12-2020

Implementing Purposeful Rounding as a Quality Improvement Project to Improve Patient Satisfaction in the Emergency Department

Kersten O'Brien
Grand Valley State University

Implementing Purposeful Rounding as a Quality Improvement Project to Improve Patient Satisfaction in the Emergency Department

Kersten O'Brien

Grand Valley State University

Abstract

Purpose: The purpose of this paper is to describe a quality improvement project to develop and implement a purposeful rounding protocol to improve patient satisfaction and call light rates which affect both patient and nursing staff satisfaction in the emergency department (ED). Importantly, patient satisfaction scores in the ED tend to be low but high scores are related to improved competitive advantage, reimbursement rate, patient outcomes, and nursing staff interruptions. **Methods:** A literature review was conducted to determine best practices. Using the lean process and the Plan-Do-Study-Act (PDSA) model, this information was used to identify opportunities for improvement and to develop a purposeful rounding project in collaboration with nursing leadership and staff. Nursing documentation completion rates, "likelihood to recommend (LTR)" patient survey score, patient interviews, and call light data were collected pre- and post-implementation to determine its effectiveness. This data was analyzed using descriptive statistics, including frequencies and percentages. **Results:** Although updated LTR scores were not available at time of publication, patient interviews revealed slightly higher satisfaction as expected. Call light rates per patient unexpectedly increased, while EHR documentation was completed less often. This may be related to challenges that affected nursing staff during the concurrent COVID-19 surge.

Implementing Purposeful Rounding as a Quality Improvement Project to Improve Patient Satisfaction in the Emergency Department

Introduction

High patient satisfaction rates are sought by hospitals throughout the United States because of their association with positive outcomes (Davenport, O'Connor, Szychowski, Landry, & Hernandez, 2017). Hospitals may use a variety of metrics to measure satisfaction, but they must participate in the nationally standardized and publicly reported Hospital Consumer Assessment of Healthcare Providers and Services (HCAHPS) survey to receive publicly comparable HCAHPS Star Ratings and reimbursement. High scores, particularly for the HCAHPS item "Likelihood to Recommend (LTR)" and HCAHPS Star Ratings, indicate positive patient experiences and help hospitals obtain a competitive advantage in robust healthcare marketplaces. They also help hospitals meet reimbursement requirements through the Centers for Medicare and Medicaid Services (CMS), the agency that implements HCAHPS. Higher scores increase the amount of value-based purchasing payment hospitals can receive (Emergency, 2018; HCAHPS, 2018). Achieving high patient satisfaction does not only benefit hospitals as businesses. It is associated with better patient outcomes, such as lower rates of readmission and mortality and better patient compliance (Aaronson, Mort, Sonis, Change, & White, 2018; HCAHPS, 2018).

High patient satisfaction scores are of clear benefit to hospitals. These scores are dependent on each of the hospital department's satisfaction rates and are particularly reliant on the emergency department (ED). In the U.S., the ED is often the first or only department a patient visits. They create more than half of all inpatient admissions, discharge more patients than are admitted, and account for 28% of all acute care visits in the nation (Davenport et al.,

2017; Emergency, 2018). This means that patient experiences in the ED are the basis from which most patients' perceptions are formed. This is a problem because patient satisfaction scores tend to be lower in the ED than in any other hospital department (Meade, Kennedy, & Kaplan, 2010).

The typical culture and workflows found in the ED vary from those in inpatient units and may lead to poorer patient satisfaction scores. Nursing staff in EDs often report they feel that they cannot meet patients' expectations because they are too busy managing constant turnover, interdisciplinary communication demands, and high-acuity patient needs during their shifts (Davenport et al., 2017; McFarlan, O'Brien, & Simmons, 2019; Skaggs, Daniels, Hodge & DeCamp, 2018). This can lead to poor communication with patients, causing feelings of abandonment and disappointment which may leave a lasting impression. These impressions influence reported perceptions: even if patients are admitted to another department and consider the care there to be satisfactory, they might rate their hospital experience poorly (Davenport et al., 2017).

Purposeful rounding (PR) has been used as an intervention to improve patient satisfaction rates. Although PR is more frequently studied and practiced in inpatient departments, many of the problems associated with patient satisfaction have been addressed by its implementation in both the inpatient and ED setting (Meade et al., 2010; Skaggs et al., 2019). The purpose of this paper is to describe the implementation and evaluation of a PR protocol in the ED setting.

Literature Review of Rounding for Patient Satisfaction in the ED

Literature Search Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and flowchart (see Appendix A) were used to conduct a literature review exploring the following Population-Intervention-Comparison-Outcome-Time (PICOT) question: In patients

admitted to the ED, how effective is PR compared to current rounding practices in improving patient satisfaction over an 8-week period? The recommended PRISMA items, including components of the administration information, introduction, methods, and synthesis, were included in the review (PRISMA-P, 2015). Key search terms related to the PICOT question, including “emergency department,” “patient satisfaction,” “United States,” and “purposeful rounding”, were used to search the CINAHL Complete database for relevant literature. Of the 50 studies reviewed, 4 met the criteria for inclusion (see Appendix B). Inclusion criteria included journal articles that were peer-reviewed, quantitative, conducted in United States adult or general EDs, and published within 10 years. Thus, studies that took place outside of the United States or the ED setting, were editorials, were published more than 10 years ago, or only provided qualitative results were excluded.

Literature Analysis

A landmark study by Meade et al. (2010) investigated the effectiveness of three different rounding techniques in the ED: rounds every 30 minutes, hourly rounds, and hourly rounds using an Individualized Patient Care (IPC) tactic. This study benefitted from representative samples at 28 different EDs, which allowed for a quasi-experimental design to determine which components of rounding could best improve patient satisfaction scores. Using rounding logs, conference calls, and staff questionnaires to ensure that each rounding technique was adequately and correctly completed, the study found several improvements in using any of the rounding techniques. Rates of patients having left without being seen, patients having left against medical advice, occurrence of falls, use of call lights, and nurse station encounters declined significantly, while survey responses such as “overall satisfaction with ED care” significantly increased. Importantly, the most significant improvements occurred in EDs where the IPC tactic was used.

It is uncertain, however, what specific components of rounding were most beneficial, and the study could not control for unique factors and characteristics in each ED that could affect rounding outcomes. In addition, the 30-minute rounding intervention was only assigned to EDs with minimal patient turnaround time. Therefore, it is difficult to determine the effects of timely rounding versus PR.

A quality improvement (QI) project using an hourly rounding nursing service bundle was implemented at one ED in another study, seeking to assess its impact on patients' perception of care. The project design used the Kotter Change Model and involved staff nurses to facilitate the implementation plan. Like Meade et al., (2010), audits and observations ensured appropriate completion of rounding. The implementation used an "Acknowledge, Introduce, Duration, Explanation, and Thank You (AIDET)" framework and led to an 11.8% increase in "excellent" care responses in the ED. Although this is a large increase, pre-intervention ranking in this category was the 36th percentile, allowing for greater improvement. Furthermore, the quality improvement project was led by a nursing leader and observations were only conducted weekly. This could have influenced how successfully rounding was completed, which, along with a small sample size, reduces the generalizability of the study (Skaggs et al., 2018).

In a similar study aimed at improving patients' experiences in the ED, an evidence-based process improvement project was found to improve HCAHPS scores. Like Skaggs et al. (2018), a standard work intervention was created for ED staff using a model (Planned Change Theory) and further benefited from integrating best practices and baseline data. The project also relied on audits, observation, and leadership rounding to ensure staff was compliant with the intervention. Uniquely, leadership provided in-the-moment feedback to staff while rounding, leading to improved staff satisfaction as well. The project focused on addressing the 4Ps: pain, personal

care and toileting, positioning, and personal item accessibility. This led to better HCAHPS scores during the intervention period, although this ED struggled with historically low scores and the results were not sustainable once the process owners left their positions. It was also difficult to separate the impact of the PR standard work from the leadership rounding standard work (McFarlan et al., 2019).

Unlike the other studies that took place in general EDs, Emerson, Chmura, and Walker evaluated the effectiveness of rounding for patient satisfaction and safety in a pediatric ED. The intervention was similarly based on educating staff to perform hourly rounding with AIDET. This study also used observation by "super users" to verify that rounding was performed as expected but did not use more formal audits. In addition to vendor-collected patient satisfaction data, discharge surveys developed for the project were given to departing families and call light data was analyzed. The results from this study also differed from other studies by finding no statistical change in patient satisfaction scores from either vendor-collected data or discharge surveys. Additionally, the other hypothesis that call light rates would decrease was not found. This could be due to the nature of the pediatric ED and the fact that parents completed surveys. The ED also provided a small sample size and already had fairly high scores for patient experience (2014).

Literature Summary

The literature presents evidence that PR can improve patient satisfaction through a variety of implementation methods and survey measures. Although specific development of intervention bundles, implementation criteria, and follow-up procedures vary amongst hospitals, it appears that several common components of PR facilitate successful results. At its core, PR ensures that patients' needs are met and increases their perceptions of positive ED experiences.

(Emerson, et al., 2014; Meade et al., 2018; McFarlan et al., 2019; Skaggs et al., 2018). Meeting these needs can be addressed using the 4 Ps: pain, position, potty, and personal items within reach (McFarlan et al., 2019, Meade et al., 2010, Skaggs et al., 2010). The 4 Ps were not described as part of the intervention in one hospital where the intervention did not meet expectations (Emerson et al., 2014). The most successful rounding implementation methods emphasize communication with patients and assessing basic needs, ensuring that patients' needs are met before the registered nurse (RN) leaves the room. Needs are also better met when nursing staff asks "is there anything else I can do for you?" before completing each round, following up appropriately to fulfill requests and reduce future interruptions (McFarlan et al., 2019, Meade et al., 2010, Skaggs et al., 2010). Setting clear expectations and providing timely updates improves the patient experience and allows nursing staff to better meet patients' needs (Emerson et al., 2014; Meade et al., 2018; McFarlan et al., 2019; Skaggs et al., 2018).

Nursing staff should be involved in the planning process and must be educated about why PR is necessary. This includes explaining how it can be successfully utilized during their shifts (Emerson et al., 2014; McFarlan et al., 2019; Skaggs et al., 2018). Staff education should include the positive effect PR has on metrics that affect RNs on a daily basis in addition to evidence that it improves patient satisfaction. For example, PR has been shown to decrease left without being seen and left against medical advice rates, call light use, and nurse station encounters, all of which contribute to RNs perceptions of being "too busy" (Mead et al., 2010). Regardless of which rounding protocol is used and which metrics are tracked, successful implementation can be facilitated by monitoring staff compliance through using techniques such as leadership rounding, completion logs, and audit tools (Emerson et al., 2014; Meade et al., 2010; McFarlan et al., 2019; Skaggs et al., 2018). Leadership rounding also can successfully impact patient

experience by allowing nurse leaders to interact with patients, manage expectations, and provide feedback to RNs (McFarlan et al., 2019).

While patient satisfaction scores typically increase when PR is implemented, limitations exist and questions remain about its effectiveness. In fact, Emerson et al. found no improvement in patient satisfaction scores when purposeful rounding was implemented in a pediatric ED (2014). Because the other studies took place in general EDs, it is uncertain whether results are generalizable for all types of EDs. PR may need to be approached differently when implemented in a large urban Magnet hospital versus a small rural hospital or with patients directly versus with family. Regardless of the type of ED, the small sample sizes and single-setting implementations used in the majority of studies limit the understanding of whether the effects of PR are replicable in other EDs (Emerson et al., 2014; McFarlan et al., 2019, Skaggs et al., 2018). Only one study involved multiple EDs, although the use of mean scores to represent change in collected data limits extrapolation of the effects of PR in each individual ED. Ultimately, PR interventions should be tailored to the specific needs of each unique ED (Meade et al., 2010).

It is also unknown if changes in patient experience scores are relative to baseline scores, as there is more room for improvement when scores start lower (McFarlan et al., 2019; Skaggs et al., 2018). The only study that did not demonstrate improved patient satisfaction scores began with higher scores than any other study in the literature review (Emerson, et al., 2014). Importantly, multiple different surveys and metrics were used to score patient satisfaction, making difficult to compare findings. There is also uncertainty of the replicability of results because they were interpreted in each study were using pre- and post-intervention groups that were not the same. This means that scores might not be solely indicative of patients' experiences due to the implementation. Other factors like leadership influence, seasonal and viral census

changes, individual care delivery, patient census, physician interaction, type of ED, and mixed shifts could affect the results and success of PR interventions, but were not analyzed (Emerson et al., 2014; McFarlan et al., 2019; Meade et al., 2010; Skaggs et al., 2018).

Finally, there is still much to be learned about how PR could be more effective or better implemented in EDs. Two studies revealed that their interventions improved staff satisfaction, but it is unknown if these results are generalizable (Emerson, et al., 2014; McFarlan et al., 2019). Although the goal of these studies was to determine the effects of PR on patient satisfaction, Meade et al. discusses the uncertainty of the effect of rounding on patient care (2010). The variety of rounding implementation models used means that the best methods of PR are unclear. Likewise, it is uncertain whether PR interventions are sustainable or how implementation is successfully maintained (Emerson et al., 2014; McFarlan et al., 2019; Meade et al., 2010; Skaggs et al., 2018).

Project Rationale

Available Knowledge

In the fiscal year 2020, patient satisfaction was identified as an opportunity for improvement in an urban hospital ED. The leadership team proposed developing a standardized hospital-wide PR protocol to improve patient satisfaction. Although a standardized hospital protocol was planned to be developed with flexibility given to clinical nurse leaders (CNLs) to accommodate the unique needs of their department, the project was halted due to a shift in priorities related to the COVID-19 pandemic (T. Allen, personal communication, September 10, 2020). However, it was evident that patient satisfaction needed to be addressed and tailored to the needs of the ED (Meade et al., 2010). Although there are not formalized national guidelines specifically addressing ED patient experience, hospitals use comparative and historical data in

their systems to create goal metrics. Based on scores from the previous year, benchmarks from local and national healthcare systems, and ability to improve, the goal LTR for this ED was 73.6% in the 2020 fiscal year. The final actual LTR score of 67.3% and subsequent fiscal year 2021 goal of 75.3% warranted change to improve satisfaction metrics. (L. Schwartz, personal communication, July 10, 2019). PR was identified as an appropriate intervention to improve patient satisfaction scores in the ED based on best evidence from the literature (Meade et al., 2018; McFarlan et al., 2019; Skaggs et al., 2018).

Theoretical Model

The Donabedian Model was used to understand the patient satisfaction and why PR addresses it. It identifies how three components – structure, process, and outcomes – coexist and positively impact quality outcomes (Buttigieg et al., 2018; VanHecke et al., 2016). Structure refers "attributes of the settings in which care occurs," including electronic health record (EHR) used, nursing staff, nursing leadership, availability of resources to address patient needs, and call light systems in the ED (Donabedian, 1997). The actions which occur as care given by nurses and received by patients, such as nursing workflows, needs anticipation, communication, and effective documentation are processes is the process component. Outcomes are the effects of care on patients and the microsystem, like how PR affected patient satisfaction and nursing demands. The best outcomes occur when QI projects develop ideal structures and best processes (Donabedian, 1997; VanHecke et al., 2016).

Quality Improvement Model

Lean process and the Plan-Do-Study-Act (PDSA) model were chosen as the framework for this project because they can be used in tandem to synergistically improve workflows, efficiency, and nurse-sensitive outcomes and were leading QI models for this ED (Boettcher et

al., 2019; L. Schwartz, personal communication, July 10, 2019; Sherwood & Barnsteiner, 2017). Lean utilizes evidence-based practice and microsystem knowledge to improve or create new workflows by identifying value and waste in current processes, such as patient satisfaction in relation to ED nursing workflows (see Appendix C) (Boettcher et al., 2019). The steps of PDSA allow nurse leaders to use Lean to monitor and improve quality outcomes (Sherwood & Barnsteiner, 2017). Workflow mapping to identify waste, decide goals, and develop protocols occurs in the "plan" stage (Plan-Do-Study-Act, 2015). The "do" stage focuses on implementing protocols and obtaining data related to the project goals. Data is analyzed and interpreted to determine if outcomes were reached in the "study" stage. These results were used to "act" by adjusting or continuing the intervention through several PDSA cycles to continuously improve workflows and associated outcomes (DeAnda, 2018; Plan-Do-Study-Act, 2015). Variation in rounding practices and waste were identified and corrected through each test of change (Meade et al., 2010; Sherwood & Bernsteiner, 2017; Skaggs et al., 2018).

Project Process and Outcome Objectives

The purpose of this quality improvement project was to develop and implement a PR protocol to improve patient satisfaction scores. It was intended that a standardized protocol for PR would result in meeting process objectives of effective documentation and positive patient feedback. While the anticipated outcome of this project was to improve patient experience and perceptions, it was also intended to reduce call light rates, which can indicate patient satisfaction and reduce interruptions to improve care delivery in the ED. Ultimately, the goal was to create a better patient experience and in turn benefit the ED with better reimbursement, consumer trust, quality outcomes, and safety.

Methods

Microsystem Context

Preliminary interviews with nursing staff in the ED revealed that they understood the expectation for PR, but felt there was inadequate time, support, or accountability to meet patients' expectations. During a typical shift, they balanced monitoring high-acuity patients, constant patient turnover, census surges, management of physician orders, and interdisciplinary communication, as well as caring for complex psychiatric patients, utilizing interpreters, and understanding how to care for patients of all ages and backgrounds. Nursing staff also reported that, although safety standards and legal ramifications motivated them to complete PR and associated documentation for behavioral health patients, general purposeful expectations were unclear workflow (Davenport et al., 2017; McFarlan et al., 2019; L. Schwartz, personal communication, July 11, 2019; Skaggs, 2018;). The only criteria for patient rounding and required behavioral health patient rounding and documentation was outlined in the ED minimal document policy. Rounding was defined as documenting patient position, toileting offered or completed, call light and personal item placement, and any pertinent status updates. These expectations were not always fully completed and department culture did not support accountability to do so. Meeting the needs of ED nursing staff through PR was emphasized as a QI project to reduce barriers perceived by nursing staff by promoting fewer interruptions and patients by improving their experience (Aaronson et al., 2018; HCAHPS, 2018).

The dynamic environment of the ED and several other factors affected the planning of this implementation, as well as the collection and accuracy of baseline data. During this time period, there was a high volume of staff turnover, leading to concerns of inadequate staffing, heavier workloads, and a inconsisten leadership, especially during nightshift. A new ED manager and nightshift nurse supervisor were hired at this time, providing necessary guidance but also

resulted in adjustments for both leadership and ED nursing staff. This QI project was approved by the ED manager and CNL, citing the alignment with unit-based goals and the benefit of collaboration with the patient experience work group to tailor PR interventions to the ED microsystem. Prior to the PR initiative, the ED leadership team worked with the work group to implement bedside report and white board completion projects with mixed results. Nursing management identified barriers and provided essential support for the implementation of this project.

The hospital also converted to a new electronic health record (EHR) during the pre-intervention phase and continued to adapt to usage through the implementation. While this change should have allowed for easier documentation and more time for patient interaction, the transition process, frequent updates, and need to adapt to situations such as designating a section of the department for boarding patients presented a challenge in the ED. The SARS-CoV-2 virus (COVID-19) pandemic further significantly impacted ED operations and the trajectory of this project. The ED environment became unfavorable for QI project implementation and data collection due to workflow changes, fluctuating patient volumes and acuity, visitor restrictions, restrictive personal protective equipment, increased wait times, boarding patients, and additional nursing stressors. These challenges affected patient perceptions and nurses' willingness and ability to participate in change projects due to extremely stressful situations. Due to the resulting ED culture and evolving challenges with COVID-19, it was agreed upon to focus on intentionality of PR rather than time requirements. The COVID-19 surge also reduced the clinical QI project and data collection timelines due to a period of prohibition of clinical activities and reduction in on-site working hours for the CNL preceptor.

Interventions

Plan

The planning stage required preceptor making decisions about how new PR practices would be developed, implemented, and monitored. Lean process was used to map RNs' shift workflows and waste. These included unclear expectations, excessive individual burden, high-volume call lights, and complicated documentation. Addressing these activities provided opportunities to help nurses positively impact patient satisfaction and provided a rationale to implement PR. After obtaining Internal Review Board designation as a QI project, measures were selected to evaluate the effectiveness of the project. These measures included data from HCAHPS patient satisfaction surveys, call light use, patient interviews, and EHR chart audits (see Appendix D). To help facilitate successful outcomes, ED nursing staff, ED nursing leadership, and hospital nursing leadership were identified as key stakeholders and included in the planning process. The project team developed a protocol and implementation plan for PR using best practices and incorporating feedback from key stakeholders. The protocol required that PR be completed, at a minimum, when the patient is assigned (at ED admission or shift change), as agreed upon in discussion with the patient upon assignment, and when completing tasks in the patient's room. PR was the responsibility of RNs, although it could be completed and documented by patient care assistants (PCAs) as well, and comprised of 5 components:

- Acknowledge the patient, introduce self, and discuss rounding expectations and anticipated schedule
- Address the 5Ps:
    - Pain: assess and provide interventions if present (RNs only)
    - Personal items within reach: ensure call light and necessary belongings are within reach

    - Position: ensure patient is comfortable and turn patient if they are unable to move themselves
    - Potty: offer elimination assistance
    - Plan of care: provide updates and expected timeline
- Ask if the patient has any other needs before leaving their room
- Follow through with any needs or requests in-the-moment, delegating as necessary
- Document interaction and interventions

Documentation standards required RNs to complete a pain assessment in the Epic EHR and all nursing staff who completed rounding to document the following fields in the "Hourly Rounding" section of the Epic ED Narrator for all ED patients:

- "Rounding Observation", corresponding with rounding completion
- "Environmental Safety Measures", corresponding with personal items within reach
- "Environmental Comfort Addressed", corresponding with position
- "Position", corresponding with position
- "Elimination Addressed", corresponding with potty
- "Disposition Status", corresponding with plan of care

The rationale of the protocol was explained and its steps were described in an educational module created using Microsoft PowerPoint and delivered through the hospital's education delivery service, HealthStream. To help ensure the new protocol was understood by all nursing staff, all RNs, PCAs, and nursing leadership members were required to pass a post-test included at the end of the module. An email notification to complete the module was distributed to all nursing staff once the education was posted on HealthStream. The service sent weekly compliance update emails to the project team to monitor compliance. Reminders were also

posted on the unit's central whiteboard and verbalized during staff rounding. Education completion was monitored through the HealthStream service, with a goal of 90% nursing staff completion by the completion deadline.

Do

Once planning was completed, the "do" phase began to test change. Following education completion, the planned PR protocol was implemented in the ED. An emphasis was placed on being intentional while completing tasks to meet patients' needs and expectations in the ED. As nursing staff was expected to complete the new PR process, it was also important that the state of the implementation was understood. The project team was responsible for monitoring the implementation and ensuring that nursing staff was effectively completing PR. This was achieved by rounding with staff and from collecting relevant insights from patient interviews.

Study

Post-intervention data and observations, including patient satisfaction, patient interview, chart audit, and call light data results, were collected to assess the effectiveness of the QI project in the "study" stage. Data was collected through the implementation and post-implementation period using quality dashboards, recorded call light data, patient interviews using a set script, and EHR documentation audits. This data was compared to pre-intervention data and analyzed. Analysis of the data in this stage helped nursing leadership determine if the implementation resulted in improved patient satisfaction and related metrics. It also informed the team about what steps should be taken next in the "act" phase.

Act

A plan was established to sustain the project in the future. The PR protocol and its associated documentation standards were embedded in the ED's Minimal Documentation

Guideline policy. Efforts were also made to ensure that the ED culture continued to support effective PR. The HealthStream education module will be assigned to new hires during orientation and patient interviews will continue to be completed by nursing leadership on a weekly basis. Time and budget costs must be considered in regards to HealthStream administrator tasks and ED leadership to continuing these audits during their shifts.

Study of the intervention

The approaches chosen to assess the impact of the intervention were pre- and post-intervention data comparison and data trend observations identified using run charts. Relevant data was continuously collected from the planning period through the post-intervention phase. Baselines were established by either initial data collection results or historical data. Audits were also completed to determine the effectiveness of the planned intervention. As this study of the intervention occurred while leader rounding started during the pre-intervention phase and COVID-19-assocated changes developed during the implementation and post-intervention phases, it is difficult to establish whether the observed outcomes were due to the intervention. Data collected during the planning period was used to assess the accuracy of findings throughout the intervention.

Measures

To determine the effect of PR on patient satisfaction outcomes, four metrics were chosen to evaluate change (Appendix D). Two measures were selected as outcome measures to determine the effectiveness of PR intervention: HCAHPS LTR scores and call lights per patient. Patient interviews were used as both outcome and process measures to determine satisfaction outcomes and whether the process was effective. The success of process implementation was also measured by EHR chart audits.

"Likelihood to Recommend" scores

The Michigan Data Analytics (MDA) quality dashboard was used to obtain LTR scores aggregated from HCAHPS surveys. Examining HCAHPS scores is important because of their value for hospital reimbursement programs and maintaining competitiveness. Specifically, the survey item asking "Likelihood to Recommend ED" was used to understand how patients reported their perceptions of care (McFarlan et al., 2019). It is important to note that HCAHPS surveys are given to patients 2 days to 6 weeks after they are discharged from the ED or subsequent inpatient admission. Although relevant surveys may not be completed at the time of dashboard update and N-size may vary, the most current data was collected to obtain the most valid findings. Patient interviews were also conducted to obtain immediate feedback at the point of care (Aaronson et al., 2018; HCAHPS, 2018; Survey, 2019).

Patient interviews

Patient interviews were aggregate and analyze satisfaction data more quickly than HCAHPS LTR scores (Aaronson et al., 2018; HCAHPS, 2018; Survey, 2019). Engaging patients in-the-moment at the point of care allows for immediate feedback and direct responses. Randomly selected patients who met eligibility criteria were interviewed to determine their satisfaction of the care they received from nursing staff. Patients must have been English-speaking, agreeable to PR, awake, alert and oriented, in stable condition, COVID-19 negative or not under investigation, and with a length of stay of at least one hour. Interviews were completed on 8 separate days for a total of 40 interviews. No MRNs or identifying patient data were collected. Patient interviews were standardized to increase validity and reliability, asking the following close-ended questions: "Are you being checked on sufficiently?", "Are your needs

being met?", and "Have you been updated on your plan of care?" Patient interviews were also used as a process measure to ensure that nursing staff was completing PR as planned.

Call lights per patient

Studies have associated lower volumes of call light use with higher patient satisfaction because fewer call lights indicate needs are met (Meade et al., 2010). Collecting call light use data can demonstrate the outcomes of a PR intervention more quickly than HCAHPS LTR trends. In this ED, call light data was continually recorded and could be analyzed using weekly Hill-Rom Call Summary tracking reports, which was sent to all nursing leaders (L. Schwartz, personal communication, October 14, 2019; McFarlan et al., 2019; Meade et al., 2010). These tracking reports summarized the total number of call lights, average response time, and maximum response to call lights answered in the ED that week. To find the weekly rate of call lights per patient, total call lights were divided by weekly census generated from the Epic EHR ED patient census report.

EHR chart audits

Patient charts were audited using the Epic EHR to determine if the PR protocol was being followed and effectively documented. Although reviewing documentation cannot exclude the possibility that it is charted without completion, it is the expectation that nursing staff documentation is accurate and truthful. Random patient charts were reviewed on 4 separate dates during each the pre- and post-intervention period using the "Rounding Updates" section in the Epic EHR. An audit tool was used to determine if any nursing staff ever documented all rounding fields during patient's ED visit. No MRNs or patient data were collected.

Analysis

Data was collected for 4 weeks prior to the intervention, through implementation, and for 4 weeks post-intervention to identify trends in LTR scores, call light frequencies and rates per patient, percentage of completed PR documentation, and frequency of patient satisfaction via interview. Run charts were used to display changes in LTR scores and call light rates per patient and to demonstrate trends related to implementation and the effects of variables such as time and other interventions. Percentage of PR documentation and frequency of patient satisfaction via interview data were displayed using comparative bar charts. The impact of the intervention was assessed by observing trends in these charts and by comparing pre- and post-intervention data. This data was compared using descriptive statistics. Frequency data and percentages were used to analyze change of all measures from pre- to post-intervention.

Results

The goal of this QI project was to improve patient satisfaction and related outcomes through the implementation of a PR protocol. It was expected that patient satisfaction measures would improve, and call light usage would decrease.

"Likelihood to Recommend" scores

Patient satisfaction scores, collected as LTR from HCAHPS surveys, were tracked over the calendar year and displayed using an annotated run chart (Appendix E). The run chart displayed changes in monthly LTR over the calendar year and differentiated between fiscal years. Prior to the intervention, the LTR scores began increasing after a period of decline in the ED. Because HCAHPS surveys are sent up to 6 weeks after a patient's ED visit and can be returned several weeks later, the data displayed reflected the most current available metrics. Unfortunately, data for the implementation period was unavailable at the time of publication.

The most current LTR scores reported reflect the education period in October. At 72.0%, the monthly LTR remains below the fiscal year 20201 goal of 75.3%.

Patient Interviews

Prior to the intervention, 18 out of 20 (90.0%) patients responded "yes" to all three interview questions: "Are you being checked on enough?", "Are your needs being met?", "Have you been updated on your plan of care?" Patients responded "yes" to all three questions in 19 out of 20 (95.0%) interviews after the implementation, resulting in a 5.5% increase in positive responses (see Appendix F).

Call Light Data

At baseline, ED nursing staff responded to a weekly average of 1,054 of call lights from 1,073 patients, or 0.98 call lights per patient. ED nursing staff responded to a weekly average of 1,107 call lights from 1,058 patients in the post-implementation period. Contrary to expected findings, an average of 1.05 call lights per patient represents an 7.14% increase from the pre-implementation period data. A run chart displays trends found through the QI project, although it is difficult to determine the cause of these trends. Annotation on the run chart identified possible change factors and a trend line identified a positive direction of change (see Appendix G).

EHR Documentation

Nursing staff charted complete PR documentation at any time during a patient's stay in 17 out of 45 (37.8%) total charts pre-intervention. After implementation, PR documentation was completed in 14 out of 45 (31.1%) audited charts. When comparing percentage completion, this represents a 17.7% decrease of completed documentation (see Appendix H).

Analysis of EHR documentation unexpectedly revealed a difference in the frequency of documentation in behavioral health charting, which requires additional documentation, and

general patient charting (see Appendix I). Pre-intervention, 14 charts were identified as behavioral health patients and 12 charts had documentation (85.7%). The remaining 5 completed documentations were identified in 31 general patient charts (16.1%). Ten out of 15 (66.7%) behavioral health charts had completed documentation post-intervention, a decrease of 22.17% (see Appendix J). The percentage of completed documentation in general patient charts decreased by 17.4%, as 4 out of 30 (13.3%) charts contained documentation (See Appendix K).

Contextual Elements

The impact of the COVID-19 pandemic on this QI project and its outcomes were significant. Following a turbulent period of leadership in the ED, creating emergent process changes, and altering the ED patient flow, it caused many challenges for ED nursing staff adopting the protocol. This meant that nursing staff had difficulty completing education and adapting to new changes. It also affected patient interview data as COVID-19 positive patients could not be interviewed for safety reasons. Other safety measures such as additional staff PPE and visitor restrictions may have unintentionally affected patient satisfaction. Some patients, conversely, were more understanding of nursing interactions due to public perception of the pandemic.

Discussion

Summary

The goal of this project was to increase patient satisfaction through PR, as evidenced by improved LTR scores and positive patient interview responses, decreased call light rates, and more frequent documentation of the rounding protocol. It was anticipated that PR would increase patient satisfaction by proactively meeting patients' needs and providing timely updates. As expected, a small increase was found in positive patient interviews. While a small improvement

was observed in LTR scores, little data was available for the post-intervention period. PR was hypothesized to reduce patients' needs when nursing staff was not in their rooms and subsequently reduce call light rates, which did not occur. Likewise, documentation should have improved as nursing staff completed rounding and instead decreased in frequency.

Interpretation

Due to several factors, the associations between the PR intervention and the patient satisfaction outcomes are difficult to determine. Consistent with the literature, patient satisfaction increased slightly. This may be related to more effectively meeting patients' needs through rounding. Interestingly, patient interviews revealed that patients felt satisfied by how frequently their nurses were checking on them and how adequately their needs were met both pre- and post-intervention. The minimal increase in satisfaction from patient interviews shows little difference in results and indicated that patients were satisfied overall throughout the project period. Although LTR scores improved during the education period, the high satisfaction found through interviews was not reflected in these scores. This data was also not reflective of the effectiveness of the intervention because data for the post-intervention period was unavailable at the time of publication. However, LTR scores remained consistent with historical data and year-to-date scores met national benchmarks, similarly proving to be a difficult metric to make significant improvements in. These results may indicate that LTR does not fully represent actual patient satisfaction. Previous studies that had started with very low baseline satisfaction scores found more significant positive changes than those with average satisfaction scores (Emerson et al., 2014; McFarlan et al., 2019; Mead et al., 2010; Skaggs et al., 2018).

Although the results of this QI project did not fulfill the hypotheses that call light rates would decrease, they are consistent with Emerson et al.'s findings (2014). Patients' expectations

should have been better met by improved communication and more intentional interactions. As fewer call lights should allow for more effective workflows, nurses would have hypothetically been able to meet patients needs (Meade et al., 2010). It is possible that the increase in call light rates was not due to an ineffective rounding process. Patient census, acuity, and length of stay increased as the project period progressed, meaning there were more opportunities for call light use and heavier nursing workloads. It is also possible that these conditions prohibited nurses from effectively completing PR and led to increased call light rates per patient. The unexpected outcome that PR documentation also failed to increase as expected also indicates that nurses may not have been able to effectively complete PR. Although a lack of documentation does not ascertain that PR did not occur, it is not possible to prove that effective PR increased as a result of the intervention.

Implementing a QI project that was intended to benefit patients and the healthcare system through a nursing staff-friendly protocol was proposed as a low-risk method to increase value and improve patient satisfaction. Nursing staff already were familiar with rounding protocols and their benefits, which promoted budget neutrality and probability of success. However, the project process and effectiveness was complicated during a COVID-19 surge. This negatively affected ED staff's receptiveness to education and ability to complete the intervention as throughput and acuity increased and staffing decreased - three major PR barriers pre-intervention. Because of the opportunities this project continues to present to improve quality in the ED, the intervention is planned to be reintroduced when these barriers are more manageable.

Limitations

This QI project was limited by the project timeline, which spanned six weeks. Therefore, sample sizes were small and scope was narrow. Generalizability was also limited as the project

took place in a single ED and was tailored for its specific environment. Furthermore, the complicated setting of a pandemic may render the implementation and results specific to such a timeframe. In this project, the lack of a time component such as hourly PR makes the design difficult to replicate. It also negatively impacts internal validity, as it is difficult to ensure that rounding occurred as often as necessary or as agreed upon with all patients and in all charts.

The internal validity of data from patient interviews and chart audits may have been reduced by the collection measures. Both were conducted solely by a single data collector, used exclusive criteria for selection and collection occurred only on weekdays during dayshift. During the pre-intervention phase, leader rounding was reinvigorated, requiring nurse leaders to interview patients regarding their experiences. Interviews were thus concurrently performed by the data collector and nursing leaders, making it difficult to separate impact. Patient interviews may have also been affected by interviewer bias and influence, as well as exclusive selection criteria. These omissions could mean that interviews lacked valuable insight from patient populations who may have poor care experiences. The accumulated LTR scores may also have limited internal validity because HCAHPS surveys take weeks to be sent out and may be returned by patients weeks later. Therefore, scores may not be complete and fully reflective of total responses.

Conclusions

The results of this QI project weakly support the findings of other literature that PR can improve patient satisfaction and, more importantly, gleaned insights about satisfaction outcome measures and project implementation. First, LTR is the most common metric used to determined satisfaction, however, it is difficult to evaluate change in a short time frame and may not accurately reflect patient experience. Although high LTR scores are necessary to meet CMS

standards, perhaps it is not the ideal measure to assess patient satisfaction, especially in academic projects. Second, this project highlights the importance in contextual elements to project success. Call light data and documentation rates did not improve as expected, which may have been related from changes in the ED due to the global COVID-19 pandemic. This contextual element also altered outcomes as the ED environment was not conducive to project implementation. ED leadership intends to reintroduce this PR protocol when conditions in the ED are more favorable. Finally, the unfavorable environment for implementation warrants future consideration for academic projects. Given the short time frame and narrow scope of such projects, it is important to consider alternatives and emphasize flexibility in expectations. Future work should be done to evaluate the effectiveness of LTR as a satisfaction metric in the ED and the effects of context on PR interventions in the ED.

References

Aaronson, E., Mort, E., Sonis, J., Chang, Y., & White, B. (2018). Overall emergency department rating: Identifying the factors that matter most to patient experience. *Journal for Healthcare Quality*, *40*(6), 367–376. https://doi.org/10.1097/JHQ.0000000000000129

Boettcher, P., Hunter, R., & McGonagle, P. (2019). Using lean principles of standard work to improve clinical nursing performance. *Nursing Economic$*, *37*(3), 152–163.

Buttigieg, S. C., Abela, L., & Pace, A. (2018). Variables affecting hospital length of stay: a scoping review. *Journal of Health Organization and Management*, *32*(3), 463–493. https://doi.org/10.1108/JHOM-10-2017-0275

DeAnda, R. (2018). Stop the bottleneck: Improving patient throughput in the emergency department. *Journal of Emergency Nursing*, *44*(6), 582–588. https://doi.org/10.1016/j.jen.2018.05.002

Donabedian, A. (1997). Special article: The quality of care: How can it be assessed? *Archives of Pathology & Laboratory Medicine, 121*, 1145.

Emergency department patient experiences with care (EDPEC) survey (2018, September 12). Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/CAHPS/ed.html

Emerson, B. L., Chmura, K. B., & Walker, D. (2014). Hourly rounding in the pediatric emergency department: patient and family safety and satisfaction rounds. *The Journal of Emergency Medicine*, *47*(1), 99–104. https://doi.org/10.1016/j.jemermed.2013.11.098

Davenport, P., O'Connor, S., Szychowski, J., Landry, A., & Hernandez, S. (2017). The relationship between emergency department wait times and inpatient satisfaction. *Health Marketing Quarterly*, *34*(2), 97–112. https://doi.org/10.1080/07359683.2017.1307066

HCAHPS scores: History, goals, and impacts (2018). Retrieved October 10, 2019, from http://lippincottsolutions.lww.com/blog.entry.html/2018/11/30/hcahps_scores_histo-c3GP.html

McFarlan, S., O'Brien, D., & Simmons, E. (2019). Nurse-leader collaborative improvement project: Improving Patient experience in the emergency department. *Journal of Emergency Nursing*, *45*(2), 137–143. https://doi.org/10.1016/j.jen.2018.11.007

Meade, C., Kennedy, J., & Kaplan, J. (2010). The effects of emergency department staff rounding on patient safety and satisfaction. *The Journal of Emergency Medicine*, *38*(5), 666–674. https://doi.org/10.1016/j.jemermed.2008.03.042

Plan-Do-Study-Act (PDSA) directions and examples (2015, February) Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from https://www.ahrq.gov/health-literacy/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool2b.html

PRISMA-P Group, Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., … Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, *4*(1). https://doi.org/10.1186/2046-4053-4-1

Sherwood, G. & Barnsteiner, J. (2017). *Quality and safety in nursing: A competency approach to improving outcomes.* Hoboken, NJ: Wiley-Blackwell.

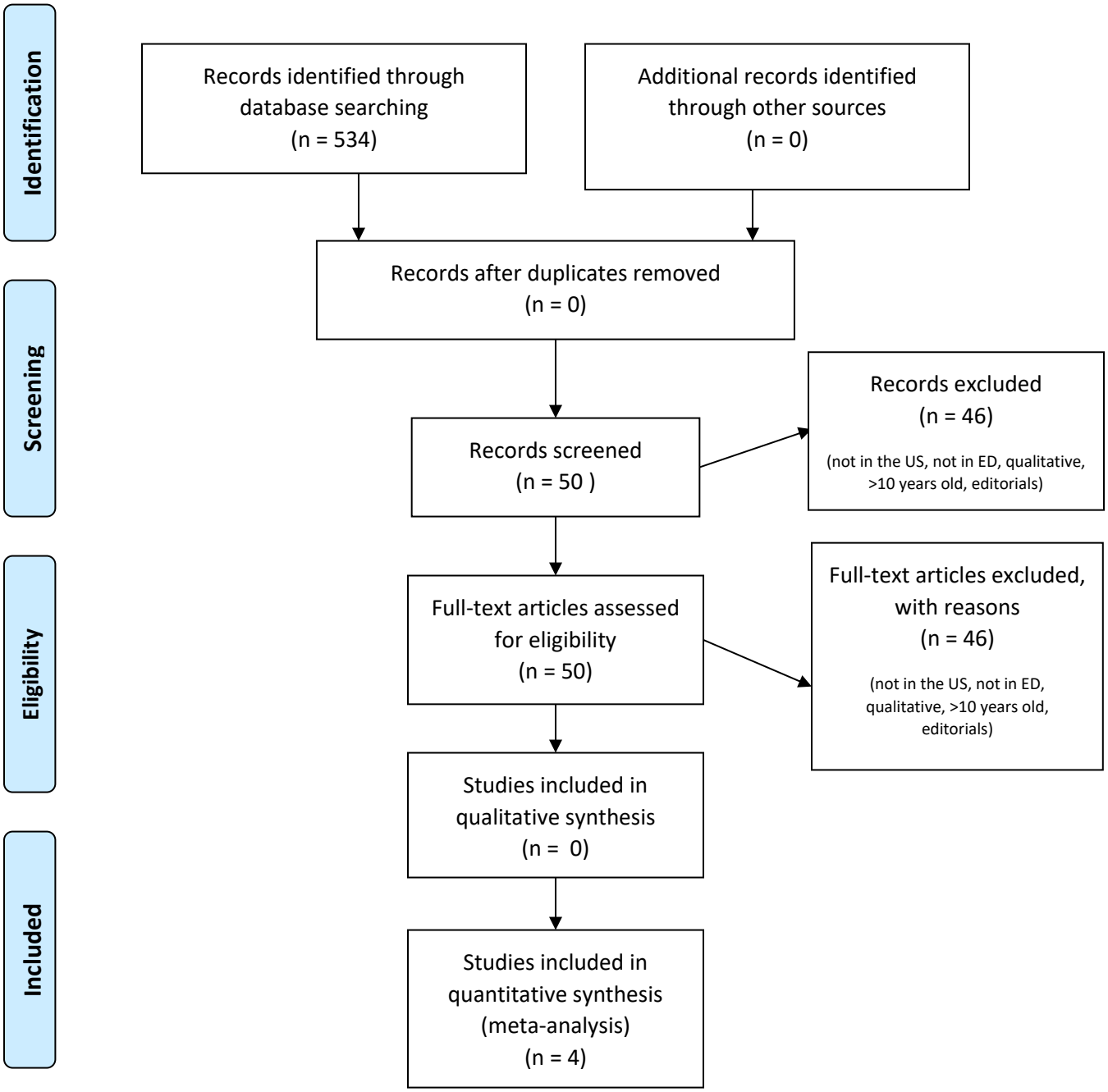
Skaggs, M., Daniels, J., Hodge, A., & DeCamp, V. (2018). Using the evidence-based practice service nursing bundle to increase patient satisfaction. *Journal of Emergency Nursing*, *44*(1), 37–45. https://doi.org/10.1016/j.jen.2017.10.011

Van Hecke, A., Van Lancker, A., De Clercq, B., De Meyere, C., Dequeker, S., & Devulder, J. (2016). Pain intensity in hospitalized adults: A multilevel analysis of barriers and

facilitators of pain management. *Nursing Research, 65*(4), 290–300. https://doi.org/10.1097/NNR.0000000000000160

Appendix A

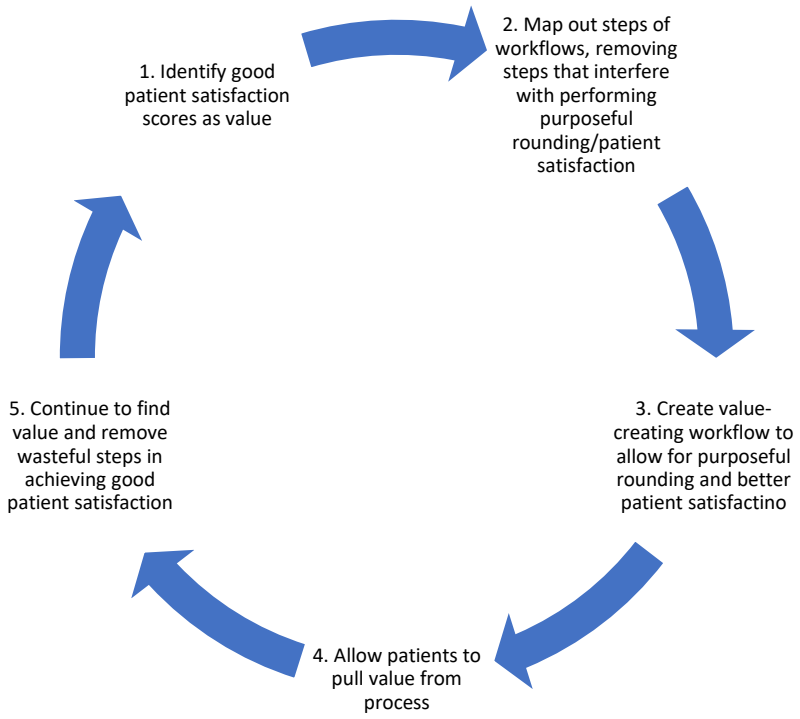
PRISMA 2009 Flow Diagram



Appendix B

Author, Year	Purpose	Theory/ Conceptual framework	Variables	Design and methodology	Type/Mode of Intervention	Sample	Instruments and/or measurements	Data collection and attrition rate	Data analysis techniques	Major findings	Limitations
1. Meade, Kennedy, & Kaplan, 2010	To test the effectiveness of three different rounding techniques	"three plus theory" of frequency (<3 exposures to the same message is ineffective)	rounding protocols (rounds every 30 min, rounds every hour, rounds every hour with IPC); LWBS, AMA, patient satisfaction, patient falls, call light use, nursing station encounters (outcome variables)	Quasi-experimental, non-equivalent group, time-sampling design; quantitative	implementing 1 of 3 rounding protocols: rounds every 30 min, rounds every hour, rounds every hour with IPC	random sample of 28 hospital EDs in the United States using American Hospital Assoc.'s bed size categories to ensure a representative sample; average 75% RNs, 24% techs, 1% other	rounding logs; data collection forms for recording falls, call lights, nursing station encounters, LWBS, AMA, patient satisfaction; patient satisfaction data from hospital vendors/patient satisfaction surveys	conference calls, 24hr rounding logs; ED staff questionnaire (1543 staff; 68% response rate; 204 physicians, 51% response rate); patient satisfaction data from hospital vendors	t-test; general linear model multivariate tests and Least Significant Difference for post hoc tests; content analysis for staff questionnaire	significant declines in LWBS, AMA, falls, call light use, nurse station encounters; greatest improvement with 1h IPC rounding (stat sig reductions compared to other 2); sig: "how well pain managed/controlled", "overall satisfaction with ED care", "informed about care"; nonsig: "being kept informed about delays"; 83% of comments rounding was beneficial; 12% nothing new, too busy, didn't help patients	need to determine if rounding improves patient care, best tactics for communicating delays, optimal design considering mixed shifts, integration with physician activity
2. Dilts Skaggs, Daniels, Hodge, & DeCamp, 2018	To assess the effect of implementing the service nursing bundle on patients' perception of care	Kotter Change Model	Hourly Rounding service nursing bundle (AIDET); weekly observation audit compliance and PRC metrics (patient satisfaction outcome variables)	quantitative RCT; QI Project	1. staff nurses identified as service champions to lead initiative 2. vision for change, need for action, and service nursing bundle were incorporated into a 1 hour class offered to all nursing staff 3. implementation and reinforcement of service bundle using audits and PRC metrics	pre: 100 randomly chosen patient; post: 97 randomly chosen patients; total representative of 1.3% of ED volume: 6mo-91 you, mean age 45.85, SD 22.72, mostly female; avg LOS 2.39 hours; 1074 audits/138 per week; 122 staff members mostly 20-29 you and 5 or less years as RN	Likert scales; PRC metrics and audit tool compliance (sample determined by priori power analysis)	Audits collected by champions over 8 weeks; PRC metrics by phone survey data, excluding those who died, were admitted, or transferred to another facility; parents completed for patients <17	Descriptive statistics, logistic regression, odds ratios; 2-sample unpooled t-tests	11.8% increase in average percent of excellent responses (nonsig; PRC from 36th to 85th percentile); post-bundle 1.5x more likely to respond excellent to all 5 survey questions (p = 0.004); the shorter the LOS, the more likely the patient to reply "excellent" (sig)	generalizability of findings to non-rural EDs outside the US; different pre- and postintervention pts; pt sample size; QI project team leader was an employee; limit of 4 months; possible impact of discharge calls on patient satisfaction; assumption nurses used bundle when not observed
3. McFarlan, O'Brien, & Simmons, 2019	To improve the patient experience in the ED setting	Kurt Lewin's Force Field Analysis and Planned Change Theory	standard work intervention for nursing staff, standard work intervention for ED leadership team, HCAHPS survey questions (outcome variable)	evidence-based process improvement project; pre- and postevaluation of an evidence based intervention	leadership created standard work based on best practice, informed staff of baseline HCAHPS/ best practices; standard work was implemented: 6 leaders made daily rounds on all patients in ED during day shift - assurance of exceptional care, "can I do anything else?", feedback to RN; 106 nursing staff educated about/performed hourly rounds - 4Ps, "can I do anything else?"	avg of 175 patients daily on all shifts	HCAHPS surveys, audit tools	audits on all shifts through observation; HCAHPS surveys	pre- and postevaluation metric comparison	improved HCAHPS scores; 90% improvement in compliance; better perceived camaraderie and recognition from leaders;	challenging flu season during study derailed leadership rounding; CNO and MSN process owners left after project; trialed in single environment; represents combined work of 2 stakeholder groups/simultaneous interventions
4. Emerson, Chmura, & Walker, 2014	To evaluate the institution of patient satisfaction and safety rounding in the pediatric ED		hourly rounding with AIDET, call light data and patient satisfaction (outcome)	prospective, observational study+3:5	staff education and performance of AIDET rounding	200 discharge opinion; 124 preintervention/137 postintervention vendor data	discharge survey (5-point Likert scale), vendor-collected patient satisfaction data	100 families randomly selected for survey on departure; vendor data	chi-squared test	call lights increased and no statistical change was seen in discharge surveys or patient satisfaction data	small sample representation, limited to English and Spanish speakers, no control group, department culture and performance changes

Appendix C


1. Identify good patient satisfaction scores as value
2. Map out steps of workflows, removing steps that interfere with performing purposeful rounding/patient satisfaction
3. Create value-creating workflow to allow for purposeful rounding and better patient satisfactino
4. Allow patients to pull value from process
5. Continue to find value and remove wasteful steps in achieving good patient satisfaction

Appendix D

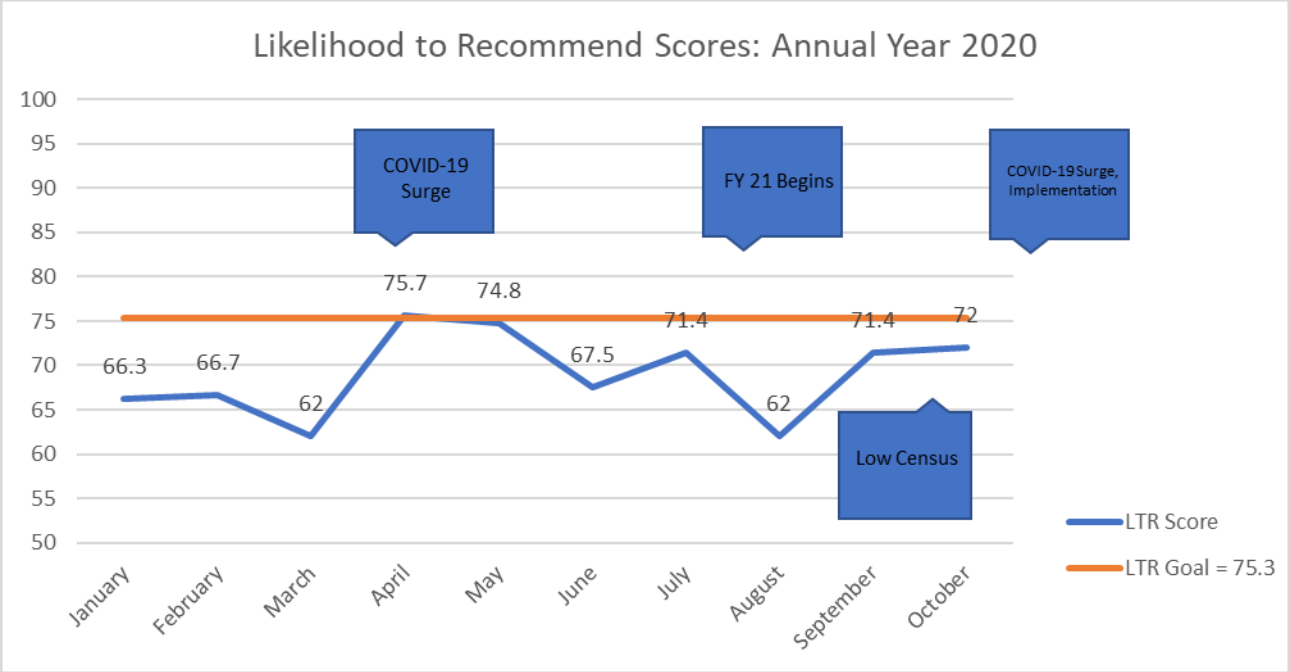
Table 1

Outcome Variables for Patient Satisfaction

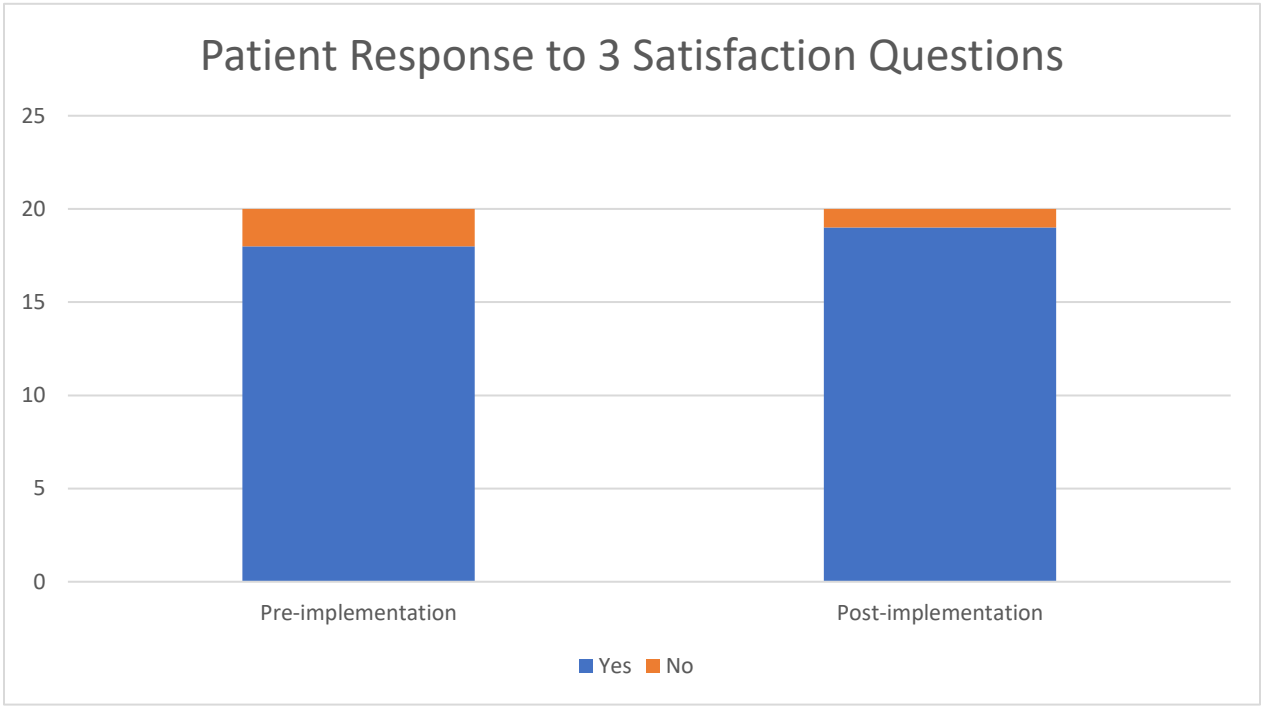
Outcome	**Theoretical Definition**	**Operational Definition**
"Likelihood to Recommend" scores	Patients' willingness to endorse hospital based on their expectations and experience	Percentage of patients who completed HCAHPS survey and answered "definitely yes" to "would you recommend this hospital to your friends and family?"
Call light use	Patient use of alarm system to alert nurse to their needs or requests	Number of total call lights responded to in one week
Documentation	Completion of all rounding fields in EHR	Percentage of times nursing staff completed of all rounding fields
Patient Interview	Patients' response to whether they are satisfied with the care nursing staff is providing	Frequency patients responded "yes" to the questions "Are you being check on sufficiently?", "Are your needs being met?", and "Have you been updated on your plan of care?"

Note. Data from Medicare.gov (2019), Meade et al. (2010), Emerson et al. (2014), and McFarlan et al. (2019).

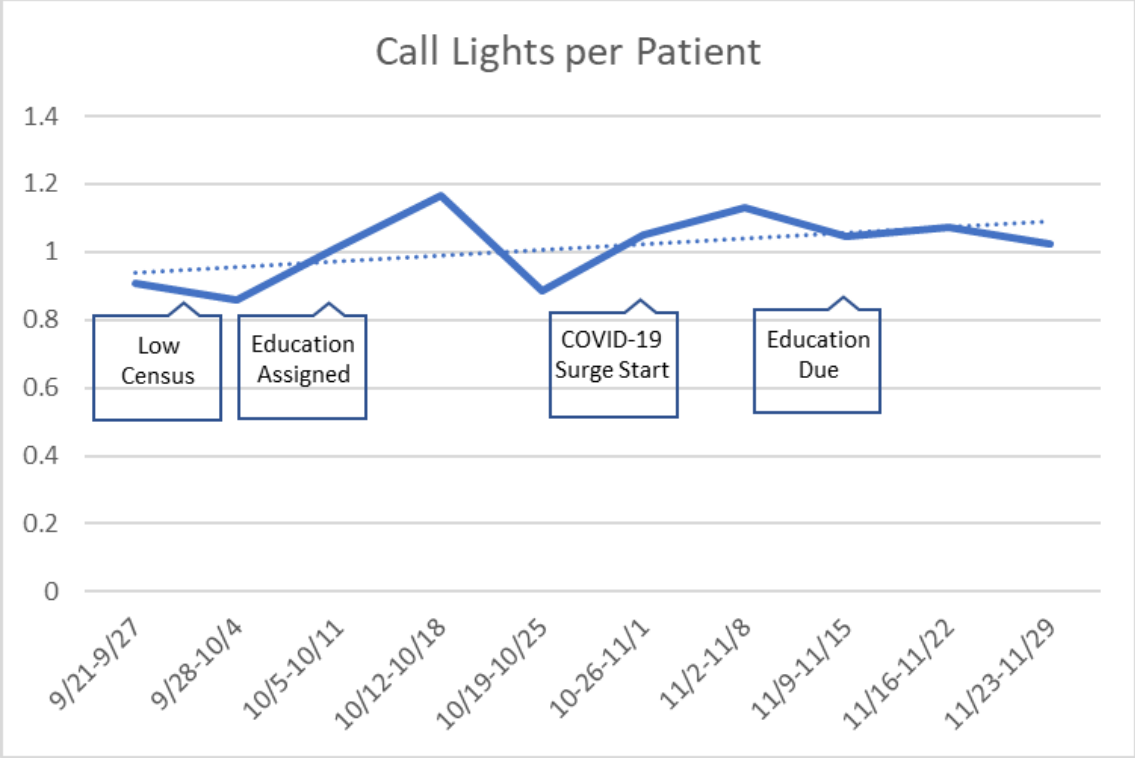
Appendix E


Likelihood to Recommend Scores: Annual Year 2020
100
95
90
85
80
75
70
65
60
55
50
COVID-19 Surge
FY 21 Begins
COVID-19 Surge, Implementation
Low Census
66.3
66.7
62
75.7
74.8
67.5
71.4
62
71.4
72
January
February
March
April
May
June
July
August
September
October
LTR Score
LTR Goal = 75.3

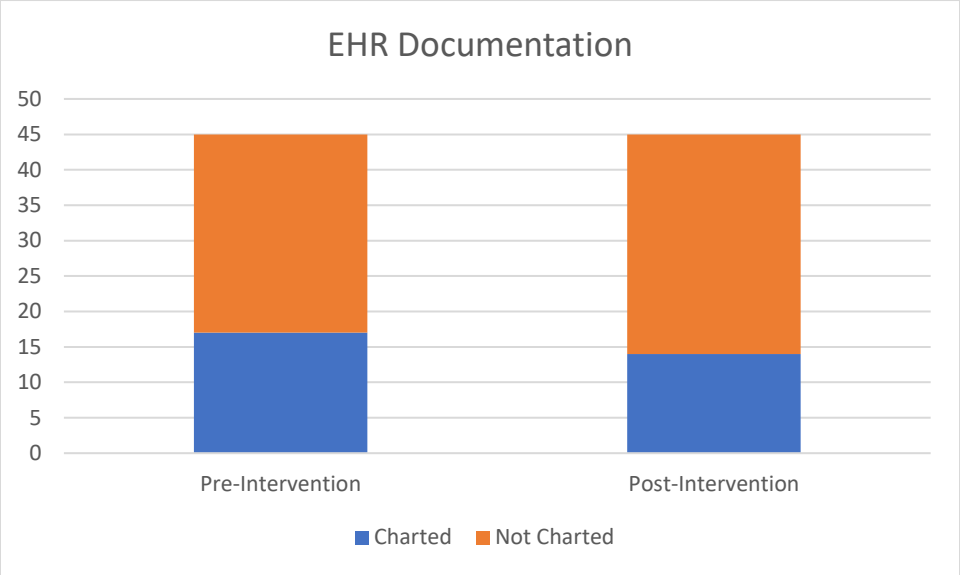
Appendix F


Patient Response to 3 Satisfaction Questions
25
20
15
10
5
0
Pre-implementation
Post-implementation
Yes
No

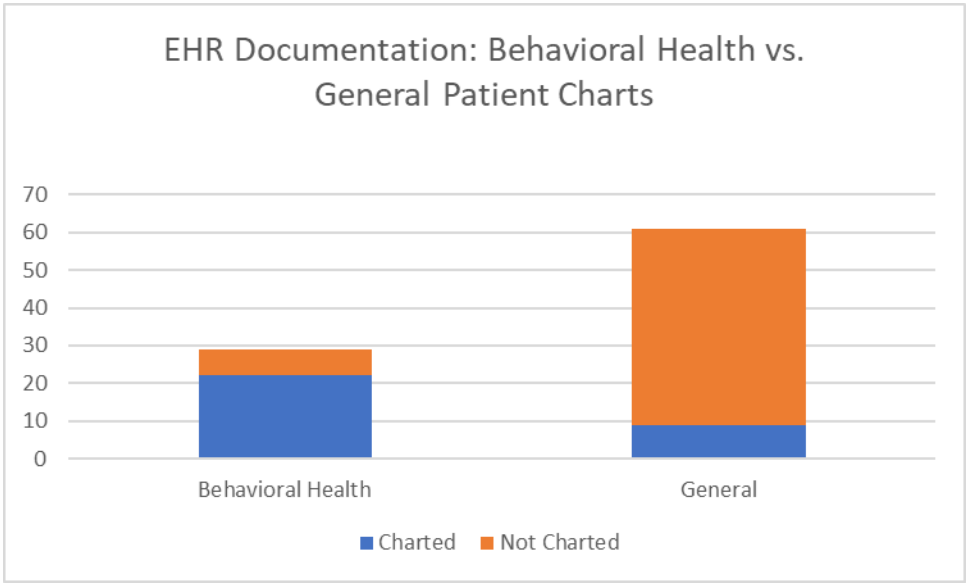
Appendix G


Call Lights per Patient
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Low Census
Education Assigned
COVID-19 Surge Start
Education Due
9/21-9/27
9/28-10/4
10/5-10/11
10/12-10/18
10/19-10/25
10-26-11/1
11/2-11/8
11/9-11/15
11/16-11/22
11/23-11/29

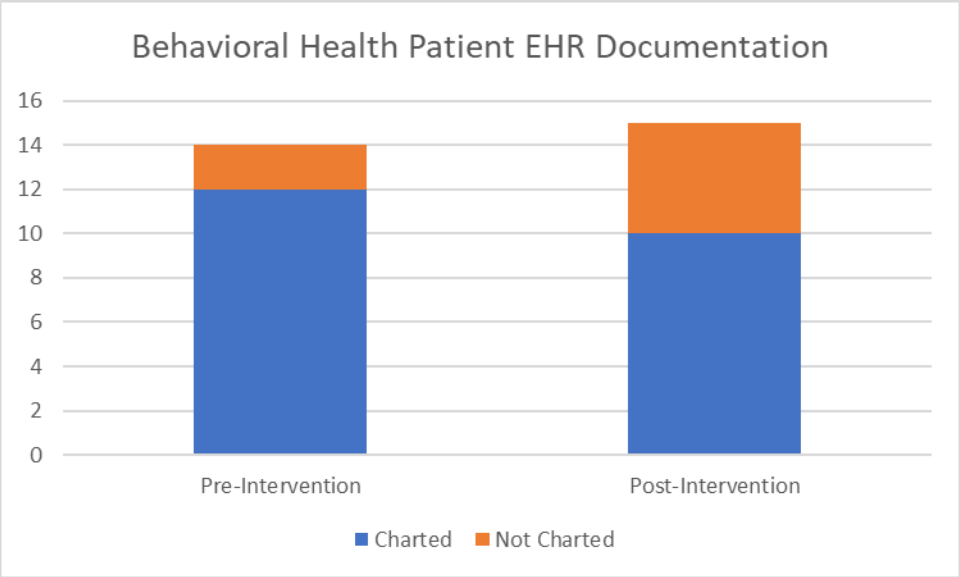
Appendix H


EHR Documentation
50
45
40
35
30
25
20
15
10
5
0
Pre-Intervention
Post-Intervention
Charted
Not Charted

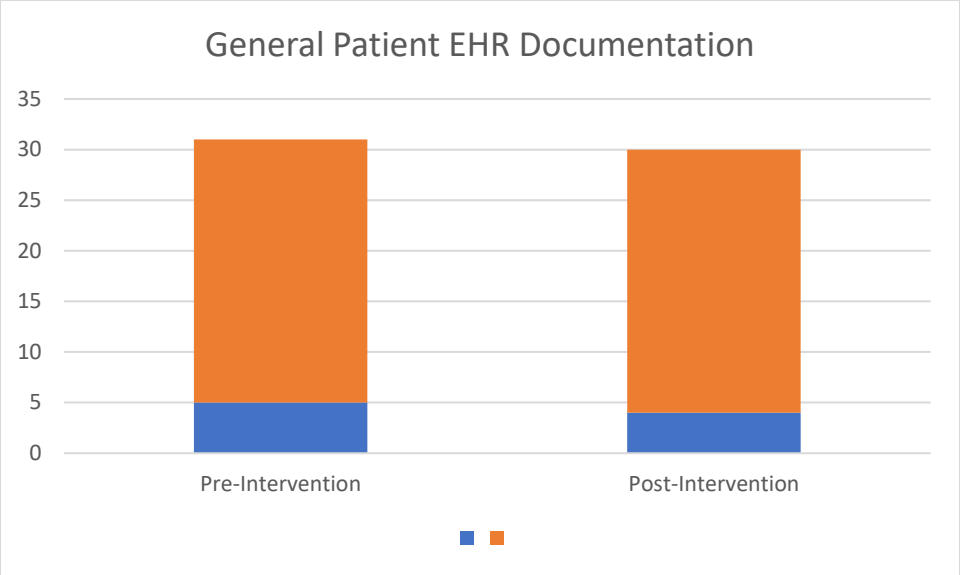
Appendix I


EHR Documentation: Behavioral Health vs. General Patient Charts
70
60
50
40
30
20
10
0
Behavioral Health
General
Charted
Not Charted

Appendix J


Behavioral Health Patient EHR Documentation
16
14
12
10
8
6
4
2
0
Pre-Intervention
Post-Intervention
Charted
Not Charted

Appendix K


General Patient EHR Documentation
35
30
25
20
15
10
5
0
Pre-Intervention
Post-Intervention