) (Figure 3), a decrease in the percentage of patients leaving without being seen (patients registering to be seen by a medical provider but leaving the ED prior to this evaluation) (Figure 2), and an improvement in the turn-around time (time from arrival to the ED to disposition from the ED) for all patients in the emergency department (Figure 4). No additional staff were required for the first year of the process. However, because of the success of the initiative, the hours of operation have subsequently been expanded and additional physician, mid-level provider, and nursing staff has been added to accommodate those hours. Since the inception of the RAA, Kent Hospital has achieved a statistically significant improvement of 4.7 mean score points for Emergency Department Overall Satisfaction (Figure 5) on the official January 2012 Press-Ganey report, which is a nationally recognized patient satisfaction survey tool used by over 50% of the hospitals in the U.S.³ The process change we report exemplifies the way emergency departments need to continuously re-evaluate the way in which they deliver care to their communities. Flexibility is crucial to improving throughput. Redesigning care models is best accomplished with hospital administrative support, fostering staff interest and engagement in achieving goals in a data-driven environment.

References

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Authors

Christopher P. Zabbo, DO; Department of Emergency Medicine, Kent Hospital, Warwick, RI.

Katy E. Welzbacher, DO; Department of Emergency Medicine, Kent Hospital, Warwick, RI.

Lynne Rivard, MBA, BSN, RN, Department of Emergency Medicine, Kent Hospital, Warwick, RI.

Peter F. Graves, MD; Chief of the Department of Emergency Medicine, Kent Hospital, Warwick, RI.

Correspondence

Christopher P. Zabbo, DO, FACEP
Kent Hospital
Dept. of Emergency Medicine
455 Toll Gate Road
Warwick, RI 02886
401-737-7010 x35658
Fax 401-736-1975
CZabbo@kentri.org