Initiative Fatigue in Quality Improvement:
A Case Study on Sepsis Care

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BACKGROUND

Initiative fatigue – the unintended consequence of staff burnout and apathy towards long-term quality improvement (QI) interventions – is a common problem faced by leaders of improvement initiatives. According to the IHI’s Highly Adaptable Improvement Model, change initiatives that minimize burden on workload and have high perceived value among staff are most likely to be adopted, cause less workplace burnout, and achieve their intended outcomes. Maintaining perceived value of QI initiatives among staff over an extended period of time while aligning QI interventions with organizational goals is a complex and delicate process that is integral to sustained improvement efforts.

PROJECT AIMS

1) Determine current implementation of “Surviving Sepsis” 3 hour bundle of care processes for septic patients in the Dartmouth Hitchcock Medical Center (DHMC) Emergency Department (ED).
2) Identify barriers to maintaining bundle implementation.
3) Identify factors responsible for QI initiative fatigue and devise strategies to address these.

INITIATIVE HISTORY & CURRENT QI PROJECT STRATEGY

In 2014, DHMC and the High Value Healthcare Collaborative, a consortium of 17 healthcare delivery systems and The Dartmouth Institute, identified delivery of care to septic patients as an area that could be improved. Initial retrospective analyses using DHMC’s electronic health record (EHR) data showed a Surviving Sepsis 3 hour bundle adherence rate of 6% with an in-hospital mortality rate of 38%, and an average length of stay in the ICU of 9.1 days, all representing opportunities for improvement in sepsis care delivery. Over the next 2 months, 14 PDSA cycles were completed and DHMC’s bundle adherence rose to 70% while in-hospital mortality rate trended to 0%

Since 2014, the DHMC ED has undergone a number of changes. Key members of management, physician and nursing staff, nursing education, and ED residents who were involved in the initial sepsis initiative have transitioned off the sepsis QI team. Concurrently, the ED has taken on multiple new projects focusing on improving quality of care for different diseases. Thus, remaining ED staff have faced competing priorities for their time and attention. As a consequence, sepsis bundle data collection and analyses have not been performed as carefully, staff and leadership have lost confidence in the accuracy of the data, and PDSA activities have stopped. Thus, current ED leaders recognize that the sepsis QI initiative has lost momentum.

In June 2017, a new sepsis QI sepsis team was formed to re-energize the initiative. The team set out to: 1) determine the current state of sepsis bundle implementation in the ED, 2) document barriers to ongoing QI for this topic, and 3) develop strategies to regain momentum and maintain it. The team collected and analyzed data on bundle performance and barriers, and held weekly meetings to develop targeted QI interventions. Utilizing data from the EHR and interviews of key staff involved in sepsis delivery processes, the team constructed a new monthly scorecard measuring sepsis bundle implementation with relevant measures and accurate data, updated an existing process map, performed an apparent cause analysis to identify barriers to ongoing bundle implementation, and developed a plan to regain momentum.

RESULTS

Implementation of the “Surviving Sepsis” 3 hour bundle declined from 70% in 2014 to 55% in April - June 2017. Figure 1 illustrates recent data on performance of individual sepsis bundle processes of care, while Figure 2 reveals reasons for low sepsis bundle implementation identified in staff interviews. Since initial antibiotic delivery had the lowest implementation among individual processes of care, the QI team chose to focus their initial analyses here. Figure 3 represents a revised process map of the steps involved in antibiotic delivery. Times to completion of each step revealed inefficiencies in current delivery process. For instance, median time from patient arrival to antibiotic order was 1 hour and 50 minutes and median time from patient arrival to antibiotic delivery was 2 hours and 33 minutes. Further analyses comparing antibiotic delivery times in patients in whom the Super Systemic Inflammatory Response Syndrome (SIRS; suspected infection and ≥ 2 of the following: HR ≥ 120, RR ≥ 24, temperature ≥ 38.3 C or ≤ 36 C) Best Practice Advisory notification was used versus patients in whom the notification was not used, showed a significantly faster antibiotic order to delivery time in patients with the notification (149 vs. 187 minutes, N = 493, p=.037). Root cause analyses of inefficiencies of each step of antibiotic delivery are ongoing.

The QI team has identified the following potential solutions to the implementation barriers that staff identified: creating a QI project playbook and resource file and making these available to all staff; implementing project retraining workshops for existing and new staff; educating all staff on performance data throughout the ED workspace; and enhancing communication between front-line leaders and staff to gauge and influence perceived value of the initiative among staff. Implementation of these interventions are currently underway.

LESSONS LEARNED

- Staff burnout and turnover are common in hospital EDs and deleteriously impact QI projects.
- Multiple concurrent QI projects may overwhelm staff and lead to initiative fatigue manifested by declining collection and analysis of data, underutilization of previously effective QI interventions, and low performance of evidence-based processes of care.
- Strategies to maintain momentum with QI initiatives should address identified barriers.