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Proactive toileting: strengthening purposeful hourly rounding's influence on patient falls.

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Proactive Toileting: Strengthening Purposeful Hourly Rounding's Influence on Patient Falls

by

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Dedication

This project is dedicated to the friends and family who have supported me amidst all the ups and downs. To my amazing fiancé Katie, and to our loveable dog Romeo, thank you for loving me through it all. I would not be here today without each and every one of you. Thank you.

Acknowledgments

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Abstract

The purpose of this DNP quality improvement project was to decrease patient falls on a 21-bed step-down telemetry unit in a Kentucky metropolitan hospital. This project implemented proactive toileting in conjunction with purposeful hourly nursing rounds. A pre-education survey was given one week before the education module, and a post-education survey was provided six weeks after the education module was opened. Pre- and post-survey scores were compared to assess any changes in staff's understanding of proactive toileting and project goals. Falls were measured, and compliance with proactive toileting was monitored in the electronic health record over an 8-week course. Compared to the previous eight weeks before starting this project, there was an 85.6% decrease in falls during the eight weeks of this project. Proactive toileting charting compliance improved by 4% overall, with an 387.5% increase in "*toileting scheduled."* As research into falls prevention continues to grow, this project highlights that well-designed falls prevention programs can decrease patient falls that may lead to more positive patient outcomes.

Keywords: Proactive Toileting, Purposeful Hourly Rounding, Falls, Urination, Risk Factors, Accidental Falls

Contents

Background Problem and Significance

Problem

The unit currently utilizes purposeful hourly rounding but is not incorporating proactive toileting into these rounds. Because there has been an increase in falls that occur when patients are toileting, purposeful hourly rounding can be strengthened by utilizing proactive toileting, an activity that in other studies has decreased patient falls.

Background and Significance

Injuries sustained from falling can be deadly for patients as well as costly for both patients and hospital organizations. This is due to the complex and expensive medical interventions following a fall. The World Health Organization (WHO) defines a fall as an event that inadvertently causes someone to land on the ground or at another lower level (2021). The incidence of falls increases with age, leading to almost 36 million older adults falling each year (The Centers for Disease Control and Prevention [CDC], 2020a). In the United States, falls are the leading cause of injury-related death in adults over 65, with 95% of hip fractures and most traumatic brain injuries (TBI) occurring after falls (CDC, 2020b, 2023).

The problems experienced by the hospital, resulting from patient falls, are negative financial impact and poor patient outcomes. Acute care facilities spend approximately $50 billion on treating complications of non-fatal falls each year (CDC, 2020a). In Kentucky, the area for this project, $651M are spent on falls making it a costly problem even at the local level (CDC, 2020a). A fall during a hospital stay can increase a patient's length of stay by 2.4 times, regardless of injury (Dunne et al., 2014). Furthermore, those who develop a fear of falling are more likely to have subsequent falls (Tran & Phan, 2017).

Fall prevention, which starts with and focuses on education and training, is critical for reducing fall-related injuries, increased lengths of stay, and preventable fall-related complications (WHO, 2021). With decreased falls, there are better patient outcomes, and there can be smaller financial burdens on patients and the healthcare system.

This DNP student (hereafter, the project leader) conducted a needs assessment that determined patients on this unit can benefit from a quality improvement (QI) project reducing toileting-related falls. The project leader created a program including task-specific training that proactively assisted with toileting, provided staff training, and ensured accurate documentation. Utilization of proactive toileting along with chart audits provides a validated method to identify risk factors and mitigate preventable falls in an acute care setting.

Literature Review

A comprehensive literature review was conducted with assistance from a librarian at the University of Louisville's Kornhauser Library. PubMed, CINAHL, and Ovid/ Medline were searched for studies and projects associated with toileting-related falls, yielding only three articles detailing toileting and fall prevention. The search was expanded to include purposeful hourly rounding and proactive toileting. Fridman (2019) defined proactive toileting as declaring to the patient that it is time to go to the bathroom rather than asking if they need to go to the bathroom, with the ultimate goal of preventing either a fall or episode of incontinence. With the addition of purposeful hourly rounding to the search, six additional articles surfaced. These articles were published between 2015-2022, and one article from 2013 offered such significant evidence that it warranted inclusion despite it being 10 years old. Each article was then placed in an annotative table and the evidence presented in these reports was graded using the Let Evidence Guide Every New Decision (LEGEND) tool (Cincinnati Children's Hospital Medical

Center, 2022). The LEGEND tool ranks every study on a scale from 1-5 and a-b. These rankings are categories that the research falls into. For example, if a study was to be 1, it would be classified as a systematic review. From there the reader can determine if the level of evidence/ quality is either A) Good Quality; or B) Lesser Quality, or no letter is given to indicate that the study is not valid, reliable, or applicable (Cincinnati Children's Hospital Medical Center, 2022). For example, a research article ranked at the level of 2b is a Randomized Control Trial (RCT) study of lesser quality. The utilization of this grading system ranked every article at a 3a or 4a, indicating good quality studies but not generating evidence at the level of an RCT or systematic review (Cincinnati Children's Hospital Medical Center, 2022).

Interventions

Purposeful hourly rounding is currently in place at this institution. According to Bustoz & Hernandez (2019), purposeful hourly rounding includes the "6 P's": pain, potty, possessions, positions, peaceful environment, and picking up trash. They define purposeful hourly rounding as staff visiting a patient's room every hour and addressing all 6 P's (Bustoz & Hernandez, 2019). This method is already in place at this hospital, but staff at this institution only address 5 out of the 6 Ps, omitting purposive toileting and substituting purposeful hourly rounding. Currently, registered nurses (RNs) purposively round on the even hours, and nursing assistants (NAs) round on the odd hours. Of the 5 Ps that are already addressed, charting for hourly rounding includes a *pain assessment* throughout the patients' stay. Documentation of *patient positions* has been prioritized to decrease the use of one position that leads to pressure ulcers. RNs also chart the details of a patient's environment *(peaceful environment).* Charting *possessions* is completed every two hours. Charting over a patient having an organized, clean room *(picking up trash)* is also charted at least every two hours. With charting on 5 out of the 6 P's taking place every two

hours within the facility, planning for the toileting (*potty*) portion of purposeful hourly rounding is warranted.

Hourly Rounding and Falls Prevention

For this project, the term *hourly rounding* is defined as a set time that nursing and nursing staff check on a patients' needs. Each study discussed below listed varying patient needs to check, and all indicated that hourly rounding could prevent patient falls.

Each hourly rounding study examined specific patient needs. Walsh et al. (2018) utilized *4 Ps* (pain, personal needs, position, and placement), Harden et al. (2013) implemented the *varying Ps* and focused on 5 of the Ps (pain, position, pumps, potty, and periphery), while Hutchings et al. (2013) used *Ps and Qs* (pain, position, personal care, prevention, plan of care, questions, and supplies). Fridman (2018) listed *4 Ps,* like Walsh et al. (2018), but explained the purpose and schedule used for hourly rounding to their patients. A unique acronym called *PEEP*, which stands for pain, elimination, environment, and position, was used by Brosey et al. (2015), allowing staff to recall easily what needed to be addressed during their rounds.

In all of the studies, only one did not directly list *potty* as a P to be addressed during hourly rounding. The discussion section, however, noted that toileting was essential for patients and highlighted that most falls occurred during toileting for patients. (Walsh et al., 2018)

All studies reported a decrease in patient falls using some hourly rounding acronym. Harden et al. (2021) indicated a 31% decrease in patient falls and a 50% decrease in injurious falls. A non-significant fall decrease from 3.07 to 2.22 per 1000 patient days and a slight decline in injurious falls, from 0.77 to 0.65 per 1000 inpatient days over 12 years, reported was seen in a study by Walsh et al. (2018) over a 9-year period. Walsh et al. (2018) showed a significant decrease in falls, (p= 0.009) when they implemented hourly assessments and mitigation on fall

risks. Goldsack et al. (2015) described a nearly significant drop in patient falls during their study (p= 0.059), and on an opposing unit without the intervention, there was no significant decrease in falls (p=0.799) (Goldsack et al., 2015). Studies by Brosey et al. (2015) and Hutchings et al. (2013) highlighted compliance with the intervention and a decrease in patient falls. Brosey et al. (2015) found a 69.4% compliance with hourly rounding and a significant (n=11, p=0.015) drop in inpatient falls.

Unique aspects of the studies by Brosey et al. (2015), Fridman (2019), and Walsh et al. (2018) highlight ways to implement purposeful hourly rounding specific to falls prevention. Brosey et al. (2015) examined compliance with their hourly rounding intervention. They set a goal of 80% compliance and assessed monthly staff compliance with hourly rounding and the total number of falls during the intervention by shadowing staff on the unit throughout the project and tracking how often staff utilized purposeful hourly rounding (Brosey et al., 2015). Hutchings et al. (2013) also noted that documentation of hourly rounding should be completed and examined how hourly rounding, which was tracked by charting compliance, impacted patient outcomes. Fridman et al. (2019) discussed assessing healthcare providers' compliance with charting purposeful hourly rounding within the EHR. Walsh et al. (2018) showed that incremental changes in established practices brought about an almost 28% decrease in falls. Hutchings et al. (2013) tied the success of their intervention to utilizing visual cues placed in patient rooms, such as setting and placing clocks, to note when they would return. This study reported a decrease in patient falls and also recommended patient rounding that intentionally focused on toileting needs to positively impact falls prevention (Hutchings et al., 2013).

Proactive Toileting

The evidence indicates proactive toileting can decrease falls. In the studies conducted by Schmutter et al. (2021), Swenson et al. (2019), and Rassmusen (2022), proactive toileting was utilized with purposeful hourly rounding. Each study reviewed how proactive toileting can decrease both falls related to toileting and overall unit falls. From July to November 2018, Schmutter et al. (2021) reported 153 days with no falls and a fall rate below the hospital average. Swenson et al. (2019) reported a 50% decrease in patient falls and 65 days without a fall, and Rassmusen (2022) reported a statistically significant (p=0.046) decrease in rates of falls for one out of the two units in their study.

Proactive toileting is defined in all three studies as not asking patients whether they need to use the bathroom but declaring to them that it is time to use the bathroom. Rassmusen (2022) emphasized that open-ended questions about incontinence and bathroom usage should no longer be utilized during purposeful hourly rounding, and that closed-ended statements should be adopted. Swenson et al. (2021) used closed-ended questions, having staff declare it was time to use the bathroom with their patients and also indicated that open-ended questions, such as asking patients *if* they needed to go to the bathroom, was not beneficial in hourly rounding.

The Swenson et al. (2019) intervention was distinctive in that they scheduled toileting times with patients and declared to the patient twice during dayshift and twice during nightshift that it was time to use the bathroom. On patients who were identified as high risk for falls, Schmutter et al. (2021) and Rassmusen (2022), utilized proactive toileting every two hours regardless of shift times. Swenson's et al. (2019) use of scheduled toileting also took place when patients refused to go the bathroom during established shift times. As a result, Swenson et al. (2019) reported a 50% decrease in patient falls. Fridman et al. (2019) used statements such as "It is time to use the bathroom. Let me assist you." to help patients who are cognitively impaired

with toileting, and as a result, reported a decrease in patient falls from 3.28 to 1.73 per 1000 patient days.

Each study focused on staff compliance with proactive toileting. Schmutter et al. (2021) utilized the EHR at their facility to measure compliance, noting in the EHR when staff took patients to the bathroom and indicated a reason if they didn't toilet the patient, such as patient refusal, forgetting/ distracted, or staffing issues (Schumtter et al., 2021). Rassmusen (2022) and Swenson et al. (2019) were able to compare compliance with their interventions and the effects on fall rates as well but utilized an additional documentation sheet that was not a part of the patient's EHR. Rassmusen (2022) measured compliance and found a significant (p<0.001) link between days where more proactive toileting logs were completed and a decrease in patient falls.

Summary

The evidence indicates there are multiple ways to manage falls prevention in an acute care setting. The studies conducted by Brosey et al. (2015), Goldsack et al. (2015), Harden et al. (2021), Hutchings et al. (2013), and Walsh et al. (2018) demonstrate that purposeful hourly rounding decreases patient falls. Of all the studies reporting a decrease in patient falls, only Brosey et al. (2015) reported a significant drop in patient falls. Studies conducted by Schmutter et al. (2021), Swenson et al. (2019), Rassmusen (2022), and even Fridman et al. (2019) noted a decrease in patient falls when purposeful toileting is incorporated in addition to hourly rounding. These studies reported statistically significant drops in patient falls and longer hospital days without falls than when compared to the studies above, with Schmutter et al. (2021) reporting the longest streak of days without a fall being 153 days. Schmutter et al. (2021) and Fridman et al. (2019) both indicate tracking compliance through the EHR or on a separate log sheet improves proactive toileting by staff. This evidence shows that purposeful hourly rounding, when

implemented with proactive toileting and tracking compliance, can reduce patient falls better than when they are used independently of each other.

Rationale

Needs Assessment

The project leader conducted a needs assessment for falls on a 21-bed, step-down, telemetry unit. This unit reported 15 patient falls from October 2021 to February 2022, and 9 out of the 15 patient falls occurred during ambulation to the bathroom. The unit manager and clinical outcomes RN noted an upward trend in the number of falls over previous months. When reviewing the reasons behind the falls during this period, the evidence indicated that 60% of the unit falls were related to toileting. Toileting-related falls occurred when the patient lacked assistance to the bathroom, had an episode of incontinence, or fell on the way back from the bathroom. Additionally, four RNs and three NAs that worked on the unit reported uncertainty about the reasons for the increase in falls. The staff expressed concerns about limited staff and time with patients and discussed that fall prevention measures included bed alarms and call light usage.

The project leader's needs assessment indicated a quality improvement project could reduce falls related to assisting patients with their toileting needs. A meeting with the education department confirmed that any intervention had to be of low cost to the hospital and still be effective. After a literature review, this project leader met with the unit manager, who approved the use of proactive toileting in conjunction with purposeful hourly rounding on the unit. This proactive toileting project brings no cost to the hospital and requires no upward adjustment for staff ratios to enhance purposeful hourly rounding with proactive toileting.

Conceptual Framework/ Model

The project model, the model for improvement, allows for a team approach not to only identify a problem but formulate ways to resolve the problem (Institute for Healthcare Improvement [IHI], 2023). The model for improvement describes rapid cycle quality improvement ideal for projects similar to this project (IHI, 2023). The model for improvement guided the project team's project design, goal setting, measures, and desired outcomes.

Purpose & Specific Aims

Purpose

The purpose of this quality improvement project was to decrease patient falls. This was accomplished by providing staffs proactive toileting education, teaching staffs where to chart this in the EHR, and monitoring their compliance in the EHR. From there data collection over falls and charting were completed over an eight-week period.

Project Aim

This project aimed to (1) improve patient falls prevention with an outcome of lower fall rates, and (2) place the patient at the center of change to fill a toileting (i.e., potty) practice gap in the 6 Ps of hourly rounding (Bustoz & Hernandez, 2019). To meet the project aims, this project utilized the S.M.A.R.T. objectives that are **S**pecific, **M**easurable, **A**ttainable, **R**esult-driven, and delivered within a **T**ime frame (Kinch, 2020)

S.M.A.R.T. Objectives

S.M.A.R.T. is a process developed to break down aims and goals and to foster continuous improvement (Kinch, 2020). The use of this process aided the development of objectives to reach project aims. The first objective for this project fell in line with aim number one, reducing

toileting-related, patient fall rates, with an objective of decreasing these types of falls by 50% at the end of the 8-week project.

Aim number 2 placed the patient at the center of care since staff worked to decrease patient falls through hourly rounding and proactive toileting, which increased the chance for positive patient outcomes. Staff compliance with this project, ensuring that staff proactively toileted patients during their rounding, was monitored in the EHR.

Process Model

The IHI (2022) Model for Improvement utilizes the Plan-Do-Study-Act (PDSA) cycle to guide a team through solution-seeking. During the cycle's planning phase, the project team met and discussed how to implement the change to transition to the do phase (IHI, 2022). In the *do phase*, the team carried out the plan and completed the implementation of their project. The next phase is *study*, where the team examined the results derived from the previous phase, leading the team to develop conclusions and recommendations. In the final phase of the cycle, the team utilized the results and recommendations from the previous segment to begin another PDSA cycle. These cycles can continue to refine the intervention planned by the team, guiding the next group that may take over during subsequent PDSA cycles. Depicted in Appendix A is the incorporation of the PDSA cycle into the Model for Improvement framework.

Methods

Design

This DNP QI project is a series of systematic actions that improve health services and outcomes of patients in a measurable way (Kelly, 2022). This project aimed to decrease patient falls by utilizing a systematic approach to support proactive toileting and measure proactive toileting's impact on patient fall rates. A QI process was best for this project because it used best

evidence and allowed immediate project changes to adjust to patient and staff responses. The project measured how patient outcomes are impacted by the intervention.

Setting

The setting for this project was a 519-bed hospital in the greater Louisville, KY, metropolitan area. The specific unit was a 21-bed, post-surgical, transitional care, inpatient unit with telemetry monitoring, specializing in bariatric and colorectal surgeries. The number of falls reported on this unit had increased, many of which were found to be related to toileting. Purposeful hourly rounding was policy in this facility; therefore, the use of current, enhanced practices such as proactive toileting implemented during hourly rounding can provide patients with better outcomes, such as decreased falls. This facility is also a Magnet-designated facility, striving for great patient outcomes by utilizing evidence-based practice changes and promoting nursing excellence.

Sample

The sample size for this project consisted of 47 RNs and direct patient care NAs on this unit. The unit has the capacity for 21 patients, and the RNs on the unit are responsible for four to five patients each during their 12-hour shift. Since the facility focuses on purposeful hourly rounding and is a standard that every employee is held to, both RN and NA staffs utilize proactive toileting and thus will both be impacted by the intervention directly. Indirectly, patients were impacted by this intervention. Participants were recruited by way of verbal invitations, flyers placed on the unit, and via email (Appendix B, C, and E). While no staff were required to participate, participation was encouraged by this project leader and the unit manager. Inclusion criteria for participants was any staff who worked on the unit in the role of RN or NA and had to

be over the age of 18. The goal was to have every RN and NA on every shift utilize proactive toileting during purposeful hourly rounding to reduce patient falls.

Context

During a needs assessment with the unit manager, the number of unit patient falls was a major concern. A review of the events leading up to the falls indicated that many falls were related to patient incontinence, ambulation to the bathroom, and other reasons associated with a patient's toileting needs. Though the events leading up to and following falls were detailed on a spreadsheet, no clear solutions surfaced. A needs assessment was then completed with key project stakeholders, including the unit manager, nursing staff, the education department, and clinical outcomes RN. The needs assessment surfaced "time" as one of the biggest barriers. Staff voiced their concerns about patients falling, indicating they felt they did not have enough time or staff to prevent falls. Staff reported that they are already feeling the strain from low staffing numbers and a high patient census. Low staffing levels limit the time they spend with patients and conduct hourly rounding. To negate the pressure that increased time staff spent assisting patients to the bathroom, staffs were made aware that a decrease in patient fall rates would provide staff additional time to focus on other patient care needs. When a patient falls, there is time that must be spent assisting that patient back from the floor, assessing them for injuries, calling the provider, and treating any injuries that may have been sustained, along with documentation of the event. Not having a fall means more available time to carry out other nursing duties.

Another barrier that was present was the number of travel RNs on the floor. There was concern expressed that, because of the transient nature of traveling RNs, strategies needed to be put in place during project implementation to ensure they received the same training knowledge

as permanent staff. For traveling staff, the education that was provided to permanent staff also remained available on the unit throughout the duration of the project so that traveling nurses, who entered service at any time during the project, could be educated on proactive toileting. Traveling RNs, as with permanent staff, were also required to sign that they reviewed the education at the end of the module.

A review of hospital policies and procedures was completed, and the culture of the hospital was discussed. Many factors supported change on this unit. The facility participates in the doctrine of Just Culture, which is defined as an organization-fostered environment that takes into account system causes of error in the fair treatment of employees (Brigham and Women's Faulkner Hospital, 2022). The environment for change was fueled not only by staff and Just Culture but by the many different hospital committees supporting change. From the Shared Governance Council all the way to the Skin Team (a hospital-wide, professional group whose goal is to find ways to reduce pressure injuries sustained by patients), the facility supported voices being heard and change being enacted. For this project, teams such as the Shared Governance Council, whose aim is to get staff's concerns about any matter heard, and the Falls Prevention Team, which looked at ways to decrease falls hospital-wide, were good facilitators for change. While the Skin Team was neither a facilitator nor a barrier for this project, the team is just an example of a group that makes positive patient outcomes with the aid of hospital staff. Other facilitators for change were the education department and unit manager. Having support from the manager and educator encouraged the staffs to use the proposed change and know that everyone was working towards a unit-supported goal of decreased falls.

Champions of the intervention consisted of unit staff volunteers who desired to make this change a positive one for patients and staff alike. These selected champions became leaders for

staff and peer-modeled the use of proactive toileting, leading the unit towards the goal of decreased patient falls. The champions allowed this team leader to speak during every morning huddle and reinforced the project goals during their shifts.

The feasibility of this project was assessed by this project lead, unit manager, and the education department. It was found to be feasible because no additional funding was required of the facility and because success relied on staff behavior changes. Both the unit manager and education RN for the unit supported this project.

Stakeholders

RNs and NAs played the biggest roles in this project as they implemented this change. The unit manager, also a key stakeholder, supported and empowered the staff to use proactive toileting and ensured that the team was working towards the goal of patient fall prevention. The clinical outcomes RN collaborated with the project lead to perform chart reviews and report patient falls. The education department was another stakeholder, who ensured that the staff educator was providing knowledge not only about proactive toileting but how proactive toileting connects to purposeful hourly rounding and the hospital's vision and values. The facility clinical informatics team (CIT) was also another stakeholder. The CIT developed changes within the EHR and was a resource for staff EHR documentation questions. This team also developed a way to audit patient charts without the need to access any patient or staff information.

Procedure/Project Implementation

Plan

The planning phase of the PDSA cycle led to development of the project's aim to decrease patient falls (Appendix A). The team predicted that a proactive toileting practice change would lead to 50% fewer toileting-related falls on the unit over an eight-week period. The team

also theorized that an 80% increase in the rate of charting on proactive toileting in the EHR would lead to less falls. The plan for cycle one is this project as described herein. This project took place over eight weeks.

This QI process started with a survey of staff knowledge of purposeful hourly rounding, the importance and process of proactive toileting during these rounds, and knowledge of EHR toileting documentation. A survey measured pre-education proactive toileting knowledge and was provided two weeks prior to opening of the educational module. A post-education survey with the same questions assessed staff's knowledge gained from the educational module the last two weeks of the project, ensuring the post-survey took place after the educational module had been completed. The survey, created by the project leader, used evidence from the literature review, current facility practices, and was pilot tested by the unit manager, fellow doctoral students, and the unit educator. Pilot testing established question clarity to ensure questions were relevant to the education module. Submissions for this pre- and post-educational survey were checked weekly by this project leader to make certain staff correctly entered demographic data and answered the survey questions completely. The survey was provided through Microsoft (MS) Forms, a customizable survey creation tool that is available through the hospital's MS Office 360 subscription. To prevent staff from sharing personal information and so that an individual's pre- and post- survey scores could be compared, this project leader asked staff to identify themselves using a unique 4-digit identifier of an easy-to-remember phone number of someone other than the survey taker on the pre-and post-survey.

The project education module was delivered in the form of a self-lead module through DevelopYou, the learning management system (LMS) of the hospital. According to Bastable (2008), a self-lead module is most effective when learning new information and applying it in

practice. Bastable (2008) highlights that the self-study teaching technique, while cost-effective, is limited by the literacy of the individual completing the material as well as by procrastination in completing the material. Therefore, the learning module afforded staffs the ability not only to self-study but return to the module at any time for reminders. The education module was made available to staff one week prior to the start of the project. This time allowed for any knowledge gained from the module to be fresh in staff's mind and allowed for a deadline for staff module completion. Module completion was tracked by the unit educator, comparing the number of staff on the unit to the number of staff completing the module at the end of the eight-week project. The module contained education on the practice of purposeful hourly rounding enhanced with proactive toileting. Included in the module content was the importance of using proactive toileting to decrease toileting-related falls. Additional educational material for staff included verbal scripts (Appendix B) placed around the unit during the time of the project. These scripts contain phrases that allowed staff to be more proactive in discussions with patients about their toileting needs. A visual prompt was created to provide direction for documenting the intervention in the EHR (Appendix D).

Continuing with the project planning phase, the team discussed ways to assess the number of unit falls and evaluate staff compliance with proactive toileting. The team tracked compliance by monitoring staff proactive toileting EHR charting, even though EHR charting does not mean that the intervention was carried out. The team discussed what EHR compliance would look like, and that *safety promotion* and *daily cares rows* in the Epic EHR would be filled out by a staff member to include either toileting scheduled, ambulation to the bathroom, ambulation to the bedside commode, or patient-refusal of activity (Appendix D). The team decided to assess if one of these patient comments were selected at least every two hours. The

team assigned the project leader to assess compliance once a week during a retrospective chart review of every patient on the floor. The project leader and a member of the clinical informatics team developed a plan to ensure no patient information or staff information would be present during the retrospective chart reviews.

This project leader and the clinical outcomes RN developed a plan to assess unit falls. A unit fall report containing number of falls, number of falls with injury, and cause for the fall was developed and run in Qlik, a software reporting system used to harvest data from the EHR. The clinical outcomes RN monitored this report weekly to ensure patient or staff information was removed.

Before the pre-survey was made available to staffs, this project leader placed flyers (Appendix C) around the unit inviting staff to participate in the QI project and survey. An email was also sent to the staff via the unit manager, inviting participation in the pre- and post-educational survey (Appendix E). Utilizing the same staffs for each avenue of data collection ensured the accuracy and completion of the collection.

Team members kept staff engaged with the project over the 8-week course. The project leader delivered weekly updates during the staff's designated huddle time, consisting of the number of falls and rate of unit charting compliance for that week. These measures were also placed on the unit's centrally located huddle board. This unit's huddle occurred daily at 7 AM and consisted of staffs reviewing topics on their huddle board. The number of falls is already a topic on the board, and this project leader placed proactive toileting compliance for review on the huddle board. Both day and night shift staff were in attendance at the daily huddle.

A retrospective chart review eight weeks before project implementation assessed proactive toileting and was conducted by the clinical outcomes RN and the project leader, with assistance

from the clinical informatics technology team. A report was generated that excluded patient and staff identifiers and indicated how often the unit is charting any toileting activities in the *safety* and *daily cares* sections in the EHR. This report specifically provided toileting scheduled, bathroom ambulation, bedside commode ambulation, or patient refusal of activity.

Measures

To achieve this QI project's outcome measure of decreased falls, the number of falls in the eight-week period before the intervention was compared to the number of falls during the 8-week-long period of the project to assess effects on falls.

Proactive toileting compliance was a process measure for this project, indicating how successful the proactive toileting project is on the unit. Although charting does not mean proactive toileting was carried out, this method was the best way to assess compliance for the project. This measure was assessed during weekly chart audits by this project leader.

Staff pre-and post-education surveys were another process measure. This survey assisted the project team to understand whether the educational module provided to staff educated staff about proactive toileting. This survey also collected demographic data including age, race, job title, day or night shift work, and the highest level of education obtained.

Budget and Supplies

RNs, NAs, clinical informatics personnel, education department RNs, the clinical outcomes RN, and this project leader were all utilized for this project, and their salaries are included in their usual work duties. Materials for this project included a self-study module in DevelopYou, an MS Forms survey database, Qlik list report, Statistical Package for Social Sciences (SPSS), and candy made available to staff upon completion of the pre-and post-survey and throughout the 8-week project. The DevelopYou education proactive toileting module was

available at no cost through the facility's learning management system and was completed by staff during their shift, which prevents staff from having to be paid to complete this education. The facility provided the MS Forms survey database, which is part of the MS Office subscription available to all employees through the hospital. The use of SPSS is provided by this project leader and is a part of the DNP fees and tuition for the academic program. The candy incentive available to staff throughout the 8-week project totaled about $100 and was paid by this project leader to show appreciation to staff for participating in the project.

Ethical Considerations

This project was submitted to the University of Louisville Institutional Review Board (IRB) for ethical oversight. This project leader completed the Collaborative Institutional Training Initiative (CITI) training in preparation for this project's ethical conduct. HIPAA standards were upheld for patients during this project by not accessing any patient data unrelated to the current project. Staff participating in the project did not have to reveal any personal data for this project. The project also received approval from the unit manager and the Nursing Research Oversight Team, which provides approval and oversight of all projects conducted in this facility.

The report on EHR staff charting compliance was generated on an encrypted computer at the facility, accessible through a hospital-provided ID and password. The electronic report files were stored on a single user, password-protected laptop owned by the project leader. An Excel spreadsheet detailed falls that occurred on the unit and contained no patient identifiers but did include names of staff who were involved when the fall took place. This report was stored on the same password-protected, single-user laptop. For the collection of pre-and post-survey results, no personal staff identifiers were attached to the information in the electronic file; instead, a unique 4-digit random code was added to match survey responses to the pre- and post-survey responses.

Do

The *do phase* of the PDSA cycle was the project implementation by the project leader, team, and staff (Appendix A). This project leader placed flyers around the unit two weeks leading up to the project inviting staff to participate in not only the project but survey as well (Appendix C). The unit manager sent an email to staff during this same time (Appendix E), allowing staff multiple avenues of invitation to the QI project. At the end of two weeks, staff were assigned the educational module that provided purposeful hourly rounding, proactive toileting, and effective use of proactive toileting phrasing education. Within that education, there was guidance on where to chart the outcome of utilizing proactive language with toileting needs. Staff were taught that in the EHR, *safety* and *daily cares row* charting was the place to chart ambulating the patient to the bathroom or bedside commode, scheduling toileting, or the patient refusing toileting (with reason) (Appendix D).

The use of proactive toileting was initiated, compliance was tracked in the EHR, and simultaneous tracking of the number of falls on the unit was completed. Reminders of the project goals and additional guidance over charting was made available through the morning huddles. During the huddles, this project lead spoke with staff regarding the project and answered questions. Additionally, visual chart cues (Appendix D) were placed around the unit.

During the eight-week project, staff utilized statements found on the verbal scripts, such as "While I am here, let's try and go to the bathroom," and "I will be back for another safety round in 2 hours, but your nurse/assistant will be here in 1 hour, and you should try going to the bathroom at that time". Staff also charted the outcome of using these statements in the EHR. The charted results included either the patient using the bathroom or the bedside commode, patient refusal to be toileted, or patient scheduling a time with staff for toileting needs.

During the eight-week project the unit educator and this project leader met several times to discuss ways to improve both staff's compliance with the project actions and understanding of where to document these activities. In the first week a chart audit revealed that staff were not charting toileting interventions on patients. The project leader followed up by reinforcing charting measures and encouraging EHR charting at every subsequent morning huddle that week.

Results

Study

Data Analysis

Upon project completion, data were analyzed with SPSS version 29.0.0.0 and MS Excel. This data consisted of the number of falls eight weeks before as well as during the intervention, demographic data obtained from the surveys, and pre- post-knowledge survey to note the level of staffs' knowledge with proactive toileting. Data analysis also included an assessment of the rate of compliance for proactive toileting that came from the EHR charting.

Demographic data collected from the surveys was displayed using descriptive statistics. To describe the staff, demographic data included gender, race, age, shift worked. Survey responses before and after the education module administration were compared to see if there was any change in proactive toileting knowledge.

How often staff charted proactive toileting interventions eight weeks prior to the project was compared to the frequency of charting this intervention during the project. Compliance indicated whether the charting habits differed between the pre-and post-project groups. The rate of falls was calculated for the eight weeks leading up to and during the project. These rates were compared utilizing an independent *t*-test. According to Pallant (2020), an independent *t*-test can be utilized to compare scores of two different groups of scale (interval or ratio) level data.

Results

Data collection started eight weeks before this project's initiation and consisted of assessing the number of falls that occurred and charting trends of toileting interventions to assess the number of falls that occurred prior to staff's knowledge of proactive toileting. The first aim for this project was to decrease the number of unit falls, and the second aim was to have staff utilize the *potty* aspect of the *Six Ps* of purposeful hourly rounding. In the eight weeks leading up to the project, the floor sustained seven falls, with none resulting in injury. A chart review completed at the same time assessed the number of times staff charted toileting measures during their hourly rounding, noting that staff charted *ambulated to the bathroom* 560 times, *up to bedside commode* 199 times, and *toileting scheduled* 8 times.

Twenty staff (42.3%) completed the pre-education survey, which was followed by proactive toileting education. A total of 36 of the 47 (76.6%) eligible staff completed this DevelopYou module. Eight employees started the module and did not complete it, resulting in 44 employees (93.6%) accessing the course. Staff characteristics indicate that the pre-education survey group was 75% female, 70% white, worked the night shift (55%), and in the 26–33-year-old age group (Appendix F).

Upon completion of the education module, staff were asked to take the survey again. Only eight staff members completed the post-education survey, and only two of those eight, as detected through their unique identifier, also took the pre-survey. Their demographic breakdown consisted of 100% females who were 75% white, mostly working day shift (87.5%), and making up both the 26-33 and 42-49 age group (Appendix G). Thus, there are obvious differences between the pre- survey and post-survey groups.

Because so few matched pairs occurred with the pre- and post-survey results, and because so few staffs took the post-survey, comparison of these groups could only be made with descriptive statistics. The pre- and post-education survey results indicated a small improvement of proactive toileting knowledge. Post-education survey demographic data revealed that 100% of participants understood the hours staff were to round, while only 90% answered correctly prior to viewing the education module (Appendix H). Variation was seen with responses to what the 6P's stood for in the pre-education survey with 55% of staff answering correctly, while in the post education survey 62.5% of staff answered this question correctly (Appendix H). Charting knowledge also increased by 7% when comparing staff responses regarding the location in the EHR of where to chart *ambulated to the bathroom*.

During the eight-week project, weekly chart audits were performed, finding that staff charting behavior changed. Staff charted *ambulated to the bathroom* 531 times, *up to bedside commode* 232 times, and *toileting scheduled* 39 times. There was one fall reported during the first week of project (week nine) resulting in injury. The rate of falls is calculated each week using the equation *number of falls per week* divided by *number of occupied beds for the week*, multiplied by 1,000 patient days. This equation is used by AHRQ: (2023) number *of falls per month* divided by *number of occupied bed days for the month* all multiplied by *1,000 patient days*. Figure 1 (Appendix I) depicts weekly falls rates compared to charting behaviors. During week seven of the pre-project phase, the unit sustained the most falls at a 13.60% fall rate for the week. During weeks 9-16, the unit sustained a 0% fall rate.

When comparing the falls rates prior to and during the project, there was an 85.6% decrease in patient falls (p=0.011). Charting proactive toileting intervention outcomes increased by 4.4% overall, failing to meet the project goal of 80% increase as predicted. However, two of

the three individual charted toileting categories increased: *ambulated to the bathroom* decreased by 5.2%, *up to bedside commode* increased by 16.6%, and *toileting scheduled* increased by 387.5% (Figure 2, Appendix J). The decrease in falls was an expected finding as well.

One unexpected finding came from staff feedback detailing how nightshift could better use this intervention while not waking patients for every two-hour toileting. This led to more open discussions during huddle times about scheduling toileting times with patients when they were ready for bed. This feedback also led to praise over the terminology change, and several staff members reported that this intervention assisted them to interact with their patients. Another unexpected finding came from charting as the staff utilized scheduled toileting more often with their patients, there was a dramatic decrease in falls.

The biggest barrier to this project was time, a barrier that was predicted prior to the project implementation and which remained a constant throughout the project. Having ample time to help patients with their toileting needs was a barrier along with charting any toileting interventions. Charting *toileting scheduled* was new to staff and locating where this option was in the EHR was a learning process. Facilitators for this project came from the time this project leader came to the floor and interacted with staff. This project leader attended most unit huddle times throughout the eight weeks, fielding questions from both day and night shift staff and providing reminders from the same person every time. Another facilitator was the nightshift education RN and the unit manager who both supported staff to use the intervention, providing another avenue for staffs to seek answers to their questions beyond the project lead.

Discussion

The main objective of this project was to decrease patient falls. This was accomplished by using evidence-based, purposeful hourly rounding and emphasizing the *potty* aspect through

proactive toileting. There was a decrease in the overall rate of falls and an increase in the use of proactive toileting. The number of times staff charted the outcomes of using proactive language with patients about toileting increased overall, with the most considerable change coming from toileting *scheduled* with a 387.5% increase in charting rates.

Act

Interpretation

The use of proactive toileting led to fewer falls over the eight-week timeframe. This intervention increased staff's knowledge about fall prevention measures, decreased the fall rate by 85.6%, and ultimately saved patients and the facility time and money. As previously discussed, Kentucky alone spends $651M on falls each year. In a study conducted by Stevens & Lee (2018), an average savings of $94-$442 million in direct medical costs was realized through a single fall prevention intervention; however, this cost savings depended on the size of the eligible facility population. By decreasing the rate of falls, patients will have shorter hospital stays and fewer chances of experiencing other preventable adverse events.

During this project, there was an 85.6% decrease in patient falls, along with a 4.6% increase in charting over toileting. The decrease in falls surpassed that of the hypothesized 50% decrease. However, the increase in charting behaviors did not meeting the predicated 80% increase. While one aspect of the charting, *toileting scheduled*, saw a dramatic increase of 387.5%, the goal was an overall compliance of 80%. Charting *ambulated to the bathroom* decreased from 560 to 531, and *up to the bedside commode* increased 199 to 232 (Figure 1, Appendix I). The decrease in charting *ambulated to the bathroom* may be tied to the patient population. Eight weeks prior to the intervention, the patient population may have needed more assistance ambulating to the bathroom. The patient population during the project may have

required more assistance to the bedside commode or may have been younger and less prone to falling while ambulating to the toilet than the patients prior to project implementation. Finally, staff may not have charted toileting interventions early in the project implementation (week 9), lowering the number of charting times of this category. Staff may have utilized proactive terminology when talking with patients, assisting them to the toilet or bedside commode, but may not have taken the time to chart this action.

The survey responses by staff revealed an increase in not only knowledge of documentation but understanding of proactive toileting and purposeful hourly rounding. During the post-education survey staff saw a 15% increase in knowledge of proactive toileting terminology (Appendix H). This survey also showed that there was a 10% increase in staff understanding the hours each staff rounds, along with a 7.5% increase in knowing where to chart *ambulated to the bathroom* (Appendix H). These increases in knowledge indicate that staff did gain understanding from the DevelopYou module that was provided to them.

Throughout the course of this project, only one fall was reported, which took place during the second day of the first week of project implementation (week 9) during education module delivery. However, neither this project leader, the manager, nor the nightshift educator had appeared on the floor talking about proactive toileting. Subsequently, following input from the project leader, manager, and night shift educator and completion of the education module by 93.6% of the staff, no additional falls occurred. While the intervention may have played a significant part in decreasing falls, patient population may not be ruled out as a cause. A younger, or more mobile patient population could have also led to a decrease in falls.

Similarities can be found between this project and those completed by Rassmusen (2022), Schmutter (2021), and Swenson (2019). A decrease in patient falls was noted in one unit of the

study conducted by Rassmusen (2022) where the use of proactive toileting was tracked. Results similar to the Rassmusen (2022) study relied on incorporation of purposeful hourly rounding and proactive toileting, clearly finding a significant decrease in rates of falls (p= 0.046). Purposeful hourly rounding and proactive toileting led to decreased falls rates.

Swenson et al. (2019) discussed how chart monitoring and adherence measures decreased patient falls. This project utilized patient chart monitoring and reinforcement of adherence throughout to assess use of the project intervention. While Schmutter et al. (2021) relied on staff knowledge of the intervention, during this project, the longer staff were exposed to proactive toileting and had opportunities to ask questions and engage with this project leader, fewer falls were sustained.

While this project cost nothing for the facility to enact, it should be noted that the time of this project leader was an untraceable expense experienced in this project. Attending most unit huddles took time and effort on this project leaders' part and may have greatly assisted in staff's compliance with and understanding of proactive toileting.

Limitations

This project comes with its own set of limitations. This project was performed on one unit with a small sample size of staff and a small subset of patients that may or may not be similar on other units and in other facilities. Therefore, these results are not generalizable outside of this unit. A second limitation came from the time involved with charting proactive toileting on all patients every two hours, with staff potentially not having or taking time to chart their toileting behaviors. There may have been instances where staff did not chart proactive toileting, thus charting rates are not accurately known.

One potential weakness in the data analysis is that no statistical analysis could be completed tying the use of proactive toileting with the decrease in patient falls. Causality cannot be made because the patient who fell is not known (to protect confidentiality) and thus their proactive toileting charting data is not known. Another weakness comes from retrospective daily patient census tacking. Patients come and go throughout the day, leading to fluctuating census numbers. Despite the fluctuation of unit census numbers, this census data was collected only at one set time in the day by this project leader. Therefore, census numbers may not be completely accurate.

Conclusions

The conclusion of this project ends the first PDSA cycle. The PDSA cycle can be repeated to allow for adjustments within the project. This project was considered useful by the unit manager and staff. Staff feedback after the completion of the eight-week project showed their willingness not only to use the intervention but to add it to their practice moving forward. The unit manager estimated usefulness through the decrease in patient falls, resulting in a

financial savings from not treating patient injuries that were prevented by stopping them from falling.

This project can continue to be sustained through incorporation of proactive toileting in the purposeful hourly rounding already in place at the facility. Adding proactive toileting knowledge into the current purposeful hourly rounding practice can also be implemented facility wide. If this project site continued incorporating proactive toileting into their policies and procedures, utilizing their dedicated falls prevention group and quality outcomes teams would be necessary. These groups could rely on each other not only to shape the intervention but to meet staffs' needs, answer questions, and be present during huddles to support staff in the same way the project lead did in this project. Finally, this project could have a more accurate method for assessing proactive toileting other than EHR monitoring. As Rassmusen (2022) indicated, having an electronic way to track usage of proactive toileting would be beneficial. This project may have more benefit by having an additional way to track usage along with the use of the EHR.

This QI project took place on one unit with to a small sample size for results. While a decrease in falls was noted, further proactive toileting research on a larger scale needs to be completed to verify results of this project. Overall research into fall prevention measures is ever ongoing and needs to remain so to develop effective fall prevention programs that are individualized for facilities and units.

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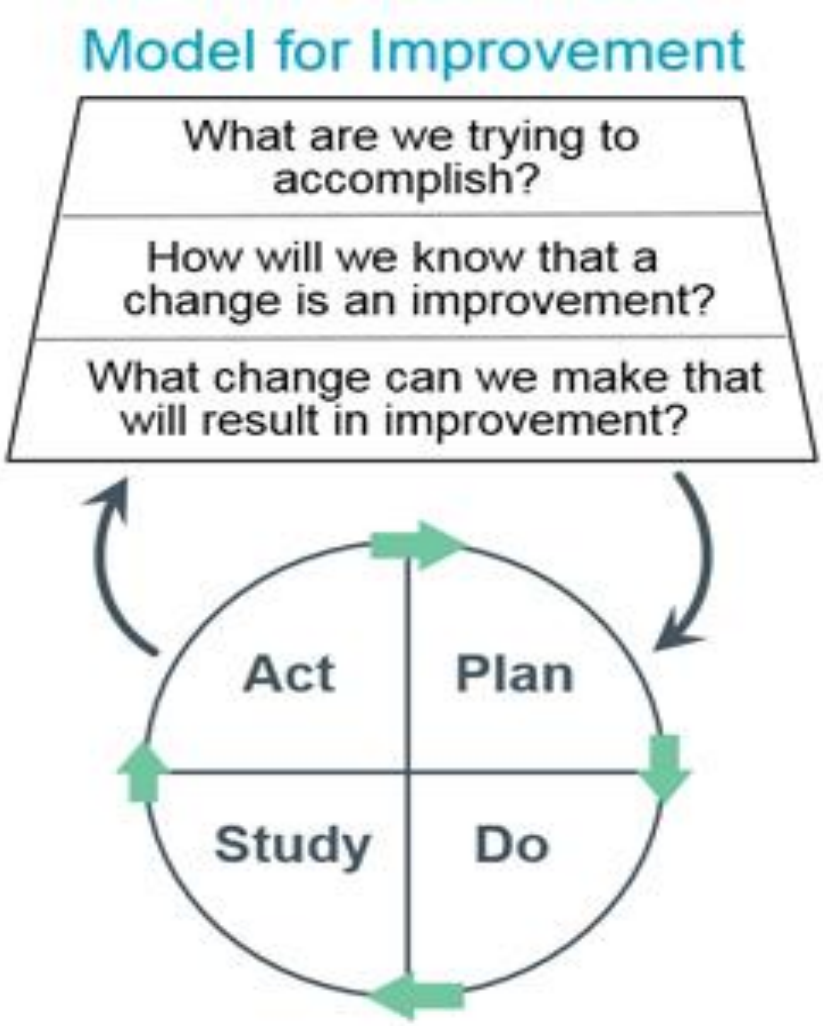
Appendix A

Model for Improvement Integration into PDSA Cycle



Appendix B

Verbal Scripts for Staff

Proactive Toileting

Try This

"Hi, I am here to take you to the bathroom."

Refusal:

"Okay, I will be back in 2 hours. Someone else will be back in 1 hour and you should try going to the bathroom at that time."

Try this:

"While I am here let's try and go to the bathroom."

Refusal:

"Let's try and go to the bathroom the next time someone is in your room to help."

Proactive Toileting

Try This

"Hi, I am here to take you to the bathroom."

Refusal:

"Okay, I will be back in 2 hours. Someone else will be back in 1 hour and you should try going to the bathroom at that time."

Try this:

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Proactive Toileting

Try This

"Hi, I am here to take you to the bathroom."

Refusal:

"Okay, I will be back in 2 hours. Someone else will be back in 1 hour and you should try going to the bathroom at that time."

Try this:

"While I am here let's try and go to the bathroom."

Refusal:

"Let's try and go to the bathroom the next time someone is in your room to help."

Appendix C

Proactive Toileting Flyer

Proactive Toileting: Strengthening Purposeful Hourly Rounding and the Influence on Patient Falls

You are invited to participate in a quality improvement project by completing a survey and educational module on proactive toileting.

The information you provide will ensure education over proactive toileting was effective and detail if this intervention can reduce patient falls.

You are eligible if you are:

- an RN or NA on the unit
- 18+ years old

The online survey is confidential and completely voluntary and, will take about 5 minutes to complete.

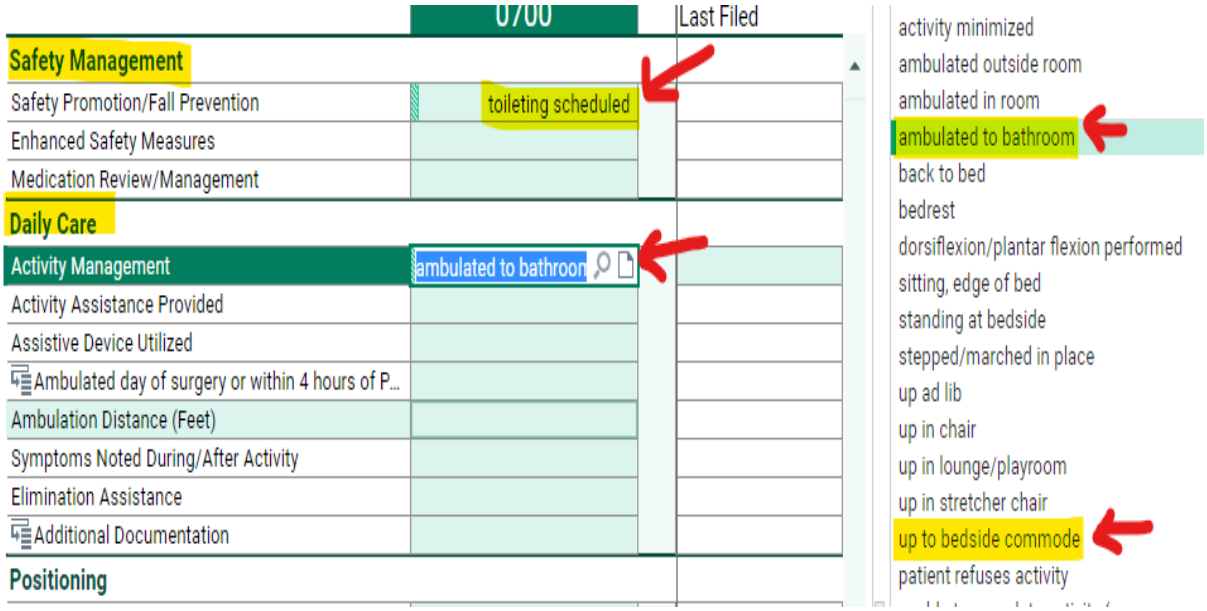
You can complete the survey at work on MS Forms by clicking the link or scanning the QR code:
https://forms.office.com/r/K24W8zY5Wb

The survey will be open and online from _____ and _____

For questions, or more information, contact: Brittany Pollock or Dr. Paul Clark
Phone: 502-852-7405
Email: b0poll01@louisville.edu or paul.clark.1@louisville.edu

Appendix D

EHR Charting Example



Appendix E

Email to Unit Staff

First Survey Email Correspondence

You are invited to participate in a quality improvement (QI) project entitled "Proactive Toileting: Strengthening Purposeful Hourly Rounding and the Influence on Patient Falls." This QI project is being undertaken as part of a Doctor of Nursing Practice (DNP) program at the University of Louisville. The Project Lead is Brittany Pollock.

Please complete the first survey by clicking the survey link: **link will be available upon online survey creation.**

The purpose of this quality improvement project is to decrease patient falls by using proactive toileting during hourly rounding. This project is meant to provide staff with the knowledge of proactive toileting and include it during hourly rounds. This survey data will shed light on if the educational component of this project assisted in facilitating this practice change. The educational intervention could improve staff knowledge and attitude when interacting with patients about their toileting needs. Potentially, this data could lead to the creation of a facility-wide enhancement of the purposeful hourly rounding that is already in place.

Participation in this quality improvement project is completely voluntary and confidential. The project consists of taking two confidential online surveys, one before and after an educational module on proactive toileting is provided. This module will provide evidence-based information on how to phrase bathroom needs to patients, as well as review the current practice of purposeful hourly rounding and a goal to reduce patient falls. Each survey will take approximately 5 minutes to complete. The educational program will take approximately 15 minutes to complete and will remain available throughout the duration of the project. You are eligible to participate if you are a Registered Nurse or Nursing Assistant who practices on 4 East at Baptist Health Louisville and are 18 years of age or older.

The online surveys will be available between _____ and _____

If you have any questions, please contact Brittany Pollock, BSN, RN: b0poll01@louisville.edu or Paul Clark, RN, PhD, MA, paul.clark.1@louisville.edu or 502-852-7405
An additional colleague on this project includes DNP committee member Candace Harrington PhD, DNP, APRN.

Sincerely,
Brittany Pollock

Appendix F

Table 1. Pre-Education Survey Demographic Characteristics (*N*=20)

	n (%)
Gender	
Male	4 (20%)
Female	15 (75%)
Prefer not to answer	1 (5%)
Race	
American Indian or Alaska Native	1 (5%)
Asian	2 (10%)
Black or African American	2 (10%)
White	14 (70%)
Missing	1 (5%)
Hispanic	
Yes	1 (5%)
No	19 (95%)
Age	
18-25	5 (25%)
26-33	7 (35%)
34-41	4 (20%)
42-49	1 (5%)
50-57	3 (15%)
>57	0 (0%)
Shift	
Day shift	9 (45%)
Night shift	11 (55%)

Appendix G

Table 2. Post-Education Survey Demographic Characteristics (*N*=8)

	n (%)
Gender	
Male	0 (0%)
Female	8 (100%)
Prefer not to answer	0 (0%)
Race	
American Indian or Alaska Native	0 (0%)
Asian	0 (0%)
Black or African American	2 (25%)
White	6 (75%)
Missing	0 (0%)
Hispanic	
Yes	0 (0%)
No	8 (100%)
Age	
18-25	2 (25%)
26-33	3 (37.5%)
34-41	0 (0%)
42-49	3 (37.5%)
50-57	0 (0%)
>57	0 (0%)
Shift	
Day shift	7 (87.5%)
Night shift	1 (12.5%)

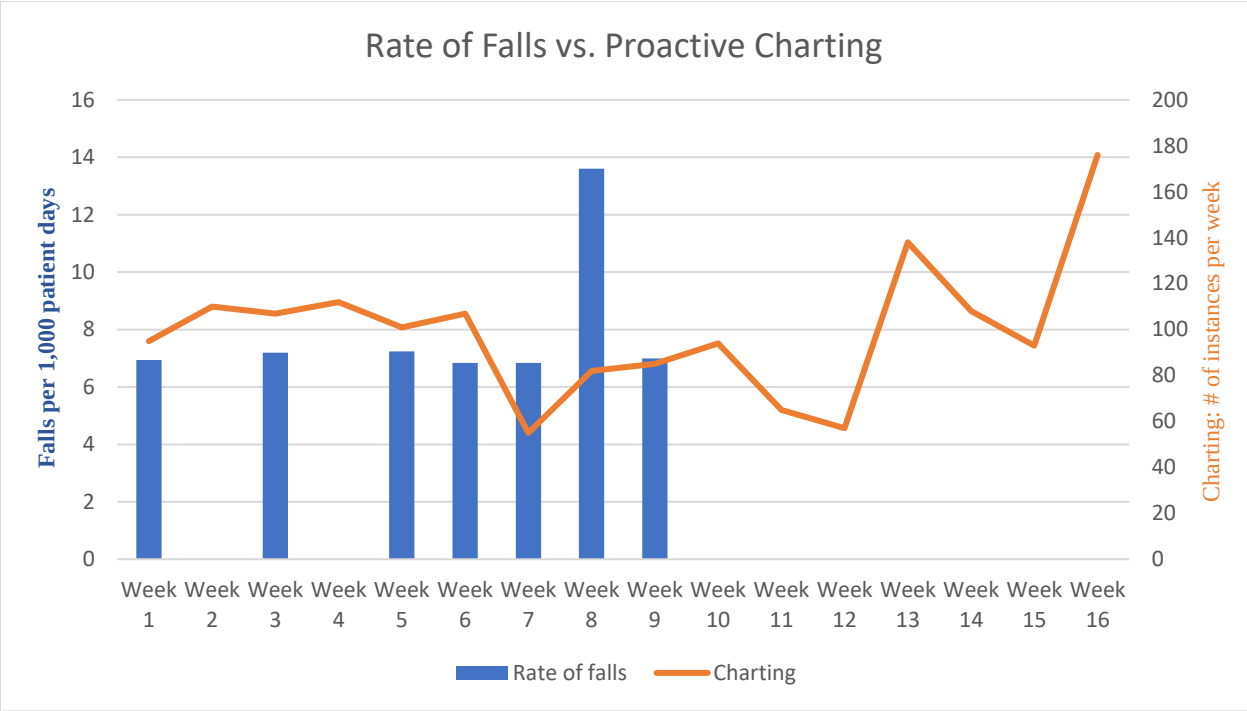
Appendix H

Table 3. Survey Results		
	Pre-Education (n=20)	Post-Education (n=8)
	n(%)	n(%)
Where in Epic can the following be charted "Ambulated to the bathroom"		
Safety Interventions Row	0 (0%)	1 (12.50%)
Daily Cares Row	16 (80)	7 (87.5%)
Safety Row	4 (20)	0 (0%)
Positioning Row	0 (0%)	0 (0%)
Which of the following is the correct meaning for the 6Ps of Purposeful Hourly Rounding		
Pain, Potty, Position, Pills, Paper, and Possessions	2 (10%)	3 (37.5%)
Purpose, Pills, Positions, Paper, Pump and Possessions	3 (15%)	0 (0%)
Pain, Potty, Pressure, Possession, Pump, and Promise	4 (20%)	0 (0%)
Pain, Potty, Position, Possessions, Pump, and Promise	11 (55%)	5 (62.50%)
During Purposeful Hourly Rounding, the nurses round on the ___hours, and the nursing assistants round on the ___hours.		
Odd and Even	0 (0%)	0 (0%)
Even and Odd	18 (90%)	8 (100%)
Daytime and nighttime	0 (0%)	0 (0%)
Nighttime and Daytime	1 (5%)	0 (0%)
Missing	1 (5%)	0 (0%)
The use of Proactive Toileting reduced which of the following?		
Falls	18 (90%)	7 (87.5%)
Incontinence episodes	0 (0%)	1 (12.5%)
Call light usage	2 (10%)	0 (0%)
Time spent with our patients	0 (0%)	0 (0%)

Out of the options below which one is the correct phrasing for Proactive Toileting?		
"I am here to round on you, do you need to use the bathroom?"	2 (10%)	0 (0%)
"I will not take you to the bathroom right now call out for someone or try and go on your own"	1 (5%)	0 (0%)
"If you need to go to the bathroom, just try and hold it until someone else comes in"	0 (0%)	0 (0%)
"While I am here let's try and go to the bathroom"	17 (85%)	8 (100%)

Appendix I

Figure 1



Appendix J

Figure 2