An Interdisciplinary Approach to Address Emergency Department Front-End Throughput Challenges: A Quality Improvement Initiative

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Cayuga HEALTH

Introduction

- Emergency Department overcrowding contributing to:
  - Barriers to throughput
  - Lost revenue related to high rates of patients leaving without being seen
  - Patient dissatisfaction due to long wait times
  - Decrease in quality and safety of care
- Throughput factors are related to the processing time from when a patient arrives at the ED until disposition.
- A key predictor of ED left without being seen rates is the time from when patients check-in until they are seen by a provider
- Interdisciplinary team development of a front end process named the Rapid Assessment Zone (RAZ)
- Purpose of new front end process
  - Improve patient experience by decreasing wait times, length of stay, and arrival to provider times
  - Utilize current staff resources to ensure that no budgetary changes are needed

Design Setting

- Community hospital located in Upstate New York
- 25-bed, primary stroke center and chest pain accredited, emergency department
- 212-bed non-for-profit, acute-care, community hospital
- Emergency Department annual visit volume of approximately 33,500
- Average daily visit volume is 92 visits
- Serving a catchment area with a population size of approximately 233,000 people
- Median length of stay in the emergency department for admitted patients was over 9 hours in 2023
- Average percentage of visits who left without being seen by a provider was 3.5% in 2023

Materials and Methods

- Interdisciplinary team of Emergency Department staff was formed including providers, nurses, technicians, patient service representatives, and, leadership.
  - Regularly-scheduled and intermittent check-in meetings with all involved helped to refine process and further identify opportunities for improvement
- Team was formed to address the frontend throughput challenges by developing a budget neutral solution better utilizing current space and staff
- Team used the Plan-Do-Study-Act change model

PLAN-DO-STUDY-ACT PROCESS

PLAN:

- Test a new rapid assessment zone (RAZ) utilizing the existing Emergency Department fast-track space
- Goals:
  - Outcome 1 - Decrease the ED length of stay for all patients discharged home to a median time of less than 240 minutes within the first 3 months of implementation.
  - Outcome 2 – Decrease ED percent of patients who leave without being seen to less than 2% on average throughout the year following implementation.
  - Outcome 3 – Decrease arrival to provider time to a median time of less than 30 minutes within the first 3 months of implementation.

Steps to execute:

- Patients will be placed in the RAZ after being triaged to have providers assign themselves to the patients, assess patients, and place orders.
- The nurse assigned to the RAZ will expedite patient movement from the waiting room after triage has occurred to the fast-track.
- RAZ nursing and technician staff will complete orders such as obtaining vital signs, administering medications, collecting lab work, preparing patients for imaging, and sending patient back to waiting room for orders to result, imaging to occur, or interventions to take effect.
- To promote a pleasant patient experience, staff members had to be able to explain to patients and their loved ones the advantages of the process modifications.
  - A handout was developed to assist with this communication

DO:

- Patients were cycled through the fast track/RAZ area at an increased rate.
- Orders placed by providers seeing patients in RAZ were executed swiftly and timely by the RAZ nursing staff.
- Patients voiced satisfaction to nursing staff that they had orders initiated and expedited at a seemingly faster rate than in their prior experience.

STUDY:

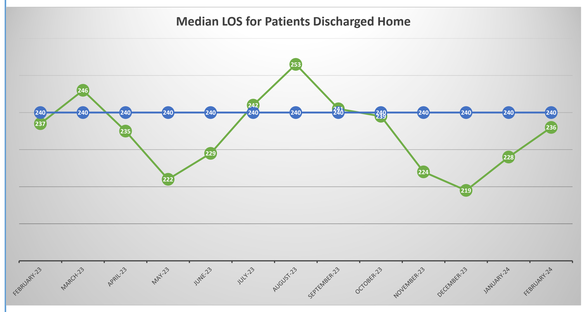
- RAZ was implemented on February 13th, 2024.
- Door to provider times increased from January 2024 60.6 minutes to 72 minutes in February 2024.
- LWBS increased from 1.9% in January 2024 to 3.2% in February 2024.

ACT:

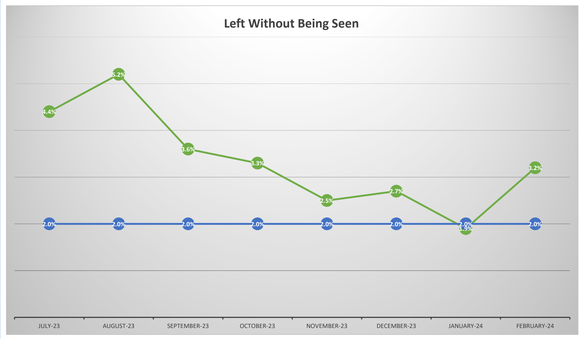
There are still many areas of improvement to make as this is a new process implementation for nursing and providers staff in the department. There were also several days in the month of February after RAZ implementation with an overwhelming amount of boarding and/or acutely ill patients with low staffing that hindered the successful performance of the RAZ process.

Outcomes

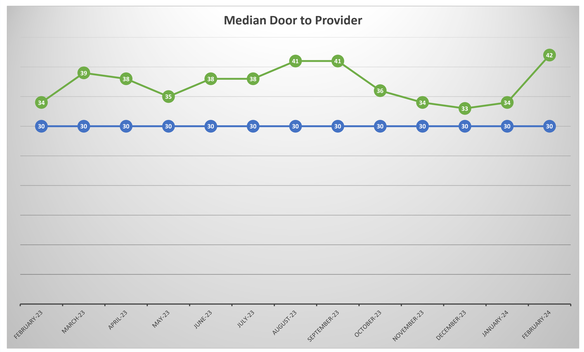
Outcome 1 - Decrease the ED length of stay for all patients discharged home to a median time of less than 240 minutes within the first 3 months of implementation.



Outcome 2 – Decrease ED percent of patients who leave without being seen to less than 2% on average throughout the year following implementation.



Outcome 3 – Decrease arrival to provider time to a median time of less than 30 minutes within the first 3 months of implementation.



Implications

- Prolonged wait times can compromise patient safety and quality of care, making ED crowding and throughput crucial issues.
- There is not significant data to support the outcome metrics at this time, but the perception of the staff and patients related to the implementation of the Rapid Assessment Zone shows preliminary favorable results.
- Creating the RAZ process has helped to ensure patients are seeing a provider sooner along with conserving monitored beds for higher-acuity patients
- This process was implemented without the addition of staff or provider hours.
- The RAZ process has been sustained due to continual re-evaluation of the process and a flexible process that is able to be adjusted to meet the unique needs of the department each day.
- LWBS is largely influenced by ED capacity and crowding, so it's critical to implement strategies to keep patients moving through the department and make the most of available space to provide safe patient care as efficiently as possible.

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