

ACADEMY FOR EXCELLENCE IN HEALTHCARE

IMPACT ASSESSMENT PAPER

Executive Summary

Decrease Doc-to-Decision Times for Major EMS Patients at Mount Carmel East

The emergency department (ED) at Mount Carmel East (MCE) in Columbus, Ohio, receives 86,000 visits per year and is one of the busiest in central Ohio. Volumes in the 50-bed department were rising, but delays were rising as well. This was leading to increased patient length of stay (LOS), decreased patient satisfaction, an increase in the number of patients who left the ED without being evaluated, and the potential for poor patient outcomes.

Despite improvement work to aspects of the ED, MCE recognized a need to further improve overall ED performance, specifically the efficiency from the point of contact with a provider to when the provider makes the decision to admit or discharge the patient (doc-to-decision time). A cross-functional improvement team was formed to tackle the problem, and members, including the ED's medical director, trained at the Academy for Excellence in Healthcare at The Ohio State University in February 2016.

The team observed the ED and mapped the end-to-end value stream for patients arriving at the ED. They documented the many steps a patient travels, and grouped the steps into chunks of activities. Their map helped them to pinpoint delays, including the initial RN assessment/triage, specimen collection, order clarification, timely transport of patients for CT scans, and the time from a physician writing the disposition order (decision to admit or discharge the patient) to the patient's departure from the ED.

The team focused on issues within their control — efficiency from the point of contact with a provider to the point where the provider has all the information necessary for a disposition order (doc-to-decision time). The project also focused on admitted patients (higher acuity) because changes affecting that group would be applicable to most ED patients. Metrics tracked included overall ED process time (257 minutes, of which only 28.4 percent was value-added time); overall ED LOS for admitted patients (355 minutes); overall ED LOS for discharged patients (194 minutes); and doc-to-decision time (155 minutes). The team set a goal to reduce the doc-to-decision time for admitted patients to 135 minutes by April 2016.

The team also sought to address ED staff culture: nurse turnover rate was 16.7% in July 2015, which contributed directly and indirectly to ED delays. The team surveyed ED staff members and asked them for their perceptions of what contributed to the biggest delays in the ED. This information could help identify problems as well as engage individuals outside of the team in the improvement effort. The team created cause maps to explore the top four categories of delays related to the doc-to-decision delays, all of which aligned with the ED staff's perceptions of the problem:

- *Urine tests:* It took 1 hour 53 minutes to order and collect a urine test, due to batching of orders, waiting, excessive motion, and errors. The team set a goal of 15 minutes from order to collect. Countermeasures included standardizing the process, prioritizing sample collection by high-priority patient populations, and educating staff (impact to delays, problems with batching). By June, median and average order-to-collect times had dropped by more than 80 percent and 60 percent, respectively.
- *Communication delays:* RNs spent an average of 14 minutes looking for an ED physician and used a variety of communication methods to contact them. The team proposed that staff use the instant messaging format Jabber for RN-to-physician communications. The team is resolving Jabber access issues for physicians, and in lieu of that providing Spectralink mobile phones to physicians.
- *CT delays:* CT scan turnaround time was 74 minutes in February. CT staff perform a range of roles, including transport of patients, and they would frequently batch patients, have difficulty finding a patient, pick up patients before ready, wait on lab/urine results, and/or wait for an open CT table. CT scan is a department separate from the ED. This contributed to the team deciding that CT delays were beyond the scope of the AEH project, and, thus, began a separate CT improvement project in June.
- *Doctor delays:* This cause — time it takes a physician to get started with a patient — was found to be only a minor contributor to doc-to-decision delays.

The team also addressed ED culture via improved communication (including a counsel that advises ED leadership); a team-building fundraiser to secure cribs for local mothers in need, help staff deal with ED infant deaths, and bring awareness to the high infant-mortality rate in Columbus; and a professional excellence program whereby RNs earn credits when they undertake new activities and expand their roles.

Countermeasures only began in mid- to late-spring, and the CT scan project was only getting underway in June. Nonetheless, process and culture changes in the ED are making an impact, such as:

- Doc-to-decision time for admitted patients fell from 155 minutes in February to 139 minutes in June.
- Admitted LOS fell from 355 minutes in February to 289 minutes in May and 305 minutes in June.
- Nurse turnover in the ED was 3.8 percent in June (77 percent decrease compared from July 2015).
- Press Ganey patient satisfaction scores for the ED have sharply improved.
- Practices have been standardized into an ED daily management system, and best practices are being shared with other Mount Carmel EDs.

[Read the full study of the Doc-to-Decision project](#), which illustrates the importance of a leadership-driven, cross-functional improvement effort for a department such as an ED where all roles regularly interact under stressful conditions. The project also shows that observation and understanding of the value stream — informed and supported with detailed metrics — is necessary to surface problems, dispel preconceptions, and break a complex issue into manageable chunks.

[About the Academy for Excellence in Healthcare:](#) AEH 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. To learn more about AEH, contact [Margaret Pennington](#), Faculty Director, or [Beth Miller](#), Program Director.