3-2022

Performance Improvement for Rural Hospitals: Front Line-Driven Change to Decrease Transfer Time from ED to Inpatient Admission

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PRACTICE BRIEF

PERFORMANCE IMPROVEMENT FOR RURAL HOSPITALS:
Front Line-Driven Change to Decrease Transfer Time from ED to Inpatient Admission

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HIGHLIGHTS

A recent performance improvement project undertaken by a Georgia Critical Access Hospital (CAH) demonstrates the potential for use of Plan-Do-Study-Act (PDSA) techniques to improve operations in the area of patient transfers from Emergency Department (ED) to Inpatient Ward. Implemented process improvement, including visual tracking of inpatient hold in the ED and bedside handoff led to reductions in admission decision to ED departure time and delayed or omitted ED admission orders.

BACKGROUND

The Georgia Southern Flex Team, funded by the Georgia State Office of Rural Health, assists the state's CAHs in pursuing financial and operational excellence. Under an ongoing grant, the team contracted with Mr. Eddie Perez-Ruberte, a highly experienced quality improvement professional, to provide a virtual course in PDSA methodology and to engage in one-on-one virtual consulting with interested hospital personnel on PDSA projects.

PDSA is a powerful quality improvement technique that is grounded in the scientific method. (1) Hospitals and healthcare organizations are increasingly using PDSA to improve processes in providing care. (2) Yet, small rural hospitals, often with limited resources and dated infrastructure, have been found to adopt PDSA, lean, or six sigma processes significantly less frequently than larger ones. (3)

Project Description. Monroe County Hospital (MCH) is a 25-bed CAH with a nine-bed emergency department. During the first half of 2020, metrics on avoidable wait time indicated that MCH's process of admitting patients from the ED needed improvement. Because of unaddressed areas of wait, the "admission decision to ED departure time" had been consistently longer than the organization's goal for over six months. Given the limited bed availability in the ED (only nine beds), along with the negative patient experience associated with increased wait times, shortening the time from admission decision to ED

departure was critical. Inpatient room turnover and patient handoff reporting were two identified areas of conflict between nursing units. The previous practice of calling in handoff reports required nursing staff to connect via telephone. If one of the two nurses were not available at the time of the attempted call, or call back, an avoidable delay ensues. Additionally, ED holds had been proven to be an area of safety concern for the hospital as evidenced by increased Safer Together variance, or incident reports concerning missed or delayed orders and falls in higher-acuity patients.

METHODS

Using PDSA tools that Mr. Perez-Ruberte introduced during a six-hour Flex program virtual course and reinforced during several Flex program-funded one-hour sessions of individual consulting, the MCH Quality Improvement (QI) team, consisting of the ED manager, medical surgical manager, quality coordinator, and director of patient care services, began the project. An A3 approach - a structured problem-solving process that concisely documents current and future states of a process being studied (4) - served as a roadmap and documentation of the team's progress. Collectively, the team created "as-is" and improved future state process maps in July 2021. In developing the future state process map, several countermeasures aimed at reducing the impact of the problem were identified and then put into practice, beginning in August 2021.

Two measures of success were decided upon prior to implementing the countermeasures. These were "Safer Together" reports (variance reports) and median time from admission decision to ED departure. The quality coordinator sought feedback from internal stakeholders, including inpatient physicians. Additionally, ED throughput data was collected and analyzed daily to identify successes and barriers in the process.

Although full project implementation was delayed due to a state of emergency declared at the organization related to the COVID-19 pandemic, the tools utilized in the development of the project allowed the team to resume improvement efforts in November 2021. A subsequent COVID-19 patient surge in December 2021 became an additional challenge to full implementation.

FINDINGS

Process-focused countermeasures that were identified by the QI team as possible strategies were introduced (Figure 1).

1. To reduce the number of omitted or delayed inpatient orders, patients were required to be placed in an inpatient hold status that allowed the patient to remain on the ED tracking board.
2. In order to shorten the admission decision to ED departure time, the process of communicating handoff reports by telephone was eliminated.
3. Rather than calling in a patient handoff report, bedside handoff was implemented. The nursing staff anticipated patient transportation to an inpatient bed 30 minutes after room assignment. Each department - ED and inpatient unit - wrote the time of patient arrival on their respective communication board upon room assignment. Once transportation occurred, a bedside handoff report was conducted between the transferring and receiving nurse.
4. Completion of COVID-19 screening testing at the time of admission decision was implemented because inpatient room assignment depends upon the result.

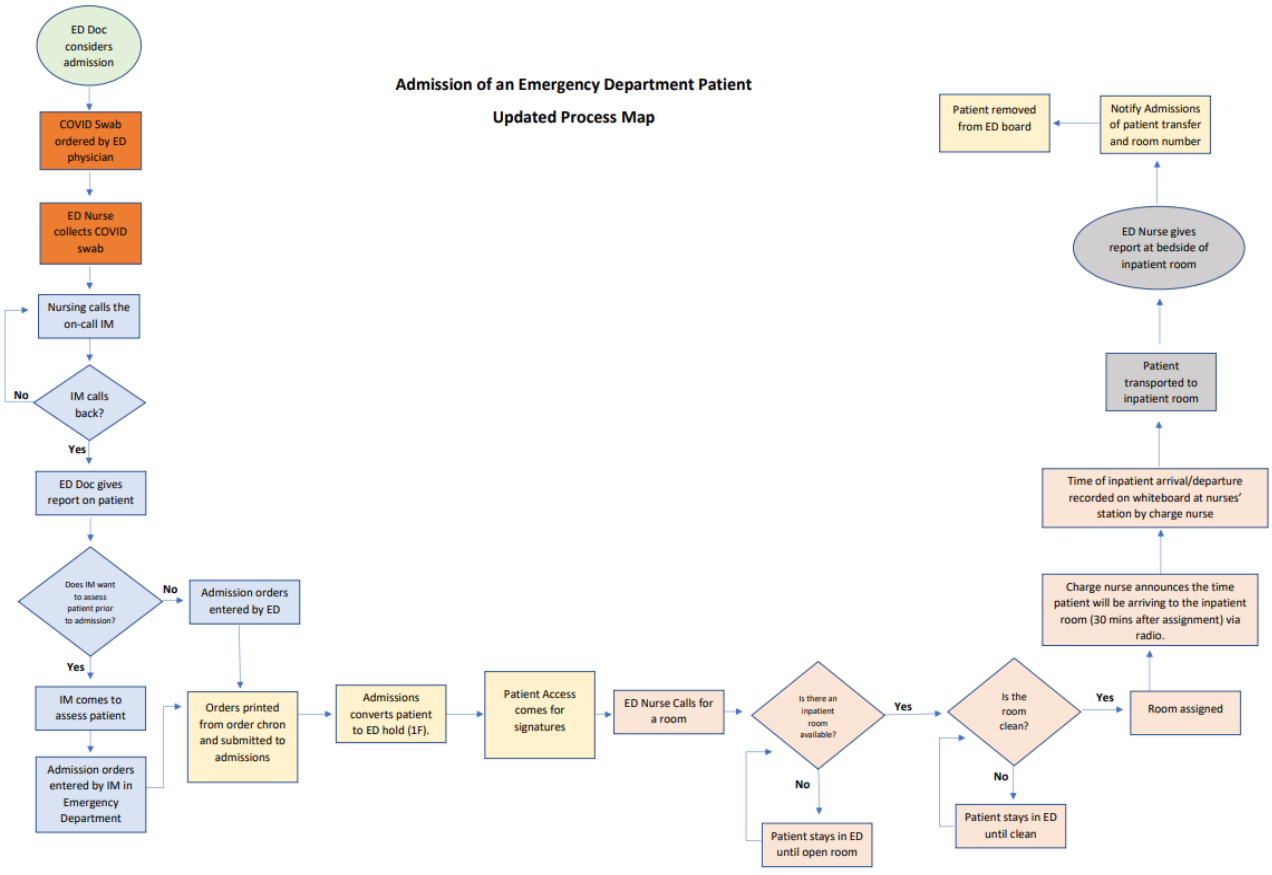

Figure 1. Updated Process Map of the Emergency Department Admission Process

Results. As a result of the rapid improvement cycle process, there has consistently been no more than one report of omitted or delayed admission orders arising from the ED admission process each month (Figure 2). Early data indicates a nearly 50% reduction in median admission decision to departure times in the first month of implementation (Figure 3).

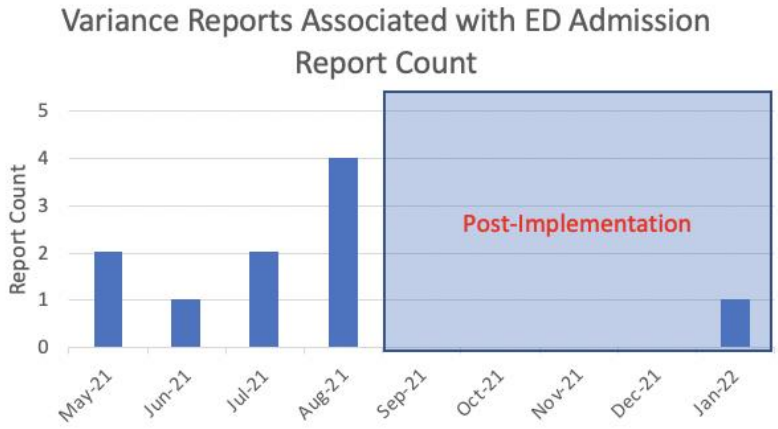

Figure 2. Variance reports associated with delayed or omitted ED admission orders

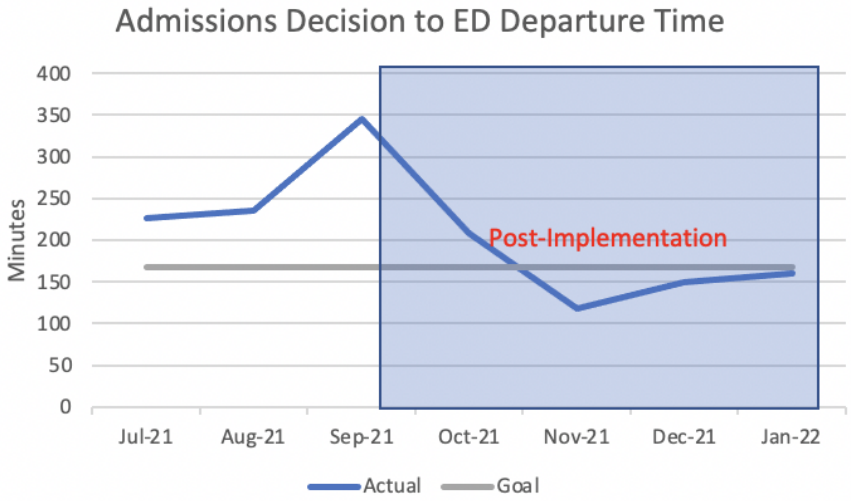

Figure 3. Median admission decision to ED departure time in minutes*

**Excludes COVID holds in December 2021 and January 2022 surge; Data prior to October based on core measures sampling*.

Lessons Learned. One lesson learned is the need for a visual indication of a patient's physical location within the organization to prevent error. If a patient is not visually present on the tracking board, they are more likely to be inadvertently forgotten. An additional lesson learned is that calling in handoff reports creates preventable waste in the ED

admission process. In addition to being best practice in patient safety, bedside handoff reports are highly efficient in decreasing the length of stay of inpatient admissions (5).

DISCUSSION

Rapid cycle improvement techniques, including PDSA and the use of A3 reports, can be very valuable and practical, even for small rural hospitals. The iterative nature of PDSA allows for incremental steps to be taken and gradual, continual improvement to occur. Given that leaders in small rural hospitals often fill multiple roles, the tools utilized in PDSA, in particular the A3, can be invaluable for maintaining an ongoing record of progress. This is especially important during unpredictable surges in workload - a common occurrence during the pandemic. Institutionalizing PDSA requires engaged, trained, and motivated facility personnel. One successful way to build this capability is to engage a consultant using a flexible schedule while still maintaining accountability to the process.

REFERENCES

1. Leis, J. A., & Shojania, K. G. (2017). A primer on PDSA: Executing plan-do-study-act cycles in practice, not just in name. *BMJ Quality & Safety, 26*(7), 572. doi:http://dx.doi.org/10.1136/bmjqs-2016-006245

2. Taylor, M. J., McNicholas, C., Nicolay, C., Darzi, A., Bell, D., & Reed, J. E. (2014). Systematic review of the application of the plan–do–study–act method to improve quality in healthcare. *BMJ quality & safety*, *23*(4), 290-298.

3. Shetty, K. D., Robbins, M. W., Tolpadi, A. A., Campbell, K. N., Clancy, A. M., Bodkin, N., Durham, M., & Damberg, C. L. (2021). Actions to Improve Quality: Results From a National Hospital Survey. *American Journal of Managed Care*, *27*(12), 544–551. https://doi.org/10.37765/ajmc.2021.88793

4. Shook, John (October 2008). *Managing to learn: using the A3 management process to solve problems, gain agreement, mentor and lead*. Cambridge, MA: Lean Enterprise Institute. ISBN 9781934109205. OCLC 276865965.

5. Williams, C. L. (2018). A comparison of the risks and benefits of nursing bedside shift report vs. traditional shift report: A systematic review of the literature. *International Journal of Studies in Nursing*, *3*(2), 40. https://doi.org/10.20849/ijsn.v3i2.38

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