Case Study

TEAMHealth.

Improving Emergency Department Throughput and Patient Flow Challenges

Hospital Information

Mercy Health - St. Vincent Medical Center Toledo, Ohio

- 350 beds
- 67,000 emergency department encounters annually
- 25% of ED patients admitted to the hospital

TeamHealth Services

Emergency Medicine

Results

- 16% reduction in ED length of stay for patients admitted to the hospital
- 19% reduction in ED length of stay for discharged patients
- 57% reduction in door-to-bed time
- 53% reduction in door-to-clinician time
- Percentage of patients seen by a clinician within 30 minutes increased from 70% to 95%
- LWOT decreased from 3.9% to 0.6%

CHALLENGE

As a level one trauma center serving the greater Toledo, Ohio area, Mercy Health - St. Vincent Medical Center's emergency department (ED) clinicians see a wide variety of illnesses and injuries with a high level of acuity. While the quality of care has been consistently high, so has the history of lower acuity patients spending hours in the waiting room before being taken to a treatment area and seeing a clinician. This bottleneck negatively impacted ED and hospital operations and the overall patient experience. The number of ED patients who left without being seen, a key throughput metric, was increasing as time spent in the waiting room grew. Boarding in the ED waiting room and in the ED itself was especially severe during late night and early morning hours. The ED physician leaders and hospital administration recognized the need for change. As an academic medical center, tackling the throughput challenge required getting buy-in to operational changes from attending physicians, residents, advanced practice clinicians (APCs) and nursing.

SOLUTION

The hospital engaged TeamHealth for emergency medicine staffing services in 2016. At the time, the St. Vincent ED used a segmented "zoned" patient model with segmentation based on patient acuity. Zone one was a fast-track unit. Zones two, three and four treated increasingly acute patients. In addition, there was a separate pediatrics zone.

Working collaboratively, TeamHealth and the hospital implemented an ED throughput improvement initiative. Spearheaded by David Johnson, MD, facility medical director, the improvement team launched a "deep dive" into ED performance. Data analysis revealed some significant factors contributing to ED bottlenecks:

- The separate pediatric zone and the fast-track zone were pulling APCs away from the other ED zones for at least 12 hours a day.
- Attending physicians, residents and nurses were assigned specific zones to cover in the segmented model.

- Focus on staying within the segmented model resulted in little attention being paid to less acute patients in the waiting room. Frequently, 12 or more patients were in queue to be seen.
- Patients experienced long wait times for imaging, resulting in extended boarding times in the ED.

With these findings as the foundation, Dr. Johnson led the effort to de-segment operations, eliminate the separate pediatrics zone and introduce a flexible staffing model that enabled clinicians to flex from their assigned zones to help overburdened areas in the ED. Dr. Johnson refers to this staffing model as "flexible segmentation." Introduction of the new staffing model coincided with the opening of a new ED at the hospital.

"I decided my approach to implementing the changes needed to accomplish our goals for care in the ED was to sit down with attending physicians, residents, APCs and nurses to explain how the changes would benefit them and their patients. I emphasized that the new de-segmented model focused on covering the department, not specific beds, and the importance of working as a team rather than continuing to think each person had one area to cover. I needed to get everyone on the same page, working together for the hospital and the patients," Dr. Johnson said. He emphasized that he used a collaborative model of engagement to demonstrate the benefits of the de-segmented model to each caregiver stakeholder group.

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David Johnson, MD
Facility Medical Director

While attending physicians were fairly comfortable with the segmented staffing model because it supported their primary mission of teaching residents, Dr. Johnson was able to help them see that flexing residents to different zones based on need broadened the residents' exposure to a wider variety of illnesses and injuries.

RESULTS

While the new staffing model was initially met with skepticism and doubt reinforced by long-held cultural beliefs, results of the change have won over all key stakeholders and proven much more efficient for patients.

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Dr. Johnson says the effort to move people out of the waiting room to ED treatment areas has been fueled by the presence of residents who are able to assess the patient so the attending physicians can quickly determine the appropriate course of treatment. This, in turn, has improved productivity, increased staff engagement and satisfaction and created enhanced channels of communication between the ED and hospital medicine physicians during the transition from ED to inpatient unit.

"Traditional operational patterns in academic medical centers present special challenges for EDs in terms of patient throughput," says Jody Crane, MD, TeamHealth's chief medical offer. "Mercy St. Vincent's throughput improvement initiative has produced some truly remarkable results. Dr. Johnson's 'one size doesn't fit all' approach has changed the culture in the hospital's ED, enabling every patient to get to a treatment bed quickly and instilling in clinicians the belief that no one ED bed belongs to one person; rather, the entire team is accountable to provide quality care to each patient."

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Jody Crane, MD
Chief Medical Officer, TeamHealth

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