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Implementation of Intentional Rounds to Decrease Patient Falls on an Inpatient Medical Oncology Unit

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Abstract

Description of the Problem: Falls sustained by patients in the hospital environment are a major concern in today's healthcare setting. Falls are costly for both patients and hospitals in terms of excess morbidity and mortality as well as financial constraints given that falls are no longer eligible for insurance reimbursement. B3 is a 24-bed medical and oncology unit at a Boston-area community hospital. Over the past three years, B3 has had one of the highest total fall and fall with injury rates in the hospital.

Available Knowledge: An exhaustive review of literature was conducted which revealed intentional rounding on patients by nursing staff as an evidence-based intervention with the potential to reduce falls in the project setting.

Aims and Objectives: The overall aim of this Neuman's Systems Model-guided quality improvement project was to reduce the monthly unit fall rate to below 0.358% and to reduce the monthly fall with injury rate to below 0.096%. Other objectives included improving the unit's culture of safety, staff knowledge about falls reduction and patient satisfaction.

Intervention: B3 piloted an intentional rounding protocol for this quality improvement project in an effort to decrease patient falls and falls with injury. All patients admitted to B3 were assessed for risk of falling using the Morse Fall Score upon admission and were placed on the intentional rounding protocol. Nursing staff had a checklist addressing common patient needs to guide these intentional rounds.

Evaluation of the Intervention: The intentional rounding intervention was evaluated over a three-month trial period by comparing pre and post intervention fall and fall with injury rates. Additionally, surveys were conducted to determine the extent of unit safety, knowledge of evidence-based falls prevention as well as post intervention patient satisfaction scores. The implementation of intentional rounding on B3 reduced both the fall and fall with injury rates among patients during the three-month intervention period. The fall rate was reduced to 0.1258% and the fall with injury rate was 0%. Additionally, patient satisfaction scores were also improved during the intervention period. Staff knowledge of falls increased and staff reported that intentional rounding made B3 a safer unit. Intentional rounding was determined to be an easy-to-implement, cost effective tool to reduce patient falls that was well received by both staff and patients.

INTRODUCTION

Problem Description

Falls and falls with injury remain one of the most common sentinel events reported, consistently ranking in the Top 10 Sentinel Events reported to The Joint Commission (2015) with over 1 million patient falls reported in the United States each year alone (Kowalski et al., 2018). Patient falls and falls with injury during hospitalization can contribute to an estimated additional 6.3 days to the length of stay and $14,000 in hospital costs (2015).

To that end, a quality improvement project was conducted in a 229-bed community hospital located outside of Boston, Massachusetts. The hospital is well known in the local community for providing high quality care without necessitating a trip into Boston and is part of a recently formed hospital system made up of a network of teaching and community hospitals. Patient falls and falls with injury have become increasingly problematic at the site. One unit in particular, B3, a 24-bed medical and oncology unit, has had one of the highest fall and fall with injury rates in the hospital. Additionally, B3 is a specialized unit caring for particularly fragile oncology patients with varying diagnoses. Patient falls are a major safety concern that have implications far beyond the fall itself. Falls sustained in the hospital are no longer reimbursed by most insurance companies presenting significant financial considerations to all hospitals. Additionally, falls typically add time to a patient's length of stay in the hospital, not only increasing costs but also putting patients at additional risk for infection and other nosocomial complications. Finally, falls are a nurse sensitive indicator and higher than average fall rates can reflect the level of nursing care provided.

The unit selected for this quality improvement project, B3, had an existing comprehensive falls prevention plan in place. Non-slip socks were provided to all patients, low

beds were available for high fall risk patients, and chair and bed alarms were utilized. Additionally, weighted blankets and diversion cart activities were available for patients with anxiety or altered mental status at risk for falls. Lastly, the staff on B3 had successfully piloted a program to assess patients for orthostatic hypotension upon admission with the premise that if patients were indeed orthostatic, interventions could be activated immediately to attempt to decrease falls (Shields, Quill, & DiCenso, 2020). Despite these existing interventions, B3 continued to maintain one of the highest fall rates in the hospital.

Available Knowledge

Falls and falls with injury sustained by patients while hospitalized are a major concern in today's health care environment. Many patient populations are at an increased risk of falls while hospitalized either due to hospital related delirium, co-morbidities or factors related to their treatment (The Joint Commission, 2015). Falls can have devastating effects on patients and can extend the length of stay in the hospital (The Joint Commission, 2015). Furthermore, falls and injuries associated with falls that occur while a patient is hospitalized are no longer reimbursed by many insurance companies following a mandate from the Centers for Medicare and Medicaid in 2008 (Kowalski et al., 2018). Patient fall rates represent a nurse sensitive indicator according to the National Database of Nursing Quality Indicators (NDNQI) and excessive fall rates on a unit may reflect the quality of nursing care provided.

To further explore the issue of patient falls and the evidence-based interventions that can be utilized to prevent them, a systematic review of the literature was conducted to explore the question -*"Among patients admitted to acute care hospital units, what are some nursing led strategies different from current falls prevention practices to decrease falls in this population?"* A PRISMA Diagram was created to outline the relevant studies that could be used to guide an

intervention to address the fall rate on B3 (Moher, et al., 2010). The review of literature specifically focused on methods to reduce falls among hospitalized patients although interventions utilized in ambulatory settings were also considered. Three databases- CINAHL, OVID, and PUBMED- were searched with an initial yield of 6692 articles after duplicates were removed. Publications were further reduced to 34 full text articles after exclusion criteria was applied, including articles in English only, full text articles, and studies involving adult patients only. After additional review, a total of 10 full text articles was included for final review. Many of the studies were conducted in large teaching and/or academic hospitals within the United States and internationally. Most studies were level II evidence and B strength of evidence (Dang & Dearholt, 2017); please refer to Appendix A. One overarching limitation to all the studies was that the interventions were applied broadly to their intervention site. Thus, all patients admitted to a study unit were included in the various interventions. Another limitation was that there were not clear control groups to compare the interventions against. Given the aforementioned limitations, there was no specific demographic information provided for the number of participants, age, gender, race or ethnicity. Rather the participants were generalized to unit specific characteristics at the time of the studies.

A summary table was developed to further identify the interventions utilized in the selected studies and assess feasibility of utilizing one of these interventions on B3 (Appendix A, Table 1: Evidence Synthesis Table). After review of all the studies, the intervention of intentional hourly rounding by nursing staff surfaced as a frequently used intervention with clear evidence of efficacy with improvement in fall rates in all studies in which it was trialed in (Grillo et al., 2019; Morgan et al., 2016; Spicer et al., 2017). Additionally, after correspondence with unit level leadership, intentional rounding was one intervention that was not already being

utilized on B3 and appeared to be an ideal evidence-based intervention to trial. Serendipitously, B3 had experience with implementing intentional rounding in the past and had already preliminary discussed implementing this intervention again. Based on the evidence and fit for the unit, this quality improvement project focused on implementing intentional rounding on an inpatient medical oncology unit (B3) to reduce the current patient fall and injury rate on that unit. By decreasing patient falls, it was anticipated that there would be a safer environment for patients and improvement in patient outcomes, as well as to improve quality measures for B3, specifically patient satisfaction.

Rationale

A conceptual model that fit well with patient falls and that was used to guide this quality improvement project was Neuman's Systems Model. Neuman's model focuses on the wellness of the patient with emphasis on the effects of reactions to stress and environmental stressors on a client's wellbeing. (Fawcett & Desanto-Madeya, 2013). Neuman defined the client as an open system with four components including: individual self, family, community, and social issues. The individual is regarded as a client whose responses to internal and external stressors is manifested in five interacting variables: physiological, psychological, sociocultural, developmental, and spiritual variables (Fawcett & Desanto-Madeya, 2013). The condition of the five variables influence the amount of resistance a client has to environmental stressors and the potential for reconstitution (Fawcett & Desanto-Madeya, 2013).

The concepts of Neuman's System Model can be applied to patient falls and the multitude of factors that lead to falls. Patients admitted to the hospital have various interacting concerns and stressors that directly relate to Neuman's interacting variables. Patients are experiencing physical and psychological stressors related to their illness and hospitalization.

Often patients' spiritual and sociocultural norms are disrupted due to illness and their developmental state can influence how well they are able to process and cope with illness. Neuman's variables relate to patient falls in several ways. First, physical impairment and decline certainly can place a patient at a higher risk for falls. Impaired psychological functioning, such as delirium and confusion induced by the hospital environment can also increase the risk of falls. Finally, a patient's developmental stage can influence their ability to understand and follow directions. For example, strategies to prevent falls can be taught to a patient; however, if the patient is developmentally delayed, he or she may not understand or be able to implement those strategies. Additionally, the use of intentional rounding as a mechanism to reduce patient falls focuses on prevention as an intervention. Intentional rounding is a form of primary intervention by attempting to prevent falls before they occur and cause harm to a patient. The concept of Neuman's interacting variables in the context of hospitalized patients was considered when structuring the intervention of intentional rounding.

There was not a consistently utilized change theory among the studies included in the review of literature on strategies to reduce patient falls. Therefore, the ADKAR Model was utilized as the change theory for B3's intentional rounding intervention. ADKAR stands for Awareness, Desire, Knowledge, Ability, and Reinforcement (Quyen, 2019). The ADKAR model has been applied to nursing settings in various studies in order to effect change. The ADKAR Model helped guide the intervention of purposeful hourly rounding on B3.

The first A in ADKAR stands for awareness. The intervention of hourly rounding sought to promote awareness among both nursing staff and patients to the problem of increased patient falls on the unit. The D in ADKAR stands for desire. There was a strong desire to improve the fall rate on the unit as it is inherent to the value system in nursing to provide quality patient care.

The K in ADKAR stands for knowledge. Implementing hourly rounding was an excellent way to share evidence-based interventions focused on preventing patient falls with staff as well as to review the importance of following existing fall protocols. A stands for ability. All nursing staff members on B3 had the ability and responsibility to prevent patient falls. Furthermore, the intervention of intentional rounding is a simple, easy to implement task that all nursing staff can use to promote patient safety. Finally, R stands for reinforcement. There was tremendous support and reinforcement from both local unit and upper-level hospital leaders for the intentional rounding intervention. The nurse manager and the quality improvement project director have played an active role in promoting and ensuring continuing implementation of the intervention of intentional rounding.

Taken together, the concepts of Neuman's System Model and the ADKAR change model provided a framework to assist in developing, implementing and sustaining a meaningful care improvement initiative. By drawing awareness to the fall rate on B3 and providing the knowledge and tools necessary to help prevent falls, intentional rounding served as a primary intervention strategy to prevent falls before they occurred. The overall goal was that this intervention would reduce B3's fall rate, thereby reinforcing the efficacy of this intervention.

Specific Aims

Upon review of the literature, intentional rounding was the most promising intervention to address patient falls on B3 at this community hospital. The intentional rounding intervention was also a good fit with the organization's needs and assets of the unit chosen for this quality improvement project.

Aim: The aim of the Neuman System's Model guided quality improvement project was to implement an intentional rounding protocol for all (100%) patients admitted to B3 during a three-month intervention period to decrease patient falls and falls with injuries.

The objectives of the quality improvement project were:

- Ensure consistent use of intentional rounding via the attestation process
- Improve nursing staff (registered nurses and clinical associates) awareness and knowledge of fall prevention as well as their desire to prevent patient falls
- Improve patient satisfaction with care
- Improve the culture of safety on B3

The evaluation of the intervention of intentional rounding and overall effectiveness of the intervention was guided by the PDSA Model for Improvement (Donnelly & Kirk, 2015). The PDSA Model is well known in leadership and management settings for helping to effectively enact change by implementing small, measurable tests of change and assessing for improvement. P stands for Plan and is the stage in which the project director identifies the problem that needs to be solved and delineates why the problem needs to be resolved. D stands for Do and this is when the proposed change is implemented. In the case of the quality improvement project, Do was the implementation of intentional rounds on B3. S stands for Study and it is the evaluation phase of the intervention in which the change is assessed to determine whether any meaningful change occurred. Finally, A stands for Act and can represent the continuation of the original intervention or adjustments to the intervention in the hopes of generating more measurable change. Given the short duration of the quality improvement project, the PDSA cycle assisted in helping to evaluate for change as well as for areas of improvement within the intervention itself.

The ADKAR and PDSA models complemented each other in this project. By promoting an awareness of falls on B3 and a desire to improve fall rates and patient safety, a plan was able to be enacted to utilize intentional rounding as a primary prevention intervention. The intervention of intentional rounding was then implemented on B3. The intentional rounding intervention helped to enhance the knowledge of the staff in regards to evidence-based fall prevention practices. The intervention was then studied for efficacy- during this time, it was determined that staff had the ability to implement intentional rounding in a very effective manner. Following the implementation period, the goal was to continue to use intentional rounding as an action to reduce falls on B3 and reinforce the utility of the intentional rounding intervention with the staff.

METHODS

Context

The project was carried out at a 229-bed community hospital in the Greater Boston area. The hospital belongs to a system of both academic and community hospitals in and outside of Boston. The hospital was founded over 100 years ago and manages upward of 18,000 inpatient admissions each year. B3, a 24-bed inpatient medical and oncology unit, was the pilot unit for project implementation. Review of the most recent available falls data from October 2017 to September 2020 revealed that B3 has a monthly fall rate of 0.358% and a monthly fall with injury rate of 0.096%.

B3 has eight private beds and eight semi-private rooms; 16 of the beds can provide cardiac telemetry monitoring for patients. B3 staff care for patients newly diagnosed with cancer as well as patients who require chemotherapy treatments given in an inpatient setting. Primary oncologic diagnoses of patients cared for on B3 consist of breast, lung, pancreatic and prostate

cancers. The staff on B3 also care for patients experiencing side effects of cancer treatment, such as fever and neutropenia.

Staffing levels on B3 were dependent on patient census, acuity, and availability of staff. First, core staffing was determined by the total number of patients in the unit's census. If there were between 19-24 patients, which was the unit's maximum capacity, there were five registered nurses and three clinical associates to staff the day shift (7am-3:30pm) and the evening shift (3:30pm-11:30pm). For the night shift (11:30pm-7:30am), these numbers dropped down to four registered nurses and two clinical associates, which was consistent with how most institutions adjust staffing for off shift hours. The amount of nursing and clinical support staff decreases as the patient census decreases. For example, if the census was between 1-8 patients on the day or evening shift, B3 was staffed with only two registered nurses and no clinical associates.

Secondly, staffing was adjusted for acuity. Given that the staff on B3 were trained to administer chemotherapy, patient to nurse ratios were adjusted if a patient was receiving chemotherapy so that the nurse administering chemotherapy had a maximum of 3 patients. The nursing staff on B3 worked primarily 12-hour shifts. Therefore, there were five registered nurses and three clinical associates between the hours of 7am to 7pm. At 7pm, there were still five registered nurses and 3 clinical associates assigned to B3 but at 11pm, the staff pattern changed to only four registered nurses and two clinical associates. The above mentioned staffing pattern remained until 7am the following day. There was a rotating physician coverage schedule for B3 that changed on a weekly basis. The clinical associate population of B3 was comprised of both nursing students and seasoned, career clinical associates. Finally, shift staffing was also determined by staff availability. Although B3 was adequately staffed with clinical associates who helped carry out the quality improvement project, there were times when the staffing levels

may have been below what was planned for the current census related to vacancies and scheduled/unscheduled time off.

The educational and professional development backgrounds of the nursing staff was varied. The nursing staff on B3 consisted of Diploma, Associate, and Bachelor Degree prepared nurses. The majority of the registered nurses, 21 of a total of 25 nurses, had a Bachelor of Science in Nursing degree. The remaining four nurses were prepared with either a Diploma in Nursing or Associate Degree in Nursing, two of whom were enrolled in academic programs to obtain a bachelor's degree at the time of the project. Thirteen nurses on B3 had obtained specialty certifications in the area of medical surgical nursing. Several of the clinical associates were currently enrolled in a nursing education degree program.

Shift leadership included a charge nurse. There was no routinely assigned charge nurse on B3; shift leadership responsibility was shared among all staff and determined daily by a rotation system. The registered nurse who was assigned to serve as the charge nurse typically assumed a lighter patient assignment of four patients until a patient admission arrived on the floor. The lack of a designated charge nurse represented a collective leadership style on the unit in which every registered nurse was eligible to serve in the capacity of charge nurse. The nurse manager was highly involved in helping the staff navigate routine management situations and decisions.

There were several potential factors that were thought to be contributing to the patient fall rate on B3. A Fishbone Cause-and-Effect Diagram (Appendix C, Figure 2: Fishbone Diagram) was created to assess the various factors that interacted to influence the risk of patient falls on the unit. Factors included environmental considerations such as positioning of patient beds, use of bed and chair alarms, lighting in the rooms, and functionality of call bells, as well as obstacles

that may obstruct a patient from safely navigating within or from their room. Patient specific factors were considered as factors in the incidence of patient falls including patient co-morbidities, altered mental status, and mobility and frailty status. Additionally, other patient factors such as medication side effects, fluctuating acuity levels, and lack of perceived risk of sustaining a fall by the patient contributed to unit fall levels. Contributory patient specific factors were arguably the hardest fall risk element to control for.

Other potential causes of patient falls included nursing specific factors such as nurse to patient ratios, existing workflows, and the presence or absence of ancillary staff support in caring for patients. Furthermore, it is important to acknowledge the role of other staff members including housekeeping, transport, physical and occupational therapists and the ways that they could potentially reduce patient falls. Patient, family, and staff engagement in fall prevention as well as education about methods to reduce falls were also important elements to consider. The culture of safety embraced by the hospital was another factor to consider as the unit culture often dictates staff reaction to patient events. If safety or incident reports were used in a punitive way, it was unlikely that staff would report occurrences in the most transparent manner, if they reported them at all. Conversely, if safety reports were reviewed with the lenses of preventing future occurrences, staff were often more willing to participate. Staff should be encouraged to accept responsibility for the care of the patients without the worry that the information reported will be used to assign blame. A true culture of safety emphasizes learning from mistakes, not penalizing staff for them (Tocco Tussardi, et al., 2021). Finally, quality data such as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, patient satisfaction surveys and hospital reimbursement were additional important factors to consider in

addressing this fall issue (CMS, 2022). Additional information can be found in the External Mapping Tool (Appendix B, Figure 1: External Mapping Tool).

Intentional rounding addressed a number of these existing potential causes of patient falls. First, intentional rounding included an assessment of the patient's environment to ensure that it was free from obstacles and that the patient had everything they needed within reach. Intentional rounding attended to patient's physiological needs including pain management and toileting schedules. Intentional rounding had the potential to improve existing workflows as well as communication practices between registered nurses and ancillary staff by incorporating these rounds into daily patient care. Of these myriad factors associated with falls, the quality improvement project addressed the issue of nursing workflows and work to restructure those workflows to optimize patient safety. Additionally, this quality improvement project included safeguards to assess for environmental safety during intentional rounding.

The hospital where the project took place is an organization highly focused on quality improvement and nursing excellence. In 2003, it was the first community-based hospital in Massachusetts to receive Magnet designation from the American Nurses Credentialing Center (ANCC, 2022). The support of local, unit level leadership as well as hospital-wide organizational leadership was a benefit to this quality improvement project. The reality that falls sustained by hospitalized patients are no longer reimbursed by insurance companies as well as the fact that B3 had one of the highest fall and fall with injury rates in the hospital were all factors that supported the need for this quality improvement project. Additional potential driving factors that supported successful implementation of this project included HCAHPS scores, ensuring patient satisfaction and a desire to continuously improve the culture of safety both on the unit level and hospital wide.

Despite all the above-mentioned factors that supported the project, there were a number of factors that were potential constraining forces. Most constraining factors were centered around the staff who implemented the project and included an unwillingness to change existing practice or workflows, the perception that the staff was too busy and could not accommodate another task as well as an overarching fear of change and what that meant for workloads, documentation practices, and other day to day tasks. One factor that was important to note however, was that the nursing staff on B3 had implemented intentional rounding in the past and had expressed an interest in readopting the practice of intentional rounding. Additional restraining forces that were considered included the potential for difficulties with implementation due to the ongoing Coronavirus (COVID-19) pandemic as well as the potential change in patient population that occurred on B3 secondary to local prevalence of COVID-19. Additionally, with ongoing visitor and student restrictions on the main campus of the hospital, the training and in-service intended for this quality improvement project by the project investigator needed to be completed in an alternative format (Appendix D: Figure 3- Force Field Analysis).

Intervention

To address the higher-than-average fall rate on B3, the quality improvement project implemented the use of intentional rounding. Intentional rounding is the practice of staff addressing specific patient needs on a pre-determined visit schedule (Grillo, et al., 2019). Intentional rounding focused on common patient needs including assisting patients to the bathroom, helping patients locate items at their bedside, assessing pain and comfort of positioning among many others. The authors of one of the studies included in the review of the literature discussed using intentional rounding to assess the “five Ps”: pain, potty, position,

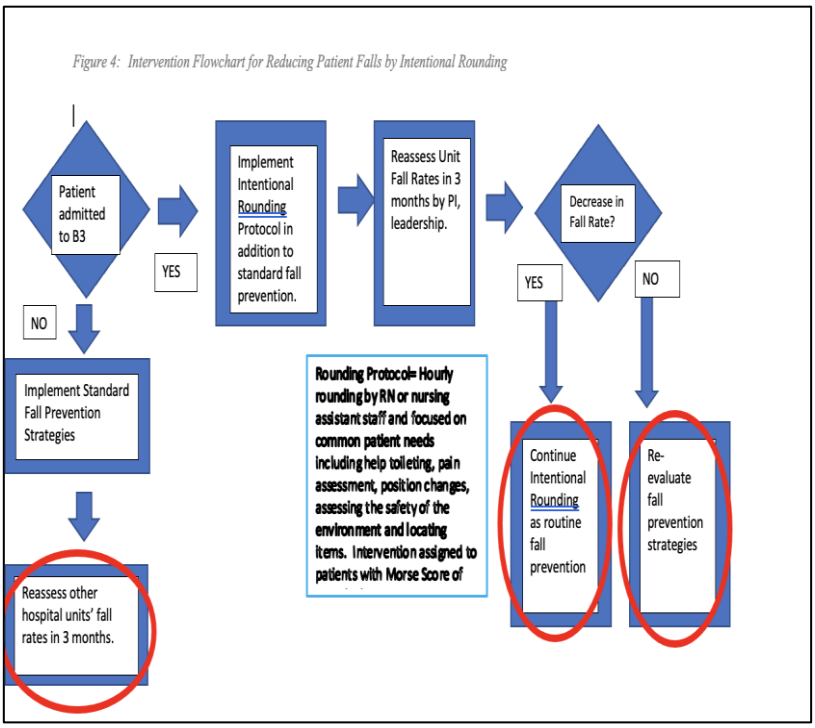
possessions and plan of care (Grillo et al., 2019). The intentional rounding intervention utilized in this project included the "five Ps" as a component of the intentional rounding implementation.

Pre-Implementation

The pre-implementation phase of this quality improvement project consisted of gathering falls data for B3 as well as the hospital as a whole. Data were obtained in collaboration with the hospitals quality data analyst.

Prior to the implementation of the intentional rounding intervention, the nursing staff on B3 participated in the planning of the implementation and attend a subsequent training in-service. The staff, under the direction of the nurse manager, were involved in the planning process including determining how best to balance the intentional rounding protocol with their existing workloads. The goal was to create a partnership between the staff and the project investigator to tailor and optimize this intervention for success. The training reviewed the key components of intentional rounding, as well as the expectations for each rounding session including the attestation process to address completion of the intervention. Additionally, staff were provided with a small, laminated checklist to help guide the rounding process and an information sheet on the project for patients (Appendix G: Figure 6- Intentional Rounding Checklist). The intentional rounding intervention was intended to complement the existing routine fall prevention strategies.

Implementation



As shown in the intervention flowchart (Figure 4), each patient's fall score was evaluated within eight hours of admission to B3 and routinely evaluated thereafter per unit policy. Fall risk assessment was completed using the Morse Fall Score, a validated fall assessment tool that was automatically scored in the electronic medical record based on the information inputted by the nurse admitting the patient to the unit (Morse, et al., 1989). All patients admitted to B3 were placed on the intentional rounding protocol during the three-month intervention period regardless of their Morse Fall Score. All patients remained on the intentional rounding protocol for the entire duration of their admission to B3. Patients on B3 were provided with an informational education sheet on intentional rounding as part of their existing admission package folder (Appendix H: Figure 7- Intentional Rounding Information for Patients). Unit fall rates were reassessed and evaluated at the end of the three-month trial period. If the fall rate decreased, the plan was to incorporate intentional rounding as a permanent part of fall prevention interventions on the unit. If fall rates were not improved with the utilization of the intentional rounding intervention, more work and new strategies would have needed to be considered.

The intentional rounds on patients were conducted by both the registered nurses and clinical associates on B3. The registered nurses were responsible for the "even" numbered hours

and the clinical associates were responsible for the "odd" numbered hours. Rounds were conducted hourly during the hours of 7am through 11pm and every two hours during the overnight hours of 11pm to 7am to promote sleep and rest. A checklist of essential elements for the intentional rounds was provided to help ensure that common patient needs were met, thereby decreasing the likelihood of a patient finding themselves in a position that put them at risk for falls. The checklist was provided to staff in the form of a small, laminated card that was attached to their badge for easy access (Appendix G: Figure 6- Intentional Rounding Checklist).

Some of the items that were included on this reminder card included assessing the patient's pain and medicating them if necessary, ensuring that the patient was comfortable and offering or performing repositioning, especially if the patient was at high risk for skin breakdown. Furthermore, the rounds included ensuring that the patient's physical environment was safe: that beds were in lowest position to the floor, patients had non-slip socks on, bed alarm was on, if necessary, pathway around patient's room was free and cleared from clutter. Patients were given the opportunity to have assistance toileting. The staff member performing the intentional rounding also ensured that the patient had all the necessary belongings that they may have needed at arms-reach (cell phone, call bell, etc.). The goal was that by being proactive in addressing these needs, patient falls would be prevented before the patient was in a situation where they were at risk for falls. Staff attested to the completion of the hourly rounds by using white boards already in place in every patient room on B3 that were specifically marked by hour of the day. The clinical associate or registered nurse initialed their name in the corresponding block for the hour in which they performed intentional rounding. The white boards were cleared at 12 am each day. The expectation was to have a staff champion, likely a clinical associate, tasked with monitoring the compliance to this attestation process on a daily basis. Unfortunately,

due to a myriad of factors that will be discussed, identification of a staff champion was not possible.

Evaluation of the Intervention

The PDSA (Plan, Do, Study, Act) Model of quality improvement informed the implementation and evaluation of this improvement project (Donnelly & Kirk, 2015). To evaluate whether or not the intervention of intentional rounding was effective, several factors needed to be evaluated. First and most importantly, B3's fall rate and fall with injury rate over the implementation period was crucial to review. Unit leadership also assessed whether the specific outputs of consistent patient fall risk assessment, utilization of intentional rounding protocol as well as utilization of rounding checklist were met (Figure 4: Appendix E- Logic Model). Additionally, patient and staff satisfaction with the intervention was also evaluated.

Measures and Analysis

The impact of the intentional rounding protocol on B3 was evaluated through a number of different measures which are illustrated in Table 2.

Table 2 **Output/Expected Outcome**	**How Operationalized/Measured**
Decrease Patient Falls and Falls with Injury by Implementing Intentional Rounds Consistently and Ensuring Attestation	• Patient fall rate below current average monthly fall rate of 0.358% • Patient fall with injury rate below current average fall with injury rate of 0.096% • 100% of patients admitted to B3 placed on intentional rounding protocol upon admission.
Improve Patient Satisfaction	• Project Manager conducted regular, informal rounds with patients on B3 to assess satisfaction with rounding initiative • Pre and post intervention HCAHPS evaluated; assessed for improvement in responsiveness question results.
Improve Nursing Staff (RNs and Clinical Associates) Knowledge about Falls	• Pre-intervention survey to assess staff's perceived knowledge on falls and fall prevention using a Likert scale. • Compare to post-intervention survey that assessed for improvement in working knowledge of falls prevention. Goal >85% of respondents attesting to an increased knowledge of falls prevention because of this quality improvement project.
Increase Unit Safety and Enhance Culture of Safety	• Pre-intervention survey administered to assess nursing staff's perception of unit safety. • This was compared to results of similar survey administered post intervention. Survey utilized a Likert scale and goal >85% of respondents to agree/strongly agree that unit safety improved as a result of this quality improvement project.

Project outcome measures were aligned with the project aims, objectives, and expected outcomes in order to demonstrate the success of the project. First and foremost, the goal was to decrease patient fall and fall with injury rates on B3. The fall rate goal was operationalized by achieving an average monthly fall rate of less than the current average rate of 0.358% and an average monthly fall with injury rate of less than 0.096%. Fall rate data were provided by the hospital quality data analyst and was evaluated by percent change from pre-intervention to post intervention. There were three years of baseline fall data included in this retrospective review. In addition, it was important to determine the compliance of staff in the implementation process for intentional rounds as well as to attest that they completed the rounds. The compliance measure was operationalized by a goal of 100% compliance with placing all B3 patients on the intentional rounding protocol during the implementation phase. The attestation was completed via dedicated white board in patient rooms that were completed by staff verifying that all patients were rounded on appropriately.

Prior to implementation, whiteboards in patient rooms on B3 were outfitted to make attestation of hourly rounds easier for staff. Reminder cards that summarized the key points of intentional rounding were created and laminated so that staff could attach them to their badges for easy access. Additionally, pre-implementation surveys were distributed on B3 for staff to complete. The pre-implementation surveys focused on staffs' knowledge of falls prevention as well as the staffs' perception of unit safety.

All patients admitted to B3 during the implementation period were included in the intentional rounding protocol. Initially, there was consideration of assigning only patients who had an elevated Morse Fall Score upon admission to the intentional rounding protocol. After discussion with unit and hospital leaders, it was decided that the intervention would be applied to

all patients out of concern for inconsistent application of Morse Fall Score guidelines to patients. All patients were provided with information on the intentional rounding project upon admission- this was included in their admission packet that patients routinely receive when admitted to B3.

Initially, the intention was to have a dedicated staff champions to perform audits on the whiteboards on a shift-by-shift basis to ensure that intentional rounding was being completed. It quickly became apparent that this was not feasible for the unit. Staffing among both registered nurses and clinical associates on B3 and hospital wide was problematic throughout the entire project. Due to the ongoing COVID 19 pandemic as well as nursing shortages, summer vacations, and staff illnesses, B3 was frequently staffed by registered nurses and clinical associates from other units. Although these float staff members were in-serviced on the intentional rounding project, the variability of staff made it nearly impossible to assign dedicated staff members to be audit champions. Instead, regular rounds were conducted by the nurse manager and project investigator during which random audits were taken as to the completion of whiteboard attestations.

Another measure that the quality improvement project sought to accomplish was an incidental increase in patient satisfaction scores given that this intervention focused on more patient interaction and responsiveness of staff. The hope was that with increased staff and patient interaction via the intentional rounds, patients would have a higher level of satisfaction with staff engagement as demonstrated by responses on patient surveys. To ascertain patient satisfaction with the intervention, the project investigator conducted regularly scheduled, informal rounds on B3 and interviewed patients. Specifically, questions focusing on the area of staff responsiveness were reviewed to infer whether frequent rounding by the nursing staff increased patients' perception of an increase in staff responsiveness. The patient interviews also

queried patients as to whether they felt the intentional rounding protocol was helpful. Initially, a retrospective review of HCAHPS scores, specifically focusing on questions surrounding staff responsiveness, was considered as a mechanism by which to benchmark this objective. However, given the short duration of time in which the quality improvement project was implemented along with the recognition that a myriad of factors can influence a unit's HCAHPS scores, it was determined to utilize patient interviews in addition to a review of pre and post intervention HCAHPS data regarding staff responsiveness.

Demonstrating an increase in nursing staff knowledge of falls prevention as well as to assess whether staff thought that the intentional rounding intervention was a worthwhile time investment for their unit was another key measure that was evaluated. Staff education was measured via an anonymous survey administered to nurses and clinical associates prior to the intervention and following implementation which assessed their baseline knowledge of falls prevention and post project implementation knowledge. Success was measured by a greater than 90% response indicating an increase in knowledge relating to falls. The goal was that the quality improvement project would foster growth of knowledge in this area of nursing as well as enhance knowledge of evidence-based practice. In terms of the ADKAR Model - by increasing staff knowledge, the hope was that the desire to improve patient outcomes by utilizing that knowledge would grow. Nursing staff are a key component of a patient's environment while hospitalized and by better positioning these staff to attend to patient needs which reduced patient stressors as defined in Neuman's System Model.

Staff perception of the value of the intentional rounding intervention was assessed via a post intervention survey as it was crucial to maintain the buy in of staff to make the intentional rounding intervention effective. The staff satisfaction survey was provided to registered nurses

and clinical associates on B3 who helped perform the intentional rounding to assess the ease of use of intentional rounding and their opinions as to whether the intervention was a feasible long term fall prevention strategy for the unit. Success was measured by a greater than 90% response that intentional rounding added value to patient care.

Improving the culture of safety on B3 was the final measure that the quality improvement project attempted to measure via survey. Assessing for a positive change in the unit culture of safety was analyzed by a survey provided to staff to gauge their perception of the unit's culture of safety and whether or not the intentional rounding protocol fostered a better culture of safety post intervention. There was also a section of the post survey that assessed whether or not staff felt as though patient falls were a pertinent issue on B3 prior to this quality improvement project. A measure of success was a response rate of greater than 90% of respondents indicating that they felt the unit was safer because of intentional rounding.

Ethical Considerations

The quality improvement project was vetted through various nursing leadership team members at the site hospital. The unit manager of B3 expressed support and endorsement of the intentional rounding quality improvement project since its planning phases. Additionally, leadership members from the Professional Development department and well as the Associate Chief Nursing Officer for Nursing Staff Development as well as the Associate Chief Nursing Officer of Inpatient Nursing were in support of this quality improvement project. Finally, the Associate Chief Nursing Officer for Quality and Patient Safety had expressed great interest in the work of the quality improvement project. Given that this was a quality improvement project, no Internal Review Board (IRB) approval was required and there was no formal review mechanism

for quality improvement projects at the hospital site. There were no conflicts of interest with this quality improvement project.

In review of the University of Massachusetts Boston's quality improvement checklist, this project meets the criteria for quality improvement (Appendix F, Figure 5: Clinical Quality Checklist). The quality improvement project sought to implement existing knowledge into practice. The clinical setting was pre-determined and therefore, there was no recruitment process for this project. All patients admitted to B3 during the implementation phase were included in intentional rounds and the standard of care provided to all patients on B3 remained the same. There were no risks to patients with this quality improvement project but patients may potentially have benefited from the implementation of intentional rounding. The quality improvement project was not intended to generate generalizable findings but rather produce findings that were applicable to similar practice settings in the organization.

The project or innovation proposed was quality improvement and did not meet the definition of human subject's research because it was not designed to generate generalizable findings but rather to provide immediate and continuous improvement feedback in the local setting in which the project was carried out. The University of Massachusetts Boston IRB has determined that quality improvement projects do not need to be reviewed by the IRB.

Results

The intentional rounding protocol was implemented on B3 for a period of three months, starting on June 1, 2021 and concluding on September 1, 2021.

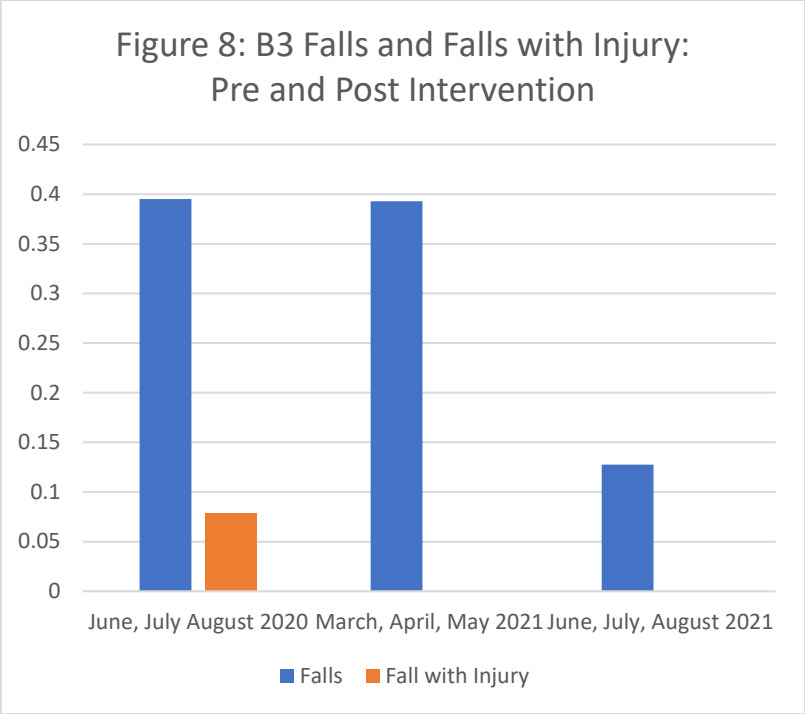
A total of 392 patients were admitted to B3 during the intervention period. Of these, 163 were male and 229 were female. The vast majority of patients identified their race as either White or Caucasian. There were six patients who identified as Asian and seven patients who

identified as Black or African American. An additional four patients identified "other" as a race. These patients ranged in age from 21 years old to 103 years old. The vast majority of patients were over the age of 65 years old.

Outcome 1: Decrease Patient Fall and Fall with Injury Rates

Prior to the implementation of intentional rounding, B3 consistently had one of the highest fall and fall with injury rates within the hospital. The ultimate goal of implementing intentional hourly rounding on B3 was to reduce the fall rate to below the existing monthly fall rate of 0.358% and to reduce the existing monthly fall with injury rate below 0.0096%. The monthly averages were computed from a review of B3's fall data from October 2017 to September 2020. Since the time that the above benchmark fall rates were identified, additional fall data became available. For a comparison, fall and fall with injury data was obtained for B3 from June, July and August 2020 as a comparison to the implementation period of June, July and August 2021. During June, July and August 2020, there were a total of five patient falls on B3 with one injury. The fall rate during these months was 0.3949 falls per 100 patient days and 0.0790 falls with injury per 100 patient days. For an additional comparison, fall and fall with injury rates on B3 were calculated in the three months preceding the intervention: March, April and May 2021. During these months, there were six patient falls with zero injuries. The fall rate during these months was 0.3937 falls per 100 patient days.

There was a clear reduction in falls during the three-month implementation period. During June, July and August 2021 when the intentional hourly rounding protocol was in place on B3, there were only two patient falls and zero injuries which equated to a fall rate of 0.1276 per 100 patient days. Pre and post implementation fall rate information is further displayed in the chart above (Figure 8).



Of the two falls that occurred on B3 during the intervention period, both patients had Morse Fall Scores that indicated that they were at increased risk for a fall. The first patient was a 68-year-old male with a Morse Fall Score of 100. Interestingly, this patient was not placed on the unit's fall protocol prior to the fall. To further investigate factors that may have contributed to this patient's fall, staffing sheets from the date of the fall were reviewed. The day on which this fall occurred, B3 had additional staff on the unit, specifically at 7pm and 11pm. At 7pm, the allotted staffing based on patient census was four nurses with three clinical associates. Actual staffing on the floor was five nurses and three clinical associates. At 11pm, allotted staffing was three nurses and two clinical associates. Actual staffing was four nurses and two clinical associates. Given the need for additional staffing on these particular shifts, it can be assumed that overall patient acuity was a factor in this fall. Furthermore, this fall demonstrates that despite adjusting staffing for acuity, some falls are simply not preventable.

The other patient who sustained a fall during the project implementation period was an 87-year-old female with a Morse Fall Score of 75. The patient was placed on the unit's fall protocol prior to the fall. After reviewing staffing records and patient throughput data, patient acuity may have contributed to this fall. On this particular day, B3 received multiple patient

transfers from the intensive care unit. The unit required additional staff for the entire shift including an additional registered nurse, clinical associate and 1:1 sitter. There are additionally notes from the nursing supervisor from the day when the fall occurred outlining that there were multiple patients on B3 that were on bed alarms due to high fall risk. Fortunately, neither of these patients sustained an injury due to the falls. Despite the two falls that occurred during the implementation period, the intentional rounding protocol did meet the desired outcome to reduce the rate of patient falls and fall with injury.

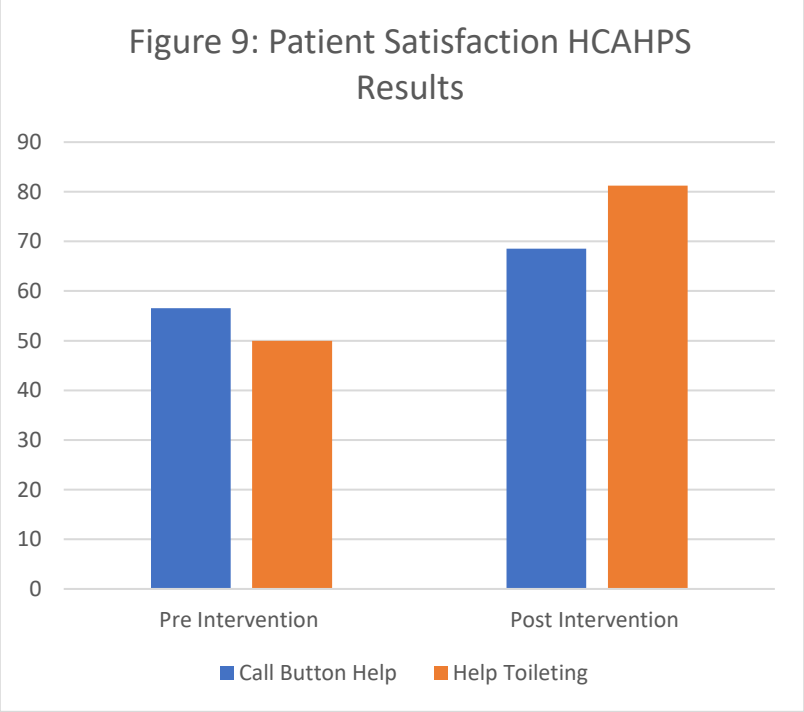
Outcome 2: Improve Patient Satisfaction

A second goal of implementing intentional rounding on B3 was to improve patient satisfaction. The nature of intentional rounding required frequent interaction between staff and patients to meet their needs sooner. The hypothesis was that increased patient and staff interaction would improve patient satisfaction. In order to assess patient satisfaction, HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) data was obtained for the intervention time frame (June, July, and August 2021) and the three months prior to the intervention (March, April, and June 2021) to serve as a baseline comparison. HCAHPS surveys are sent to patients following an inpatient admission to assess their overall satisfaction with the care provided while in the hospital. Two particular HCAHPS questions were identified to focus on patient satisfaction. These were “During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?” and “How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?”

For the first question, “During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?”, the top box scores were analyzed. A top box score is the percentage of times a patient indicates the best possible response to an HCAHPS

question. For this particular question, the possible answers include: “never”, “sometimes”, “usually”, “always”, or “I never pressed the call button”. The top box score indicates the percentage of “always” responses to this question. The scores are then compared to other Massachusetts hospitals as well as comparable hospitals nationwide. For these patient satisfaction HCAHPS questions, results are reported both for the individual questions and an overall staff performance domain that takes the average of scores from both questions. In March 2021, the top box score for the above question was 62.50. In April 2021, the top box score decreased to 57.14 and in May 2021, the top box score decreased further to 50. The overall average for this three-month period was 56.52. During the first month of this quality improvement project in June 2021, the top box score for this question increased to 81.25. The score dropped to 50 in July 2021 and increased in August 2021 to 63.64. The average top box score for the above question during the three-month project period was 68.57 which was an improvement from the previous three months. This represented a percent change of 21.31%.

The same analysis was performed for the question, “How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?”. The top box score in March 2021 was 66.67. In April 2021, the top box score decreased to 57.14. The score sharply decreased in June 2021 to 20. The average top



box score for the three months that preceded this quality improvement project was 50. These scores were compared to the top box scores during the intervention period. In June 2021, the top box score increased considerably to 87.50. In July 2021, the score was 75 and in August 2021, the top box score maintained at 75. The three-month average for this question was 81.25 which represented a percent change of 62.5%. For both questions, the average top box scores increased following the intentional rounding intervention on B3 thereby achieving the second outcome goal of this quality improvement project to also improve patient satisfaction.

In addition to the HCAHPS data, patient satisfaction was also evaluated through informal rounds completed by the nurse manager of B3 and the quality improvement project manager. These rounds were completed weekly and patients were chosen randomly. Overall, the feedback that was provided by the patients was overwhelmingly positive. Patients reported feeling as though they frequently engaged with staff and that their needs were met in a timely manner.

Outcome 3: Improve Nursing Staff Knowledge of Falls

A third measure goal of this quality improvement project was to enhance the knowledge of falls and falls prevention among the nursing staff on B3. This was measured by the use of pre-intervention and post-intervention staff surveys. The pre-intervention survey was made available to staff on B3 two weeks prior to the start of the quality improvement project. Paper copies were placed on the unit for staff to complete. The survey was completely voluntary but the nurse manager of B3 actively encouraged staff to participate. In total, 11 staff members completed the pre-intervention survey. The same process was followed for the post-intervention survey which was posted on the unit for two weeks following completion of the project. A total of 16 participants completed the post-intervention survey. The pre-intervention and post

intervention surveys assessed staff knowledge on falls (Appendix I: Pre-Intervention Falls Knowledge Staff Survey, Appendix K: Post-Intervention Falls Knowledge Staff Survey).

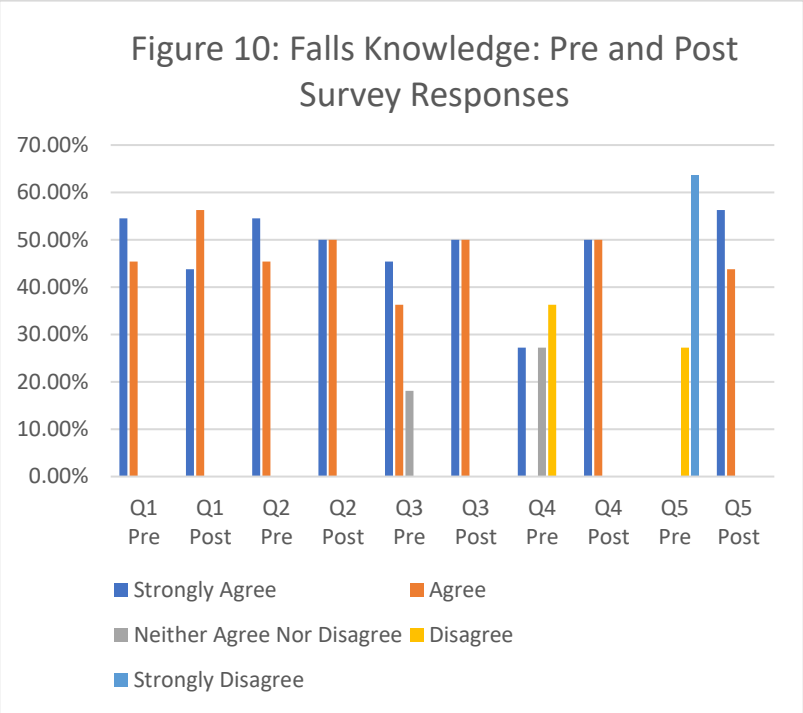
In response to the question, “I feel confident in my knowledge about falls”, six out of eleven or 54.5% of respondents reported “strongly agree” that they felt confident while five out of eleven or 45.5% reported “agree”. In comparison, on the post intervention survey, seven out of sixteen respondents or 43.75% reported “strongly agree” and nine out of sixteen or 56.25% reported “agree” that their knowledge of falls increased because of the project.

The pre-intervention survey asked whether B3’s fall data was clearly displayed on the unit. Six out of eleven or 54.5% reported “strongly agree” while five out of eleven or 45.4% reported “agree”. The post intervention survey asked whether staff better understood the unit fall data as a result of the project. 50% reported “strongly agree” and 50% reported “agree” that they better understood fall data following the project. Staff were queried as to whether they felt up to date with evidence-based falls prevention methods- 45.5% reported “strongly agree”, 36.3% reported “agree” and 18.1% “reported neither agree nor disagree”. In comparison, the post survey revealed that 50% of staff reported “strongly agree” and 50% “agree” that they better understood evidence-based methods of fall prevention, specifically intentional rounding, as a result of the project.

The pre-intervention survey asked whether “All patients admitted to the hospital are at risk for falls”. This question had some interesting results. Only 27.2% of respondents selected “strongly agree”, 0.090% or one out of eleven selected “agree”, three out of eleven or 27.2% selected “neither agree nor disagree” and four out of eleven or 36.3% selected “disagree”. It was expected that staff would agree that patients are at higher risk of falls while in the hospital- this was a potential learning opportunity for staff. The post intervention survey assessed whether

patients could benefit from intentional rounding. 50% of respondents strongly agreed and 50% agreed that all patients could benefit from intentional rounding.

Finally, staff where asked whether patients only need to be assessed for fall risk on admission to the hospital. One out of eleven responded "neither agree nor disagree", three out of eleven responded "disagree" and seven out of eleven responded "strongly disagree". In terms of the post-intervention survey, nine out of sixteen reported "strongly agree" and seven out of sixteen "agree" to better understanding of fall risks factors after having used intentional rounding. The staff knowledge benchmark by which success was measured was a greater than 90% response rate that staff felt an increase in knowledge related to patient falls. The staff knowledge benchmark was accomplished with 100% of participants either selecting "strongly agree" or "agree" on the post survey question - "I feel that my knowledge of falls has increased as a result of participating in intentional rounding". A chart showing a comparison between pre and post survey data can be found in Figure 10. While the pre and post survey questions were not always a direct correlate to one another, the post survey results revealed an overall improvement in nursing staff knowledge following participation in the intentional rounding protocol.



Outcome 4: Increase Unit Safety/Enhance Culture of Safety

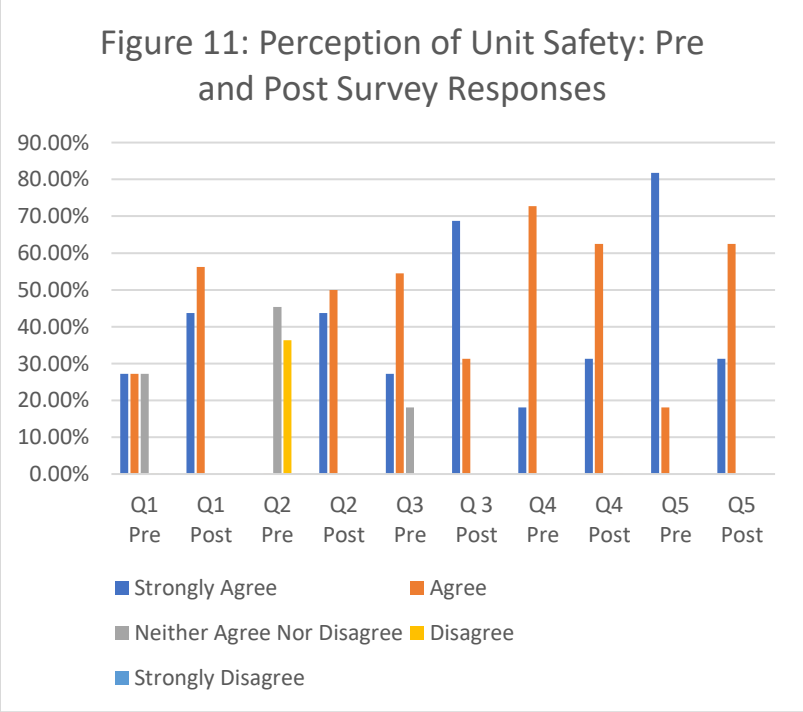
The same process was followed for the unit safety portion of the pre and post interventions. In response to the question, "Falls are currently a patient safety issue on B3", three out of eleven reported "strong agree", three out of eleven reported "agree", three out of eleven reported "neither agree nor disagree", one out of eleven reported "disagree" and one out of eleven "strongly disagree". Based on these results, it seems as though the staff were conflicted as to whether falls were truly a safety issue. In comparison, seven out of sixteen or 43.75% reported "strongly agree" and nine out of sixteen or 56.25% reported "agree" to the question "Patients are safer on B3 because of intentional rounding".

Staff were also asked whether B3 had more falls than average in comparison to other units in the hospital - the staff overwhelmingly thought that either falls were not a safety issue on B3 or were unsure with 45.4% reporting "Neither Agree nor Disagree" and 36.3% reporting "Disagree". In comparison, when asked on the post-intervention survey whether B3 had experienced fewer falls since intentional rounding was implemented, 43.75% reported "strongly agree" and 50% reported "agree". Staff were also asked whether they felt B3 had a comprehensive falls prevention plan in place. 27.2% reported "strongly agree", 54.5% reported "agree" and 18.1% reported "neither agree nor disagree". Conversely, when asked whether intentional rounding should become a permanent part of B3's fall prevention plan on the post-intervention survey, staff were in support of keeping intentional rounding with 68.75% reporting "strongly agree" and 31.25% reporting "agree".

Staff were additionally asked whether incident reports were looked at as opportunities for improvement on the unit - 18.1% reported "strongly agree", 72.7% reported "agree" and 0.090% reported "neither agree nor disagree". On the post-implementation survey, staff were asked

whether intentional rounding is easy to implement. 31.25% reported "strongly agree" and 62.5% reported "agree". One respondent reported "disagree". Finally, staff were asked whether or not all members of the staff were responsible for helping to prevent patient falls. 81.8% reported "strongly agree" and 18.1% reported agree on the pre-intervention survey. On the post-intervention survey, staff were asked whether or not intentional rounding fit well into their existing shift routine- 31.25% reported "strongly agree" and 62.5% reported "agree". One respondent reported "neither agree nor disagree". This data was encouraging as staff were overwhelming in favor of continuing intentional rounding, found it easy to implement and did not feel it created a significant amount of additional work.

The benchmarks for success on the unit culture surveys were a greater than 90% response that patient safety was increased on B3 due to intentional rounding - this was accomplished with 100% of staff responding either "strongly agree" or "agree" to the question "Patients are safer on B3 because of intentional rounding". Additionally, the goal was for a greater than 90% response to staff endorsing the continued use of intentional rounding on B3- this was achieved with 100% of staff reporting "strongly agree" or "agree" to the question "Intentional rounding should become a permanent part of B3's fall prevention bundle". A graph summarizing the pre and post



survey responses for unit safety can be found in Figure 11.

Discussion

This quality improvement project demonstrated that intentional staff rounding is a staff supported intervention that reduced patient falls and falls with injury among hospitalized patients on one unit in a community hospital north of Boston. This quality improvement project achieved its main goal of reducing patient falls. It additionally met the secondary goal of improving patient satisfaction scores. Finally, the quality improvement project succeeded in improving staff knowledge regarding falls as well as improved the perception of unit safety on B3. This project had some important strengths to consider. First, the intervention of intentional rounding proved to be easy to implement as well as cost effective. In terms of enhancing an existing falls prevention bundle for an inpatient unit, intentional rounding is relatively easy to implement with minimal staff training required and has very minimal costs associated with implementation.

Intentional rounding was found to decrease patient falls. The most likely cause for this is because intentional rounding requires a staff member to be checking in with patients on an hourly basis and asking pointed questions as to whether the patient has a particular need at that time. This therefore decreases the likelihood of a patient attempting to ambulate unassisted to use the bathroom or to retrieve an object they need. Additionally, intentional rounding increased staff- patient interaction likely contributed to the increased patient satisfaction as patients felt that their needs were being met in a prompt manner.

Another additional and noteworthy finding of this quality improvement project was the overwhelming support of the staff for this intervention. Implementing intentional rounding required a change in workflow for both the registered nurses and clinical associates on B3. However, as demonstrated in the post intervention unit safety survey data, 100% of staff reported

that they were in support of maintaining an intentional rounding protocol following completion of this project. The staff support of the intentional rounding protocol was an impressive finding especially in the setting of staff turnover and emotional burnout, both of which are endemic in today's post pandemic health care setting.

The findings of this quality improvement project are consistent with the results of the literature search that was completed at the onset of the intentional rounding project. Many of the articles that were included in the literature review concluded that intentional rounding decreased patient falls on the units in which the intervention was trialed. The same is true for B3 following the three-month intervention period utilizing intentional rounding. B3 saw only two falls over the three months that the project was implemented. In the three months prior to the intervention, B3 had a total of six falls. Based on this, intentional rounding was clearly a beneficial intervention for B3.

As above, the overall goal of the intentional rounding project was to reduce patient falls in the hospital setting thereby improving patient outcomes. As previously discussed, falls can have devastating consequences on patient morbidity and even mortality. Furthermore, falls typically increase patient length of stay in the hospital placing patients at risk for additional complications. By actively working to reduce patient falls, patients are protected from the potential sequalae of falls. Additionally, patient and hospital incurred costs are reduced and nursing sensitive indicators improve thereby improving the individual hospital's record of quality nursing care.

There were no differences between anticipated and observed outcomes. It was expected at the beginning of this quality improvement project that intentional rounding would decrease patient falls and that is what was observed. Additionally, it was anticipated that patient

satisfaction scores would improve and patients would report a better experience by the enhanced patient-staff interaction that intentional rounding creates. Improved patient satisfaction was also observed as a result of the intervention. One interesting observation reported by the B3 staff was that call bell usage decreased during the intervention period. Decreased call bell usage was not necessarily an anticipated outcome; however, it was not entirely surprising given that patient's needs were continuously assessed by virtue of using intentional rounding.

As reported previously, there were no significant costs incurred from this quality improvement project. There are ways in which intentional rounding could be optimized that would translate into additional costs. For example, the use of dedicated staff champions to ensure completion of intentional rounding would likely require the cost of several additional clinical associates. Additionally, the clinical associates would need time in their shifts protected to ensure they would have the bandwidth to complete regular auditing of intentional rounding attestations.

Limitations

There were some important limitations to this quality improvement project that must be discussed. First, the ongoing, overarching impact of the COVID 19 pandemic has had an impact on the hospital in which the project was conducted. Staff turnover is currently a widespread issue in nursing with staff leaving the bedside and hospital setting for a variety of factors including personal illness, burnout and job dissatisfaction. B3 did have some staff turnover during the quality improvement project but not nearly as great as some other units in the hospital. However, the resulting hospital wide short staffing affected the ability of B3 to staff to core and acuity needs at times throughout the quality improvement project. Specifically, on the two days that patient falls occurred during the project, staffing and patient acuity were most certainly

contributing factors. Also due to staffing constraints, the quality improvement project was unable to utilize champions for intentional rounding on the unit to complete audits to ensure the rounding was being performed. Instead, the project investigator and nurse manager shared the task of periodically performing random audits for intentional rounding completion periodically. Random auditing was an adjustment made to ensure some monitoring of consistent implementation was in place. Random auditing was not the most effective way of ensuring completion of rounds. Additionally, staff provided consistent feedback that although they were completing the rounds, they were often forgetting to mark it on the patient's white boards. The incomplete documentation on the whiteboards is a constraint that is understandable in a busy acute care setting.

One potential confounding factor is the homogenous patient population. The vast majority of the patients were white or Caucasian. Although data on patient's primary language was not assessed, it is likely that English was the primary language for the majority of these patients. The results may have been different if there had been a larger population of non-primary English-speaking patients on the unit. It is also unknown whether the results of this quality improvement project are generalizable to other inpatient units with different staffing and patient populations. Additionally, the application of intentional rounding may not produce the same results in an outpatient setting. Additional studies could be conducted to assess whether intentional rounding is effective in outpatient settings with patients at high risk for falls.

One particular strength of the project was the use of Neuman's System Model, the ADKAR Model and the PDSA Model. Using prevention as an intervention supported Neuman's System Model. The ADKAR and PDSA Models helped to guide project implementation and assessment. In particular, the ADKAR Model provided a framework by which to implement

intentional rounding whereas the PDSA Model guided evaluation of the efficacy of the project and next steps.

Conclusion

The implementation of an intentional rounding protocol on B3 was a performance improvement project success. Intentional rounding not only reduced patient falls and falls with injury but also improved patient satisfaction. The literature has shown that intentional rounding is a cost conscious and effective intervention that improves patient outcomes. Unfortunately, since the conclusion of this quality improvement project, intentional rounding has somewhat fallen out of practice on B3. The decrease in intentional rounding following the project is in part due to ongoing staff turnover as well as leadership transitions. The hospital hopes to implement a hospital wide intentional rounding protocol for all patient care units in the near future. One of the greatest challenges the hospital anticipates in terms of implementing a widespread rounding protocol is ensuring some sort of attestation or accountability process to ensure staff are completing the rounds. The lack of consistent attestation was also a major limitation in this project. One consideration would be to incorporate an attestation process in the electronic medical record as other health care institutions have done to facilitate staff attestation. However, it is important to note that despite the lack of a formal attestation process during this project, patient fall rates still decreased.

Intentional rounding is a sustainable intervention if the proper supports are in place. There were minimal financial costs to implementing intentional rounding. Staff do not need extensive training on how to perform these types of rounds. Ensuring adequate staffing is the main component needed to sustain intentional rounding. As was demonstrated in this quality

improvement project, the days in which B3 encountered significant staffing challenges were also the days on which patients sustained falls.

Based on the successful results of the B3 intentional rounding project, disseminating the practice of intentional rounding to other units in the hospital is certainly feasible. There are existing training materials from this quality improvement project that could be used for hospital wide staff training. Patients on B3 were receptive to the practice therefore, it is likely that patients admitted to units elsewhere in the hospital would equally support intentional rounding. Intentional rounding is an ideal component to falls prevention bundles for all patient populations. Although this quality improvement project focused on the application of intentional rounding in the inpatient setting, the principles of intentional rounding could be applied to outpatient settings in which patients are at higher risk for falls. An area for future research into intentional rounding is whether stratifying patients based on Morse Fall Score impacts the utility of intentional rounding. For example, research into whether a patient with a low Morse Fall Score could benefit from intentional rounding would be interesting to research. However, based on the results of the B3 study, it seems that all patients are likely to benefit from the practice of intentional rounding.

Next steps for the hospital that hosted this quality improvement project are to reinstate intentional rounding on B3 and focus on disseminating an intentional rounding protocol on all inpatient units. Unit based champions who can audit for the completion of intentional rounding should be identified in the absence of an electronic attestation process. Patients should also continue to receive educational information on intentional rounding as they did on B3. In addition to a well-rounded falls prevention plan, intentional rounding has the potential to reduce patient falls, improve patient satisfaction and enhance patient outcomes.

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Appendix A: Table 1, Evidence Synthesis Table

Evidence Synthesis Table

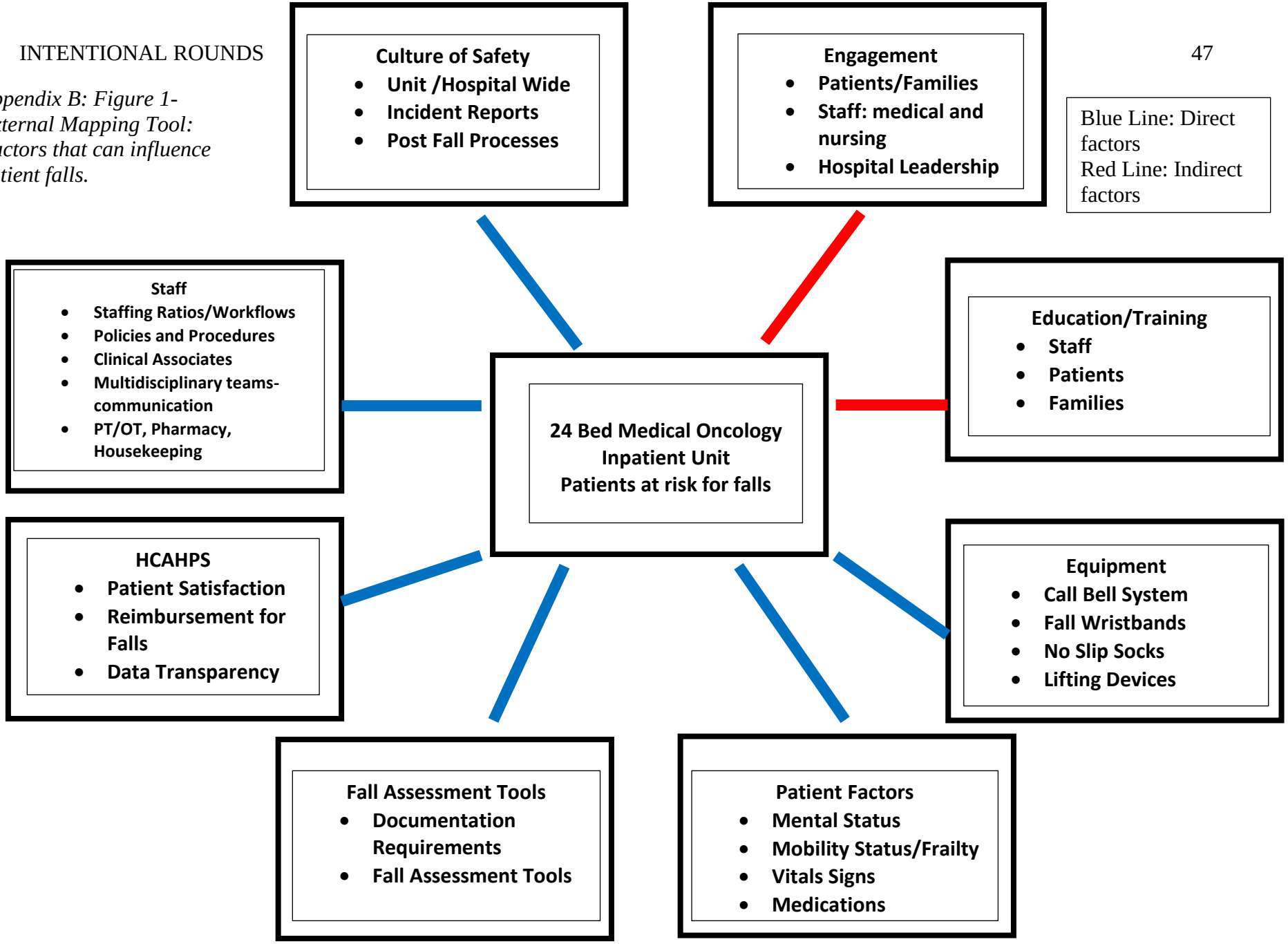
Intervention	**Number of Studies**	**Significant Findings**	**Level of Evidence and Quality**
Hourly Rounding/Purposeful or Intentional Rounding	1. Implementation of purposeful hourly rounds in addition to a fall bundle to prevent inpatient falls on a medical-surgical acute hospital unit (Grillo, Firth, & Hatchel, 2019) 2. Intentional rounding: a staff-led quality improvement intervention in the prevention of patient falls (Morgan, Robertson, New, Forde-Johnston, & McCulloch, 2016.) 3. The got-a-minute campaign to reduce patient falls with injury in an acute care setting. (Spicer, Delmo, & Agdipa, 2017)	1. Purposeful rounding by nurses every hour during the day and every 2 hours at night. Rounds focused on "5 Ps": pain, potty, position, possessions, and plan of care. Fall rate per 1000 patient days dropped from 5.31 to 2.58 post intervention. 2. Intentional rounding led to a 50% decrease in falls on the study unit as opposed to the control unit. Rounds completed every shift by nursing leadership (or designee) on high risk patients. Focused on common patient needs such as creating a toileting schedule. Debriefs were also conducted with the patient and family after a fall occurred. Fall with injury rate went from 1.21/1000 patient days in year 1 to 0.15/1000 patient days in year 3.	1. Level II, B 2. Level II, B 3. Level II, B

Fall Toolkit created which included: • Staff education programs • Post Fall Huddles • Falls Team • Audits for compliance to Fall Toolkit	Fall reduction and injury prevention toolkit: Implementation on two medical surgical units (Ambutas, Lamb, & Quigley, 2017)	Both units involved in this study had a 20-22% reduction in overall falls and a 61-66% reduction in falls with injury.	Level II, B
Bedside Trolley Setup	Quality assurance of falls reduction in an orthopedic ward using a novel bedside trolley table set up strategy (Chan, Wadsley, & Ferriere, 2017)	Patients with a Stratify Score of $\geq$ 17 (indicating high fall risk) who also exhibited signs of altered mental status had a specialized bedside table set up. The table was positioned over the bed as if the patient was using it for a meal and beneath the table was a bed alarm sensor. If the patient attempted to pull the table away in order to exit the bed, the alarm would sound. Patients in this group had a 71% reduction in falls.	Level II, B
Creation of Population Specific Fall Assessment • TL-FRAT (Traffic Light Fall Risk Assessment Tool)	Fall risk program for oncology inpatients (Chang, Chen, Teng, Yeh, & Yen, 2018)	Oncology specific risk factors added into falls assessment tool taking into account for deconditioning, impaired mobility and cognition that can be secondary to a cancer diagnosis.	Level II, B

		Patients were assigned a "traffic light" color: red, yellow or green and these colors indicated fall risk status. Incidence of falls on trial unit was decreased by nearly half after implementation.	
Bedside Debriefings	Improving fall rates using bedside debriefings and reflective emails: One unit's success story (Howard, Huster, Hlodash, Feil, Gunther, & Schneider, 2018)	Pre-intervention fall rate was 4.19 per 1000 patient days. This decreased to below unit's benchmark to 2.5 per 1000 patient days post-intervention.	Level II, A
Educational Patient Cards/Mobility Cards (Patient and Staff Education)	1. Partnering with the patient to reduce falls in a medical surgical unit. (Rochon, & Salazar, 2019) 2. Decreasing patient falls and increasing communication through the use of patient mobility cards. (Lipsett, & White, 2019)	1. Educational cards created to ensure that all patients were receiving the same falls information. Patients awarded certificate if they reached day of discharge without a fall. Fall rates decreased 71%. Length of stay also decreased. 2. Individualized mobility cards with patient specific needs were placed outside the patient's room in order	1. Level II, A 2. Level II, B

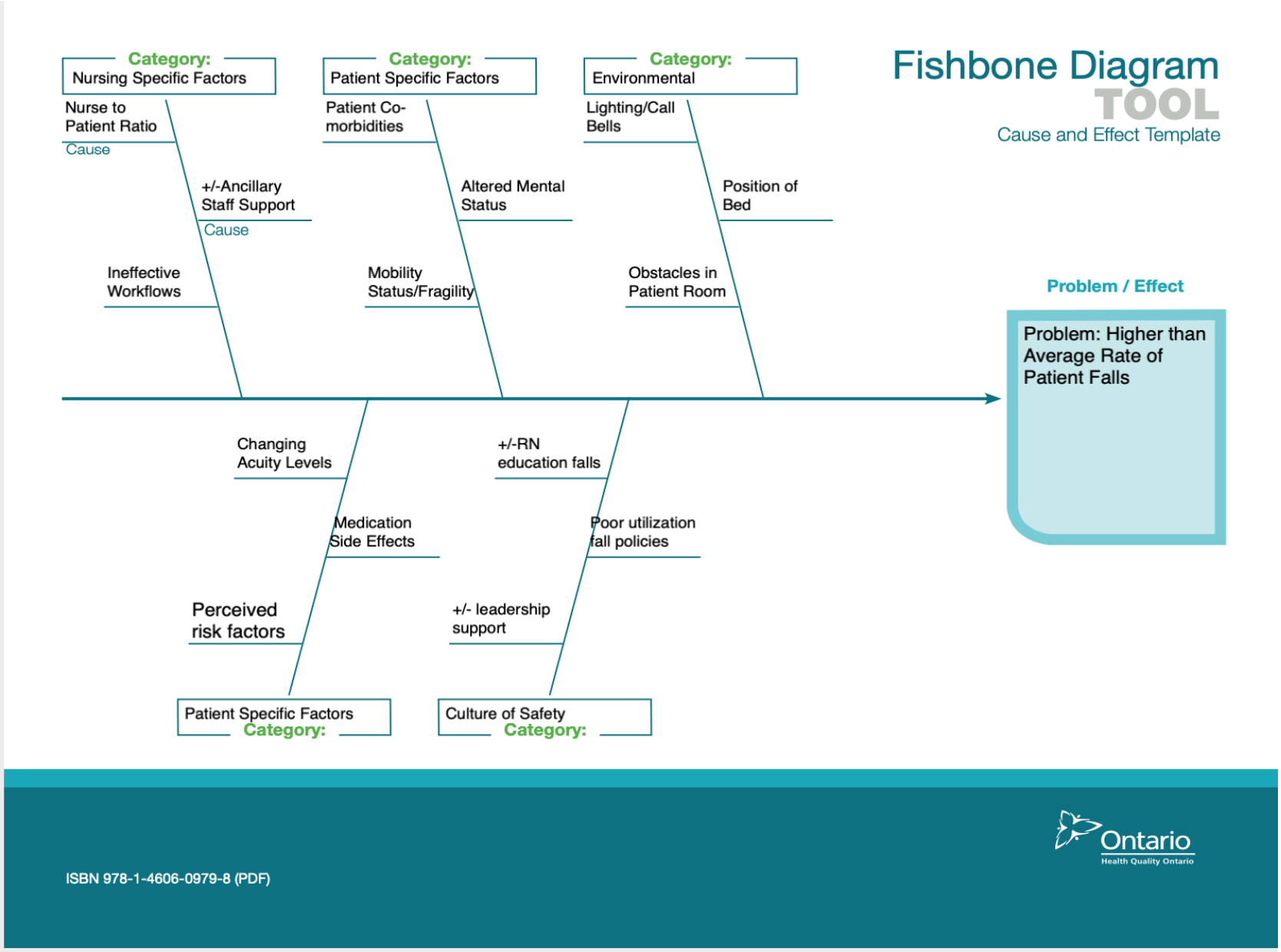
		to make all disciplines aware of patient's fall risk. Fall rate decreased from 3.16 falls per 1000 patient days to 1.64 falls per 1000 patient days.	
Color Coded Flag System	Assessing the use of an innovative color coded flag system in an outpatient oncology infusion center. (Shah, 2020)	Yellow colored flag assigned to high fall risk patients and displayed outside infusion bay. Patients with yellow flags were to be first priority in responding to call bells and were to be rounded on every 30 minutes instead of every hour. Fall rate dropped from 5% to 0% and remained at 0% for a year following the study period.	Level II, B

Appendix B: Figure 1- External Mapping Tool: Factors that can influence patient falls.

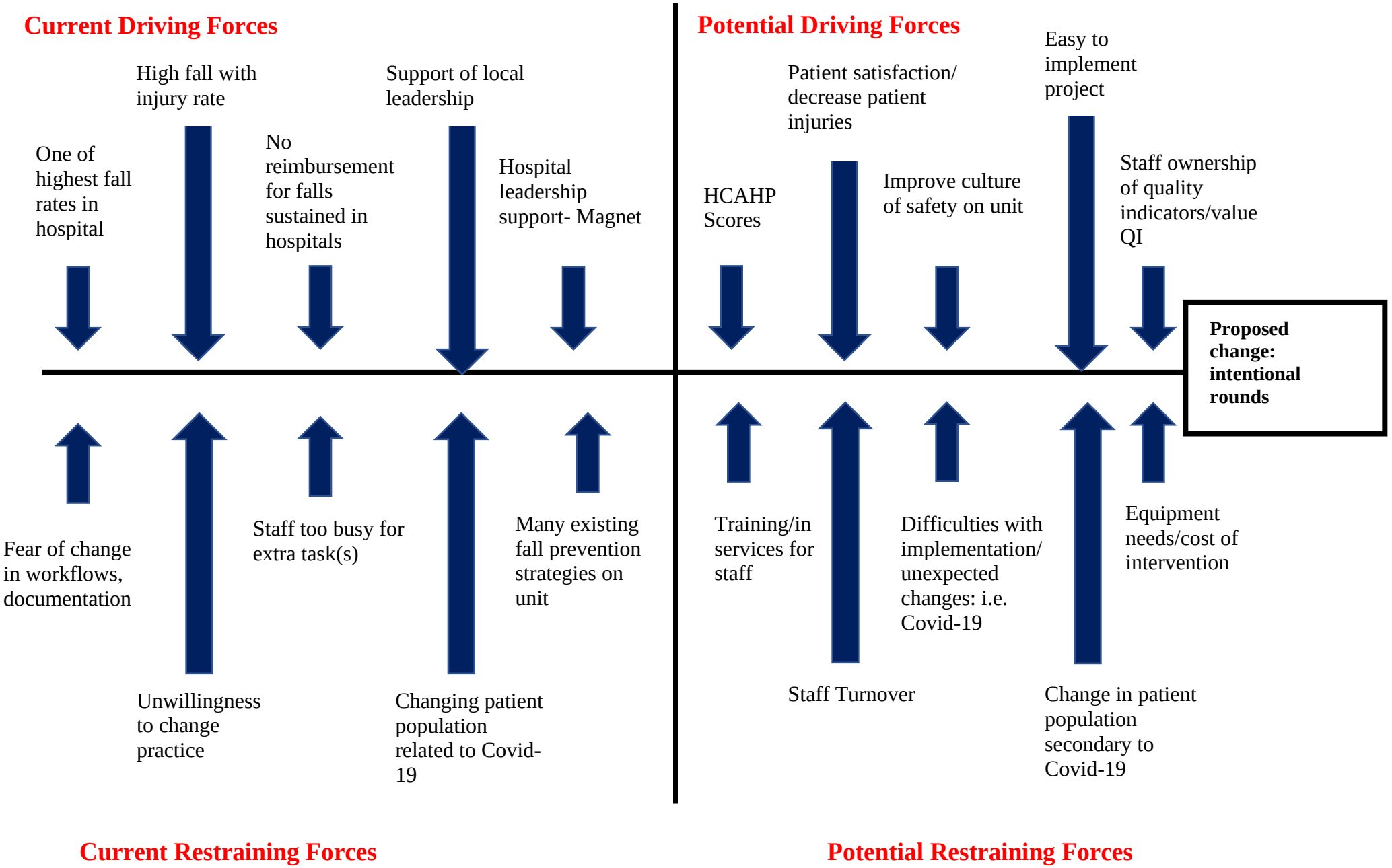


Improvement Ideas: Intentional Rounding By Staff, Increased Patient and Family Education, Mobility Cards for Patients, Color Coded Fall Risk Signs, Staff Education, Altered Bedside Setups, Post Fall Huddles/Debriefs

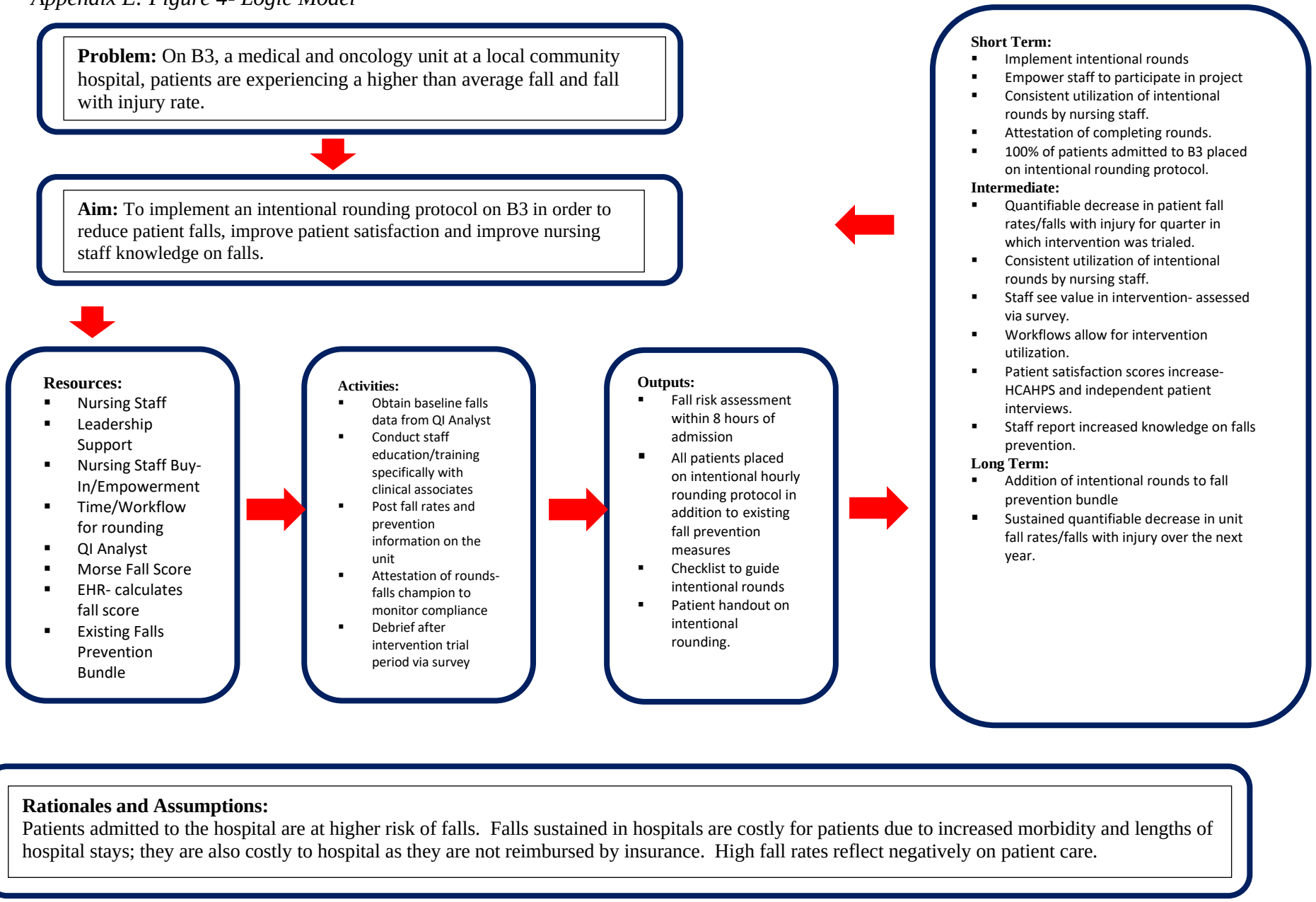
Appendix C: Figure 2- Fishbone Diagram- Cause and Effect Template



Appendix D: Figure 3- Force Field Analysis of Current and Potential Driving Forces



Appendix E: Figure 4- Logic Model



Appendix F: Figure 5- Clinical Quality Checklist

CLINICAL QUALITY IMPROVEMENT CHECKLIST

Date: **Kellie Olsen**	**Project Leader: Kellie Olsen, Linda Curtin, Pamela Linzer, Jacqueline Fawcett**
Project Title: **Implementation of Intentional Rounds to Decrease Patient Falls on an Inpatient Medical Telemetry Unit**	
Institution where the project will be conducted: **Winchester Hospital**	

Instructions: Answer YES or NO to each of the following statements about QI projects.	**YES**	**NO**
The specific aim is to improve the process or deliver of care with established/ accepted practice standards, or to implement change according to mandates of the health facilities' Quality Improvement programs. There is no intention of using the data for research purposes.	**X**	
The project is **NOT** designed to answer a research question or test a hypothesis and is **NOT** intended to develop or contribute to generalizable knowledge.	**X**	
The project does **NOT** follow a research design (e.g. hypothesis testing or group comparison [randomization, control groups, prospective comparison groups, cross-sectional, case control]). The project does **NOT** follow a protocol that over-rides clinical decision-making.	**X**	
The project involves implementation of established and tested practice standards (evidence based practice) and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does **NOT** develop paradigms or untested methods or new untested standards.	**X**	
The project involves implementation or care practices and interventions that are consensus-based or evidence-based. The project does **NOT** seek to test an intervention that is beyond current science and experience.	**X**	
The project has been discussed with the QA/QI department where the project will be conducted and involves staff who are working at, or patients/clients/individuals who are seen at the facility where the project will be carried out.	**X**	
The project has **NO** funding from federal agencies or research-focused organizations, and is not receiving funding for implementation research**.**	**X**	
The clinical practice unit (hospital, clinic, division, or care group) agrees that this is a QI project that will be implemented to improve the process or delivery of care.	**X**	
The project leader/DNP student has discussed and reviewed the checklist with the project Course Faculty. The project leader/DNP student will **NOT** refer to the project as research in any written or oral presentations or publications.	**X**	

ANSWER KEY: If the answer to **ALL** of these questions is **YES**, the activity can be considered a Clinical Quality Improvement activity that does not meet the definition of human research. **UMB IRB review is not required**. **Keep a dated copy of the checklist in your files.** If the answer to ANY of these questions is NO, the project must be submitted to the IRB for review.

Appendix G: Figure 6- Intentional Rounding Checklist

Reminders for Intentional Rounding

"The 5 Ps"

- Pain
- Potty
- Position
- Possessions
- Plan of Care

Environment Reminders

Call Bell in Reach?
Chair/Bed Alarm Activated (if indicated)?
Bed in Lowest Position?
Room Free of Unnecessary Clutter?

Appendix H: Figure 7- Intentional Rounding Information for Patients

B3 Intentional Rounding Project

On B3 between the months of June-September 2021, we will be piloting a project on “Intentional Rounding”. A member of our staff will be checking in on you each hour during the day time hours and every 2 hours at night. They will be rounding on you to ensure that all of your needs are met, that you have everything you need within reach, and that you are comfortable. Intentional Rounding is a popular nursing practice that has been shown to improve patient outcomes. If you have any questions, just ask your nurse or clinical assistant!

Appendix I: Pre-Intervention Falls Knowledge Staff Survey

Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I feel confident in my knowledge about falls					
Fall data for B3 is displayed on the unit so that staff and patients can review					
I am up to date with evidence-based falls prevention methods					
All patients admitted to the hospital are at risk for falls					
Patients only need to be assessed for falls risk upon admission to the hospital					

Appendix J: Pre-Intervention Perception of Unit Safety Staff Survey

Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Falls are currently a patient safety issue on B3					
B3 has more falls on average than other units in the hospital					
B3 has a comprehensive falls prevention plan in place					
Incident reports are viewed as an opportunity to improve care					
All staff members on B3 are responsible for helping to prevent patient falls					

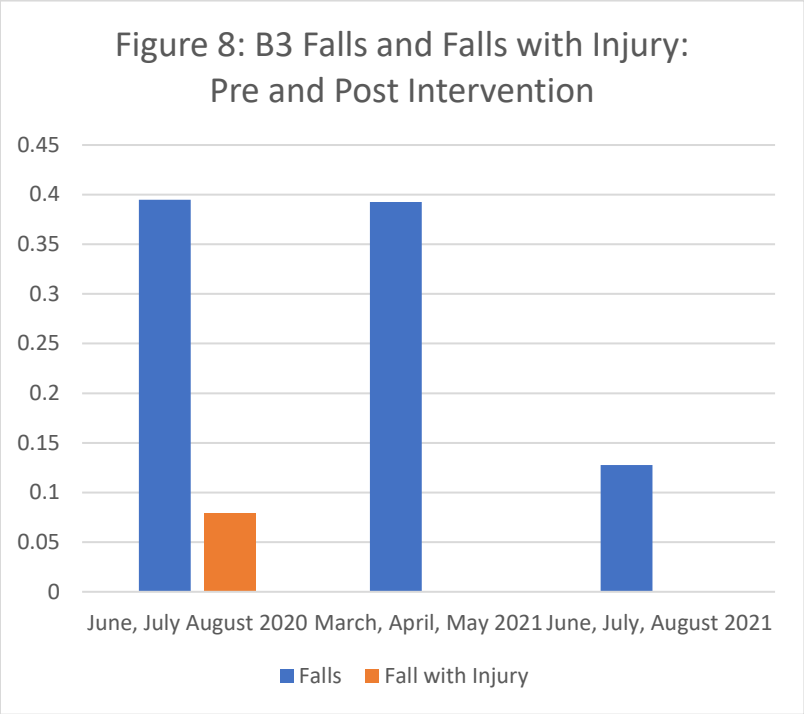
Appendix K: Post-Intervention Falls Knowledge Staff Survey

Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I feel that my knowledge of falls has increased as a result of participating in intentional rounding					
I better understand B3's fall data					
I better understand the role of intentional rounding as a fall prevention strategy					
All patients stand to benefit from intentional rounding					
I better understand patient risk factors for falls having used structured intentional rounding to focus on common patient needs					

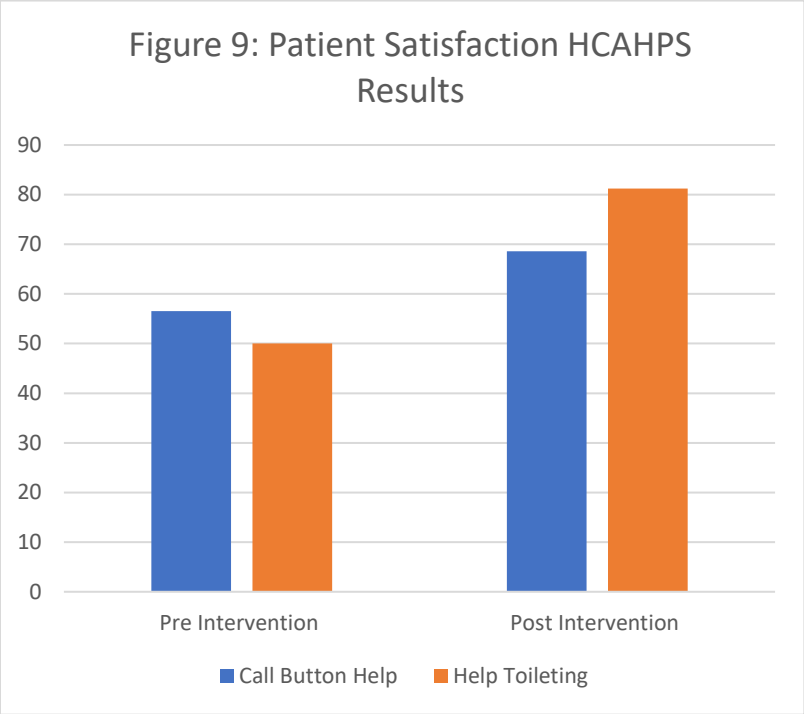
Appendix L: Post-Intervention Perception of Unit Safety Staff Survey

Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Patients are safer on B3 because of intentional rounding					
B3 has experienced fewer patient falls since implementing intentional rounding					
Intentional rounding should become a permanent part of B3's fall prevention bundle					
Intentional rounding is easy to implement					
Intentional rounding fits well into my existing shift routine					

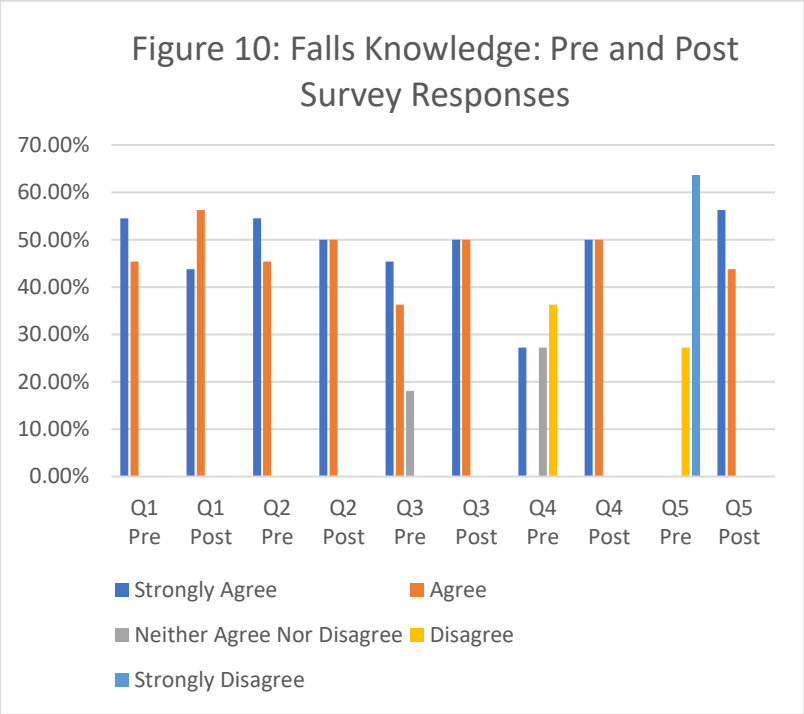
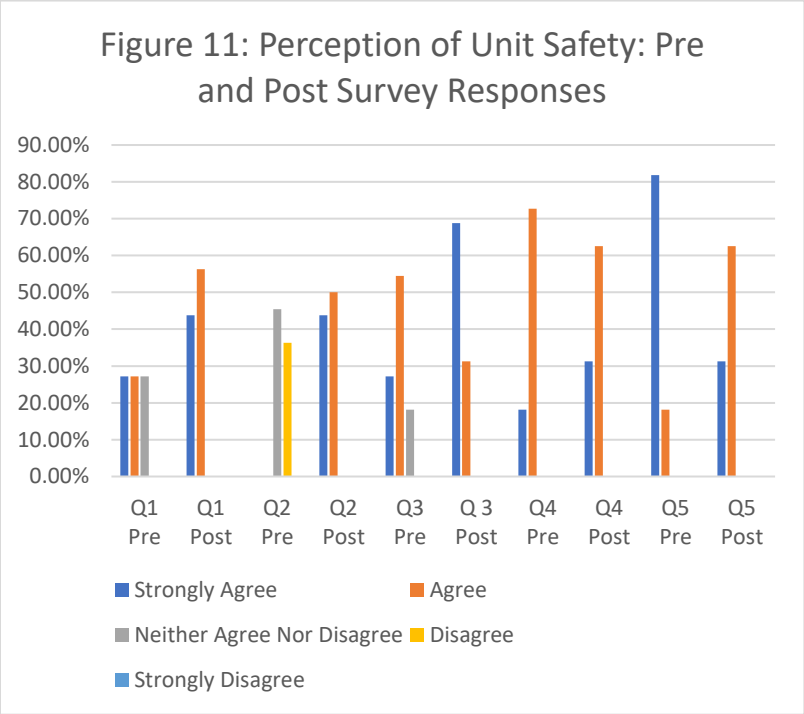
Appendix M: Figure 8: B3 Falls and Falls with Injury: Pre and Post Intervention



Appendix N: Figure 9: Patient Satisfaction HCAHPS Results



Appendix O: Figure 10: Falls Knowledge- Pre and Post Survey Responses



Appendix P: Figure 11: Perception of Unit Safety- Pre and Post Survey Responses