A DNP PROJECT

Reducing Acute Care Hospital Setting Inpatient Falls with Implementation of Hourly Rounding: A Quality Improvement Project

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by

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Dedication

I dedicate this thesis to my husband, Nick, and my family. Without their patience, support, understanding, and most of all love, the completion of this work would not have been possible.
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ABSTRACT

Falls in the acute care setting can lead to serious patient injuries. Despite continued efforts to reduce falls, falls are still a common occurrence. One strategy that has been identified as promoting patient safety, including the prevention of falls, is that of hourly rounding. This quality improvement project implemented hourly rounding utilizing the AHRQ’s 3B: Scheduled Rounding Protocol on a 48-bed telemetry unit to study the effects on fall reduction. Comparison of fall rates prior to the implementation of hourly rounding to that after hourly rounding was incorporated into practice, showed a reduction; however, the reduction of fall rates was not statistically significant.

*Keywords: rounding, hourly rounding, patient falls, nursing, bedside nursing, patient safety, fall prevention*
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Reducing Acute Care Hospital Setting Inpatient Falls with Implementation of Hourly Rounding: A Quality Improvement Project

Patient safety related to unplanned falls continues to be a problem in the acute care setting. Falls impact both the patient and the hospital. In the United States, every year, hundreds of thousands of patients fall while hospitalized with approximately 30-50 percent of the falls resulting in injury (Joint Commission, 2015). Inpatient falls, defined as a sudden, unintentional descent, with or without injury to the patient, which result in the patient coming to rest on the floor, on or against some other person or an object, are calculated as the rate of falls per 1000 occupied bed days, and in the U.S. range between 1.7 to 25 per 1,000 patient days. (Currie, 2018; NDBQI, 2016). With approximately 37 million hospitalizations each year in the U.S. there is potential for more than 1 million inpatient falls. Even though there has been some progress in fall reduction in recent years, efforts to further reduce falls is imperative.

Increased age is associated with increased risk for falls (Arab, Godarzi, Najafpour, & Yaseri, 2019). With the aging of the "baby boomer" generation, the growth of the older U.S. population is accelerating; approximately 10,000 baby boomers turn 65 years of age each day which will continue until 2030 (Ferris, & Song, 2018). Additionally, research has highlighted the changes that the Baby Boomer generation will have on the population, demographics, culture, and economy; however, when discussing public health, the issue of inpatient falls is gaining attention as this has been deemed a preventable event. The issue of the growing older population combined with increased risk associated with age creates a problem with high incidence and injury susceptibility (Dellinger, 2017).
**Effects on Patients**

Falls can have both physical and psychological consequences on the patient. Physical consequences include soft tissue injuries and fractures, and can lead to long-term health implications (Berk, Jacka, Pasco, Stuart, & Williams, 2018). Hip fractures are the most common injury after a patient suffers a fall (Abbas, Hefny, & Zidan, 2016). Johns Hopkins Medicine (2015) found that as many as 20% of hip fracture patients die within a year of their injury. Additionally, 25% of patients who suffer a hip fracture who lived independently before their injury reside in a nursing home for at least a year after their injury (Johns Hopkins Medicine, 2015). Falls are a major threat to individuals and can often cause a decline in self-care ability and participation in physical and social activities. According to Mahoney, Phelan, Stevens, & Voit (2016), “Fear of falling, which develops in 20% to 39% of people who fall, can lead to further limiting activity, independent of injury” (p. 1).

In addition to physical consequences, falls have also been found to be an independent predictor for depression in the elderly population (Pin & Spini, 2016). Falls appear to have severe psychological consequences including depression, increased fear, and decreased life satisfaction (Berk, Jacka, Pasco, Stuart, & Williams, 2018). Falls are also associated with decreases in the well-being of quality of life of the elderly (Pin & Spini, 2016). Furthermore, individuals who have suffered falls are more likely to reduce outdoor activities which can in turn reduce social relationships with family or friends (Pin & Spini, 2016).

**Effects on Resources**

Falls have effects on hospitals and related resources as well. The average cost for a fall with injury is approximately $14,000 (Joint Commission, 2015). Institution specific protocols following a fall can lead to expensive imaging, mainly from head CTs. Head CTs have been
shown to be a relatively expensive test at an average of $662 per head CT compared to $194 per X-ray (Alturkistani et al., 2015). Patients who suffer an injury after a fall require additional treatment and prolonged hospital stays with an average of 6.3 added days (Joint Commission, 2015).

Falls can place financial burden on hospitals. In 2008, the Centers for Medicare and Medicaid Services (CMS) stopped reimbursing hospitals for costs associated with patient falls. The financial impact of non-reimbursement has been a driving-force to better understand fall risks and preventive strategies. Falls continue to place financial burdens on hospitals, specifically, it is estimated that up to 1,000,000 inpatient falls occur annually in the United States with an associated cost greater than $30 billion (Centers for Disease Control and Prevention, 2015). Additionally, 30 to 35% of those patients who fall subsequently suffer an injury with as many as 11,000 falls being fatal (Joint Commission Center, 2016).

**Fall Risks**

Certain risk factors increase the opportunity for falls. Risk factors can be categorized as individual and environmental (Mahoney, Phelan, Stevens, & Voit, 2015). Individual risk factors include age-related changes, acute illnesses, chronic conditions, sensory deficits, cognitive deficits, gait, strength or balance deficits, and behaviors. Environmental risk factors include medications, footwear, assistive devices, support from caregivers, home/neighborhood features, and alcohol/drugs. Falls can result from a combination of multiple risk factors with an increased risk of falling when there is an increased number of risk factors (Mahoney, Phelan, Stevens, & Voit, 2015).

Certain medical conditions have been linked to patient falls. Cancer has been identified as a medical condition that increases patients’ risk for fall; patients who undergo oncology treatment
may be more prone to fall-related injuries due to anemia, thrombocytopenia, and risk for pathologic fracture (Arab, Godarzi, Najafpour, & Yaseri, 2019). Additionally, visual impairments place patients at risk for falls due to reduced visual acuity, poor balance, false perception of the environment and sensory loss (Arab, Godarzi, Najafpour, & Yaseri, 2019). Other medical conditions that have been linked to increased falls are stroke, Parkinson disease, diabetes, and depression (Arab, Godarzi, Najafpour, & Yaseri, 2019).

Certain patient medications have demonstrated marked associations with fall incidents. Specifically, sedatives, anticonvulsants, benzodiazepines, ACE inhibitors, anti-infective agents, antihistamine drugs, and chemotherapy agents increases the likelihood of falls (Arab, Godarzi, Najafpour, & Yaseri, 2019). Data has also shown a correlation among intake of hypotonic and diabetic drugs with increased rate of falls among hospitalized patients (Arab, Godarzi, Najafpour, & Yaseri, 2019).

**Fall Assessments**

Proper assessment to identify high fall risk patients is key. The needs that are important to assess, according to the Joint Commission (2016), include the accurate retransfer of fall risk information between caregivers. Patients need to be assessed for their understanding of instruction related to their risk for falls. Patient call light responses time are also important to consider, as the longer a call light goes unanswered, the more likely a patient will attempt to ambulate on their own. Arab et al. (2019) report that approximately 67% of falls are unassisted and had no observer or transfer aid in the room. Frequent assessment of a patient’s toileting needs will also help reduce the likelihood of unassisted ambulation that could result in a fall. Arab et al. (2019) report that the majority of falls occur near or in the bathroom, with the highest number of falls occurring during the night shift. A review of the patient’s medications may assist the nurse in their
awareness of the medications associated with great fall risk, as outlined earlier. Additionally, an organization culture is vital to reducing falls as it has been shown a culture that places emphasis on patient safety have staff members who actively are involved in the promotion of safety.

Fall risk assessments are instruments that are aimed at identifying patients at increased risk for falls (Ivziku & Matarese, 2016). While many institutions have created their own fall assessment tools, the AHRQ (2015) have identified the Morse Fall Scale® and the STRATIFY® as the most common instruments used. Both scales have well-established reliability and validity. When the fall assessment tools are used correctly, they generate valuable data that guide the plan of care with regard to necessary fall prevention measures.

The Morse Fall Scale® consist of six subcategories that answer questions regarding history of falls, secondary diagnosis, use of ambulatory aid, presence of IV/heparin lock, gait, and mental status (AHRQ, 2015). This tool can be used by staff nurses to determine if a patient is at a risk for falls. The tool produces a numerical value ranging from 0, indicating no risk for falls, to 45, indicating high risk for falls (AHRQ, 2015).

The STRATIFY® addresses five subcategories that answer questions regarding transfer/mobility, history of falls, vision, agitation, and toileting needs (AHRQ, 2015). This tool, like the Morse Fall Scale®, is used by staff nurses to determine if a patient is at risk for falls. The tool produces a numerical value ranging from 0, indicating low risk for falls, to 2, or above, indicating high risk for falls (AHRQ, 2015).

**Fall Prevention**

Common strategies to reduce falls include using a wide range of interventions based on fall assessment scores. HeLaurin and Shorr (2019), include the use of non-slip footwear by the patient, bed alarms to notify staff of patient movement, physical restraints to keep patients
immobile, yellow arm bands that indicate that the patient is at risk for falls, patient room proximity close to the nurses’ station to increase staff visits, use of sitters to provide one-on-one surveillance, and use of low-low beds. While most of these interventions have associated minimal costs, the use of sitters can be quite costly, as indicated by the more than $1 million spent annually on sitter care in the U.S. (HeLaurin & Shorr, 2019). Educating the patient on fall risk is another strategy to help reduce falls, although the effects of education alone on fall prevention has not been studied. Patient education when included in a multifactorial approach has shown to be effective (HeLaurin & Shorr, 2019).

Another intervention that has been shown to help ensure patient safety, including the prevention of falls is that of hourly rounding. Hourly rounding is a best practice intervention aimed to address patient care needs, ensure patient safety, and decrease the occurrence of patient preventable events including falls (Daniels, 2016). In a study conducted by Bergey, Cunningham, Goldsack and Mascoli (2015), hourly rounding was implemented with the results that demonstrated that an hourly rounding program was associated with a significant reduction in fall rates. Specifically, fall rates decreased from 3.9 falls/1,000 patient days to 1.3 falls/1,000 patient days (Bergey, Cunningham, Goldsack & Mascoli, 2015). Cato et al. (2020), identifies a strong correlation with increased staff presence with decreased fall rates. Specifically, Cato et al. (2020), found that nursing presence was directly related to patient falls. Conversely, lack of nursing staff interaction with patients have been associated with higher risks of adverse events such as patient falls (Cato et al., 2020). Brosey and March (2015), identify that structured hourly nurse rounding as an effective method to reduce adverse patient events and improve patient satisfaction. The overall significance in the implementation of hourly rounding encourages a safe environment for patients and allows for reduced falls and fall-related injuries.
Quality Indicators

The Agency for Healthcare Research and Quality (AHRQ) (2019) encourages hospitals to focus their efforts on improvement over time within both individual units and the hospital overall. According to the AHRQ (2019), there has been an overall decrease of inpatient falls by 5% from the years 2014 to 2019 attributed to enhanced prevention efforts. While this reduction in falls is promising, fall rates still remain problematic, and have not seen significant improvement compared with other hospital-acquired conditions. The data demonstrates the need for continued efforts regarding fall prevention.

Quality indicators set forth by the Agency for Healthcare Research and Quality (AHRQ, 2013) track performance related to falls. The information tracked not only includes fall rates, but also includes whether or not hospitals are assessing fall risks for each patient and putting preventative interventions in place for those who are at high risk. Tracking and reporting falls and fall-related information is important so that both hospitals, and the general public, can determine if the facility has a culture of safety for fall prevention. By tracking performance, it can be determined if care is improving, staying the same, or worsening in response to changes in practice.

Falls can further be examined as either fatal falls or non-fatal falls as defined by The National Database of Nursing Quality (NDNDQ) (2013). NDNQI classifies level of injury as (1) none, patient has no injuries resulting from the fall (2) minor, the fall resulted in application of bandage ice, cleaning of wound, limb elevation, pain, or bruise (3) moderate, the fall resulted in suturing, application of skin glue, splinting or muscle strain (4) major, the fall resulted in surgery, casting, traction, consultation for neurological work up, internal injury and (5) death, the patient has died as result of injuries sustained from the fall. In 2012, approximately 24,190 adults aged
65 or older died from in unintentional fall while hospitalized, with more women dying than men (Burns, Lee, & Stevens, 2016). A fatal fall had an associated cost of $25,487 with a slightly increased cost for women compared to men. For both men and women combined, fatal falls totaled $616.5 million in medical costs. In 2012, there was approximately 3.2 million non-fatal fall injuries with the average associated cost of $9,463 (Burns, Lee, & Stevens, 2016).

**Problem and Purpose Statement**

Falls suffered while hospitalized have a myriad of consequences. As evidenced by the staggering statistics and the review of current literature, falls can have detrimental effects on patient outcomes, as well as financial implications for patients, hospitals, and insurance companies. Patients who suffer falls have increased lengths of stay and increased associated costs. While individualized fall risk assessments may help to identify patients at risk for falling, more preventative interventions need to be explored to help those patients who are at high-risk.

Once such intervention is that of hourly rounding. Hourly rounding is defined as purposeful and timely patient contact by the nursing staff to address patient care needs, ensure patient safety, proactively address problems and manage fundamental care needs (Daniels, 2016). The Institute of Healthcare Improvement endorses the practice of hourly rounding as the best way to address call lights and reduce falls while increasing quality of care and patient satisfaction as cited in Daniels (2016). Cato et al. (2020), highlight that with nursing staff being present more often at the bedside, staff members may signal that the patient is at a higher risk for falls and additional fall prevention measures may be implemented as a result. The Veterans Affairs National Center for Patient Safety (2015) endorses hourly rounding as a way to mitigate or eliminate patients’ modifiable fall risk factors. During the act of hourly rounding, the nursing staff physically enter the patient rooms to address patient comfort and safety. The nursing staff assesses the needs of
the patient including the need for pain relief, repositioning, possession, proximity, enhanced comfort and use of the bathroom; mnemonically known as the “5 P’s”: potty, pain, position, possession, and peaceful environment.

Currently, in one inpatient acute care facility in Northeast Florida, fall rates are at an all-time high based on quarterly data and fall audits (Ascension Incident Reporting System, 2021). This facility desires to improve patient safety scores. In the fourth quarter of the year 2020, the unit reported 3.86 falls per 1000 patient days for the month of December. In the first quarter of the year 2021, the unit reported 4.65 falls per 1000 patient days for January, and 5.61 falls per 1000 patient days for February (Ascension Incident Reporting System, 2020). According to the Ascension Incident Reporting System (2020) the fourth quarter of 2020 and the first quarter of 2021 had an increase in fall rates comparatively to previous quarters. The goal for rate for falls per 1000 patient days for the local facility is 2.76 or less. In recent months the average fall per 1000 patient day is 4.71 (Ascension Incident Reporting System, 2020). These statistics are evidence that fall prevention measures need improvement to meet the facility goal. The facility continues to have patient falls and fall-related injuries which can affect patient well-being and increased costs of care (Avis et al., 2014). Current practices at the facility follow an individual fall risk assessment of each patient using the Morse Fall Scale® with incorporation of the aforementioned prevention interventions of a yellow armband, non-slip footwear, nurse station proximity, bed exit alarms, physical restraints, sitters, and reorientation efforts. In addition, the facility uses signage in each patient’s room to encourage the nurse staff to pay special attention to the patient as they are deemed high risk for falls.

Despite the use of these fall prevention interventions, the rates of falls have not declined. One fall prevention strategy that the institution would like to explore is the use of hourly
rounding. It is the intent of this quality improvement project to implement hourly rounding on one unit in the facility as a piloted program to measure the effects on the incidence of patient falls.

**Purpose of the DNP Project**

The study site for this project continued to have a high fall rate despite the fact that fall risk assessments were performed and that multiple prevention strategies were used to reduce fall rates. Hourly rounding has been identified as an efficient way to address call lights and reduce falls while increasing quality of care and patient satisfaction (Daniels, 2016). Furthermore, hourly rounding is a best practice intervention aimed to address patient care needs, ensure patient safety, and decrease the occurrence of patient preventable events including falls (Daniels, 2016). Hourly rounding is purposeful and timely rounding to routinely meet patient care needs, ensure patient safety, decrease the occurrence of patient preventable events, and proactively address problems (Daniels, 2016; Brosey & March, 2015). Furthermore, hourly rounding can increase and improve communication between staff members, patients, and family members while ensuring that patient’s basic needs are met (Brearley et al., 2018). Evidence supports that a strong staff presence decreases a patient’s chance of falling (Cato et al., 2020). Additionally, Flynn et al. (2017) support that hourly rounding reduces the risk of falling for hospitalized adults. The purpose of this quality improvement project is to implement hourly rounding to reduce patient fall rates.

**Review of Literature**

**Search Process**

A search of the current literature was conducted to evaluate and analyze the effectiveness of hourly rounds in the adult hospitalized population in the reduction of falls and fall-related
injuries. The databases used to conduct the review of literature were ProQuest, Ovid, PubMed, Allied Health Literature (CINAHL), and Google Scholar.

A broad search was conducted using keywords and key phrases which included: *rounding, hourly rounding, falls, fall prevention, reducing falls, fall risk factors, fall-related injuries, nurse rounding, hourly rounding protocols, hourly rounding and fall, purposeful rounding, nurse round intervention, intentional rounding, and comfort round*. These searches totaled approximately 3,484 articles with the majority of the articles not being relevant to the search. After getting a generalized idea of the literature available, a more detailed search was performed using the following: *hourly rounding in the adult population, hourly rounding and older adults, fall prevention in older adults, risk factors for falls in older adults, hourly rounding to reduce falls, and strategies to reduce falls*. It was found that approximately 92 articles were retrieved and accurately pertained to the proposed project of implementation of hourly rounding to reduce falls. Search criteria was further adjusted to include only peer reviewed articles published within the previous five years. Eliminated from review were articles with the pediatric population, articles older than five years old, non-English, location other than the United States and those in the outpatient setting. Through a systematic review of literature, each article was critically appraised for strengths and weaknesses, reliability, validity, level of evidence, methodology and relevance. Of the 92 articles reviewed, 23 met the inclusion criteria. A literature review matrix was constructed to identify sources of evidence, provide additional summary of evidence, and key themes.

**Search Results**

The review of the literature revealed several themes related to hourly rounding and patient falls. Nurse perceptions, leadership buy-in, and patient-centeredness were identified as
major themes. As fall preventions and the intervention of hourly rounding are nursing staff responsibilities, it is crucial to understand current perceptions and thoughts on the intervention. Nurse perceptions were found to be mixed on the topic of hourly rounding. Much of the current evidence demonstrated that nurses felt a sense of ownership related to hourly rounding (Farby, 2015). On the contrary, nurses also saw hourly rounding just as an additional task to add to their workload (Jackson, Ryan, Usher, & Wood, 2019). Another common theme that was found to arise when reviewing the current literature was the concept of patient-centeredness. Patient centeredness was an unanticipated outcome of the implementation of hourly rounding (Daniels, 2016; Aboumatar et al., 2018; East et al., 2020; Bergey, Cunningham, Goldsack, & Mascioli., 2015). Although hourly rounding is a fall prevention strategy tool, it has also shown increased patient satisfaction (Daniels, 2016, East et al., 2020; Bergey, Cunningham, Goldsack, & Mascioli., 2015). Leadership buy-in was found to be a common topic discussed amongst the articles. Literature supports that successful implementation of hourly rounding must be supported by both nursing and hospital leadership (Farby, 2015; Jackson, Ryan, Usher, & Wood, 2019; DiBona, Mahler, & Neville, 2016).

**Hourly Rounding Elements**

As defined above, hourly rounding is purposeful and timely rounding to routinely meet patient care needs, ensure patient safety, decrease the occurrence of patient preventable events, and proactively address problems (Daniels, 2016; Brosey & March, 2015). The act of hourly rounding is performed by the nursing staff routinely, every hour, with the staff member physically entering the patient’s room to address patient care needs and ensure that specific safety measures are in place. With the main objective of hourly rounding being to reduce inpatient falls and improve safety outcomes, rounding can have additional beneficial outcomes as
well. The act of hourly rounding provides an opportunity for patients to voice any concerns or questions and allows for the staff to quickly respond to these needs and visualize that specific fall prevention interventions are in place.

The act of hourly rounding begins with a staff member entering the room and using an opening phrase to introduce his or herself and put the patient at ease (Brearley et al., 2018). The visits to address safety and comfort may be combined with other purposes such as the performance of physical assessments, medication administration, wound care and the discussion of the plan of care. Each hour, the nursing staff addresses the patient’s needs for nutrition, pain relief, repositioning, toileting, and proximity of possessions. More specifically, the nursing staff is given the opportunity to ask the patient if they are in pain and if they need pain medications and the nursing staff can also turn and position the patient for comfort and for skin breakdown prevention (Brearley et al., 2018). During the rounds, patients are assisted with toileting or hygiene needs and with ensuring that items such as reading glasses, the call light, telephone, and television remote are within the patient’s reach. In addition, staff members are given the opportunity to visually assess the patient every hour to ensure that specific fall prevention measures are in place and can perform a quick assessment of the environment, including checking for fall hazards (Brearley et al., 2018).

Patient problems can also be addressed proactively through hourly rounding. Hourly rounding enables staff members to anticipate and proactively address patient needs instead of being reactive and waiting for the patient to use the call bell or exit the bed without staff assistance (Brearley et al., 2018). Furthermore, hourly rounding can increase and improve communication between staff members, patients, and family members while ensuring that patient’s basic needs are met (Brearley et al., 2018). Hourly rounding also provides additional
opportunities for positive nurse-patient relationships (Brearley et al., 2018). Nurses have also been found to intervene earlier when a patient’s medical condition was declining, thus preventing the need for transfer to a higher level of medical care (Brearley et al., 2018). Another element of hourly rounding is the link between hourly rounding and consistency of care. Due to the structure and systematic approach to hourly rounding, each patient is guaranteed to have a staff member round on them and address needs which otherwise might be missed (Brearley et al., 2018). Each hourly rounding interaction ends with a closing phrase such as “Is there anything else I can do for you before I go?” Additionally, in closing, the patient is made aware of when the staff members will return. In special circumstances in which patients are unable to respond during the interaction, the nursing staff may follow the process with family members (Brearley et al., 2018).

**Benefits of Hourly Rounding**

*Hourly Rounding and Falls*

One of the main outcomes of hourly rounding has been identified as a reduction in falls. In a study conducted Bergey, Cunningham, Goldsack and Mascioli (2015), a 30-day perspective pilot study was conducted on two units with pre-and post-implementation evaluation to determine the impact of hourly rounding on patient falls. On Unit 1 where there was staff and leadership involvement in the implementation process. Prior to hourly rounding implementation the mean fall rate was 3.9 falls/1,000 patient days. After the implementation phase, the fall rate decreased to 1.3 falls/1,000 patient days. On Unit 2, where there was no staff and leadership involvement in the implementation process, the pre-implementation was 2.6 falls/1,000 patient days. After hourly rounding implementation, fall rates were 2.5 falls 1000 days, which when compared to those in the first unit, was not as significant reduction. The difference in the process of implementation between Units 1 and 2 support that nurse perception and leadership buy-in are
important factors to include when considering hourly rounding. In line with other literature findings, in Bergey et al.’s study hourly, rounding was also found to have an impact on overall patient satisfaction. And most pertinent to the QI project outlined in this paper, hourly rounding led to reduced falls.

In an observational study conducted by Cato et al. (2020), 9,693 observations of hourly rounding and bedside shift report were recorded amongst 11 units at four various hospitals over 281 total shifts Cato et al. (2020), identified a strong correlation with increased staff presence with decreased fall rates; additionally, with each added RN hour per day there is a reported association with reduced falls. Furthermore, lack of nursing staff interaction with patients have been associated with higher risks of adverse events such as patient falls (Cato et al., 2020). This study supports that increased staff presences through the practice of hourly rounding can lead to a decrease in patient falls.

Daniels (2016) implemented an hourly rounding project to improve patient satisfaction and safety. Direct observation of staff nurses on a medical surgical unit was conducted to assess utilization of hourly rounding. For this specific project, pre- and post-intervention data related to both falls and patient satisfaction were compared. Results of this study demonstrated that responsiveness of hospital staff increased moderately by 15% and that patient falls decreased by 50%. The results demonstrate that nursing staff have the ability to directly affect patient satisfaction and safety (Daniels, 2016).

In a systematic mixed-method review conducted by Christiansen et al. (2018), efforts were made to determine the impact of hourly rounding on patient and nursing outcomes. Twenty-one studies were included for review. These 21 studies reported on hourly rounding. Six of the studies reported a reduction in the number of falls and five studies reported a reduction in call
bell usage following implementation of hourly rounding. These 11 studies introduced and implemented an hourly rounding protocol. A reduction in call bell usage can be associated with patient care needs being met and thus patients are less likely to attempt to meet these needs themselves which could potentially result in a fall.

Flynn et al. (2017), performed a study to evaluate the use of the specific intervention of nursing staff led rounding to reduce inpatient falls. Hourly rounding was implemented as part of a staff-led quality improvement project to reduce falls on a neuroscience unit. Outcomes were measured through pre-and post-intervention data. Falls measured were compared with incidence of falls in 50 units in the same city. The results demonstrated that there was a 50% reduction in patient falls on the unit compared to an overall reduction of 3.48% across the comparative units. This study demonstrates that through implementation of hourly rounding there is an associated reduction in patient falls (Flynn et al., 2017).

Fridman (2019), reports that through education, frontline nurse involvement, and by redesigning fall prevention approaches, an hourly rounding program was promoted and implemented on the study unit. The goal of this program was to decrease falls, and to promote patient safety, health and comfort. The results demonstrated that there was an increase in patient safety and a reduction in patient falls through the use of hourly rounding. Additionally, Fridman (2019), advised that current practices standards that do not involve hourly rounding programs must be redesigned to ensure that acute care safety strategies are consistent across the country.

Burdick, Ebright, Kara, and Meek (2017), conducted a descriptive study with individual patient interviews to analyze views on interprofessional rounding at a large urban hospital. Highlights from the interviews included improvements noted in teamwork associated with safer care, increased patient satisfaction, and improved nurse retention. This descriptive study
demonstrates that with the implementation of hourly rounding, patients felt safer while hospitalized and had added patient satisfaction.

**Patient-Centeredness**

According to Daniels (2016), hourly rounding is a best practice intervention that addresses patient care needs, ensure patient safety, reduces the occurrence of patient preventable events and proactively addresses potential problems before they take place. Endorsed by the Institute for Healthcare Improvement, hourly rounding is considered the best way to reduce call lights and fall injuries and increase both quality of care and patient satisfaction (Daniels, 2016). In a study conducted by Daniels (2016), a pre- and post-intervention were implemented to improve patient satisfaction and safety through purposeful and timely nursing rounds on a medical surgical unit. It was found that rounding frequency during awake and sleeping hours nearly doubled (Daniels, 2016). The results demonstrated that nurse communication and pain management scores increased from 5% to 11%. The responsiveness of hospital staff increased by 15% with a significant increase related to toileting needs 41%. Additionally, patient falls decreased by 50%. Daniels (2016), study also demonstrated that nurses have the ability to improve patient satisfaction as well as patient safety outcomes through the use of nursing rounds which serve as platforms to improve patient communication and staff responsiveness. Study findings also show that it is necessary to have a supportive infrastructure with an organized stepwise approach to encompass all levels of staff (Daniels, 2016).

Aboumatar et al. (2018), explored the implementation of nurse rounding and discussed challenges and lessons learned. Case studies were implemented at three high-performing hospitals and explored the implementation of proactive nursing rounds. Findings showed that
proactive rounding interventions were a feasible approach to help address hospitalized patients' needs promptly (Aboumatar et al., 2018).

In a cross-sectional study, hourly rounding was implemented to compare nurse and patient satisfaction. East et al., (2020) conducted a study in a rural Australian hospital setting with 63 nurses and 66 patients, who completed a satisfaction survey on attitudes towards hourly rounding. There were two surveys issued, one for patients and one for nurses. Results indicated that both nurses and patients positively rated satisfaction related to hourly rounding. East et al., (2020) found that hourly rounding was an opportunity for nurses to regularly attend to patient’s physical and emotional needs which was found to be extremely important to patients and their need to feel safe and cared for while hospitalized.

A 30-day prospective pilot study was conducted by Bergey, Cunningham, Goldsack, and Mascioli (2015) to determine the outcome of the implementation of hourly rounding and patient falls. Results indicated that there was a significant reduction in falls as outlined above. Active involvement of leadership and frontline staff members is essential to program success was also a key element.

In a study conducted by Brosinki and Riddel (2020), hourly rounding implementation and patient satisfaction was explored. The goal of the study was to improve low patient satisfaction scores. The three variables measured by Brosinki and Riddel (2020) utilized a 5-point Likert scale were overall patient satisfaction, patient perception of staff attitude, and whether the health care team addressed all patient questions/concerns. Hourly rounding compliance was 39% during phase one and 51% during phase two. Data showed that overall patient satisfaction increased from 52% to 73%; perception of staff attitude increased from 70% to 84%; and whether the health care team answered all patient questions/concerns increased from 63% to 81% (Brosinki
& Riddel, 2020). The results demonstrated that there is a positive relationship between hourly rounding and patient satisfaction scores.

Allen, Rieck, and Salsbury (2016), conducted a qualitative study on implementation of hourly rounding program at an acute care facility. Interviews were conducted with patients after their discharge in regard to their hospital experience. Interviews demonstrated that patients placed significant value on having their emotional needs met by the staff members during their time hospitalized (Allen, Rieck, & Salsbury, 2016). Specifically, participants identified three main themes as the best part of their hospitalizations: staff friendliness, feeling comfortable with needs being met, and personal connections made with the staff. The results also demonstrated a reduction in call light use (Allen, Rieck, & Salsbury, 2016).

Implementing Hourly Rounding

Nurse Perceptions & Leadership Buy-In

Fabry, (2015) conducted a study to determine the effects of hourly rounding had on perspectives and perceptions of hourly rounding by frontline staff. Surveys were distributed to staff members and descriptive analysis was used to analyze data. Findings demonstrated that only 25% of nurses felt ownership of hourly rounding, and only 23.1% agreed that hourly rounding documentation was a true depiction of all the rounding being done. Jackson, Ryan, Usher, and Wood (2019) conducted an integrative literature review to highlight current knowledge about the efficacy of hourly rounding in current practice from various perspectives including nurses, patients, leadership, patient satisfaction, and safety indicators. The results demonstrated that hourly rounding had positive outcomes on patient satisfaction and patient safety. However, some nurses perceived hourly rounding as an unnecessary additional task to an already busy schedule. The overall effectiveness of hourly rounding is mainly influenced by
several external factors including nursing leadership, formal education, workload, unit layout, staffing, and education level (Jackson, Ryan, Usher, & Wood, 2019).

Hall, Meluskey, and Toole (2016), conducted a literature review to identify barriers that influence the successful implementation and sustainment of hourly rounding in the acute care setting. During their search of the literature, themes of barriers included size of workload, burdensome rounding documentation, lack of staff buy-in, inadequate patient acuity levels, staff education, and sustainability. Results from this study clearly identify barriers that are directly related and perceived by the front-line staff responsible for the practice of hourly rounding. Both nursing and hospital leadership can utilize this information regarding barriers to analyze and create successful options to overcome these challenges before, during and after the implementation of hourly rounding (Hall, Meluskey, & Toole, 2016).

In a descriptive study conducted by DiBona, Mahler, and Neville (2016), nurses' perceptions of patient rounding were explored. The purpose of the study was to not only explore nurses' perceptions of rounding but to also examine the influence of nurses' workload on rounding. Seventy-six nurses from five medical-surgical units at a medical center participated in the study. Results demonstrated that nurses perceived rounding to be more beneficial to their practice than to patients. Additionally, nursing leadership support was an essential instrument in successful rounding (DiBona, Mahler, & Neville, 2016).

Borhani, Farokhzadian, and Nayeri (2018), conducted a qualitative study with structured interviews with nurses to explore the nurses' experiences of the challenges influencing the implementation and integration of a safety culture in healthcare. Common challenges highlighted by the nurses included shortage of resources, weakness of the staff members, professional competence and empowerment, unfavorable work atmosphere, lack of commitment, non-
supportive management, non-participatory decision making, culture of resistance to change, culture of blame and punishment, and weakness in a preventative or proactive culture. Overall, findings suggest that healthcare leaders must use methods of management to overcome challenges faced by implementation of safety culture. Borhani, Farokhzadian, and Nayeri (2018), further recommend that healthcare leaders allocate the necessary resources to keep safety and quality at the frontline of their agendas. Additonally, Borhani, Farokhzadian, and Nayeri (2018), recommend that modern management styles are used, such as that of change management and participative management, in order to make a difference in healthcare, overcome challenges, and establish a culture of safety.

**Rationale**

**Theoretical Framework**

The theoretical model that was selected to help guide the implementation of this QI project is the Three Stages of Change by Kurt Lewin in 1951. Lewin developed this model to facilitate change. The model is broken down into three steps (1) unfreeze, (2) change, (3) refreeze. This model identifies and examines the factors and forces that influence a situation (Lewin, 1951). The theory is based on the belief that if project leaders can identify and determine the strength of forces, then it is possible to know the forces that need to be diminished or strengthened to bring about a change.

Another aspect of this change model is understanding driving forces and restraining forces (Lewin, 1951). Driving forces are those that push in the direction that cause a change to occur or those that facilitate a change as they push a person to change in the desired direction. Restraining forces are those that counter the driving force and hinder change because they push a person away from the desired change.
Unfreezing is the first stage and is the process of letting go of an old practice, behavior, or pattern (Lewin, 1951). Also, in this stage, individuals overcome resistance and group conformity. Lewin (1951), states that disequilibrium can occur that may disrupt the current environment which makes it possible to identify driving forces and restraining forces. The unfreezing stage in application of this pilot project involved the educational sessions that evaluated the current practices for fall prevention as outlined previously, as well as, included discussion on current fall rates. During this stage of unfreezing, employees were able to look at internal performance measures such as their current practice habits related to fall prevention. A crucial aspect that guided the unfreezing stage was completion of the educational sessions. The sessions allowed staff members to fully understand their current practice and their outcomes on patients regarding falls. Once staff members displayed a clear understanding of why hourly rounding has been shown to be effective in the reduction of falls, staff members were able to become active participants in the next stage of this change model.

The second stage is the moving or change step which involves the process of a change in thoughts, behaviors or feelings. Lewin (1951) describes three crucial actions that can assist in the movement stage (1) persuading others that the status quo is not beneficial and encouraging others to view a problem with a new perspective, (2) working with others to find new information to direct change, (3) connecting with leadership who also support the change. Actions during this stage may include redesigning roles, responsibilities and relationships, trainings and up-skilling, promoting supporters and acknowledging potential resisters. This stage during the change process will allowed staff members to implement and trial the new hourly rounding program. Staff members who properly implement hourly rounding were supported through praise and recognition. Staff members who resisted the change were given
the opportunity to address any barriers or conflict they had to the implementation of hourly rounding. This allowed the project implementor to gauge what barriers staff members were facing in regard to hourly rounding.

Lastly, the third stage is the refreezing stage which involves establishing the change as a new habit in the setting (Lewin, 1951). The third stage allows for the change to stay implemented. Lewin (1951) describes that success at this stage will create a new equilibrium state that includes the desired change with a higher performance expectation. This step was achieved once hourly rounding was the new practice standard on the project unit. The goal was for hourly rounding to be effective in the reduction of falls and thus be a part of the continued culture of the unit. Overall, organizational norms, practices and policy were aligned to support the continuation of hourly rounding on the project unit.

Through the use of the Lewin Change Model (1951), the implementation of hourly rounding will be broken down into three stages of change as outlined above (see Appendix B). As mentioned previously, themes of nurse perceptions and leadership buy-in have been identified as crucial aspects of successful hourly rounding. With the use of this change model, there is opportunity to identify nurse perceptions of this change during the unfreeze and change step. These steps allowed the project implementor to gauge attitudes of staff members and leadership about current practices and the implementation of hourly rounding. As mentioned earlier, leadership buy-in is also an essential aspect of implementation of hourly rounding. This change model allows for the project implementor to seek leadership approval and also support for continuation of hourly rounding after the project has been completed.

QI Model
The framework selected for this project was the Plan-Do-Study-Act (PDSA) model (see Appendix A). This model is commonly used in the improvement process in various healthcare settings (Coronado et al., 2017). The PDSA is based on a model that is under the belief that at the beginning of a change process, not all factors are known, thus factors of change should be repeated and evaluated again to optimize desired goals (AHRQ, 2013). The objective of the project was to reduce falls in the hospital setting in the adult population. The project was completed with the support of nursing leadership and JU faculty for an EBP change process. Assumptions of this project included staff participation during the in-services and implementation process. Additionally, after implementation, and based on collected data, the project may lead to a larger implementation of the hourly rounding protocol in other units of the hospital. Using the PDSA model, the proposed project followed these steps:

1. **Plan** - Planned implementation and gathered necessary team members of the project. Obtained leadership support for the project. Utilized the findings from the literature review section and the AHRQ tool kit and created an educational PowerPoint for nursing staff. Description of current practices and processes. Identified causes of patient falls and alternative methods to increase patient safety.

2. **Do** - Started the implementation of the action plan. Obtained project pre-implementation fall rates. Administered pre-education surveys to participants. Held educational sessions. Maintained heavy leadership presence on the unit to encourage hourly rounding for the three-month duration. Obtained project post-implementation fall rates and calculated fall rates.

3. **Study** - Compared pre-and post-educational survey results. Compared pre-and post-implementation fall rates. With the use of the project aim statement, questions were
asked regarding the data gathered to determine if the plan had resulted in an improvement or change. If so, by how much? Trends and unintended outcomes were also weighed. Fall rates were collected during the first three months of hourly rounding implementation and were compared to the previous quarter.

4. Act- With positive project results, hourly rounding was to be continued permanently on the project unit and would lend support for hospital-wide adoption, a reflection on the project plan and outcomes. Data was analyzed to determine project success. Questions to be answered will include: What went right? What went wrong? What will be done with the data collected? The pilot project would guide hospital wide implementation.

With the use of this model, process change was continually being evaluated and reevaluated with the project team.

**Specific Aims**

The purpose of this QI project was to pilot an hourly rounding program on one unit of a large northeast Florida acute care hospital. Hourly rounding has been shown to be an effective strategy in patient fall reductions. The project unit specializes in progressive care for the adult care population. The QI project lead used the PDSA model to guide the project and utilized Lewin’s (1951) Change Theory as the overarching framework to help assist the change in practice involving hourly rounding. It was anticipated that the change in practice to hourly rounding would decrease the rates of patient falls on this unit. Implementation of hourly rounding on the project unit was proceeded by nursing staff education using the AHRQ toolkit (see appendix C). The toolkit was created to serve as a protocol for hourly rounding implementation in the acute care setting with the intended focus on fall prevention. It was
anticipated that the educational sessions will increase nursing staff knowledge that may act to positively influence perceptions of the importance of hourly rounding. Previous studies support that nursing perceptions are instrumental to the successful adoption of an hourly rounding practice.

**Setting**

The setting for the QI project was a 48-bed telemetry unit located in a large adult acute care hospital. The hospital primarily serves the urban core of northeast Florida, with the project unit caring for patients with a variety of health problems that necessitate continuous cardiac monitoring. The unit had only single-occupancy rooms that are dispersed along seven hallways. There were two nurses’ stations that are centrally located among the hallways. Patient-nurse assignments were usually grouped by room proximity.

**Population**

**Nursing Staff**

The project unit was routinely staffed by eight registered nurses (RNs) and eight nursing assistants (NAs) providing direct care. In addition, a charge nurse assisted with day-to-day unit management. The patient to RN ratio was 6:1 and the patient to NA ratio was 6:1. During a typical 12-hour shift, the RN, for each of their six patients, performed two detailed physical assessments, administers and monitors actions of medications, reviews diagnostic findings, formulated a plan of care during interdisciplinary rounds, continued to monitors telemetry findings, managed patient treatment requirements including that for intravenous, enteral, and urinary catheters, performed wound care, and provided patient and family education and emotional support. In addition, the RN must document each of these actions in the electronic medical record. The acuity and treatment requirements of each patient and the ability to
consolidate nursing actions determines the RN’s time spent with each patient. During a typical 12-hour shift, the NA, for each of their six patients, obtained and reported vital signs every four hours and assisted the patient with hygiene, nutrition, and many other activities of daily living. The acuity and mobility levels of each patient determine the NA’s time spent with that patient. The implementation of an hourly rounding practice, a shared responsibility of the RN and the NA, would add an additional requirement to the nursing staff’s many other responsibilities.

Hourly rounding is a shared responsibility of the RNs and the NAs, and as such, they were the intended recipients of the educational session for hourly rounding implementation. Fulltime, part-time, and the unit’s PRN nursing staff were included in this project as long as they were 18 years old or older. Non-nursing staff employed on this unit was not to be included in this project. There were 35 RN’s and 35 NAs employed on the project unit. The educational sessions were held as in-services during the regularly scheduled shifts. It was anticipated that the RNs and NAs would score higher on their post-implementation knowledge questionnaire compared to the score of their pre-implementation questionnaire.

Patients

The patients hospitalized on the project unit during the three-month project implementation phase were also considered part of the population of study; albeit indirectly. The number of patient falls, calculated as falls per 1,000 patient days, were reported to the project lead at the end of the three-month data collection phase. Post-implementation fall rates were compared to the number of falls from the previous quarter. It was anticipated that the project post-implementation fall rate would be lower than that of the pre-implementation time period.

Support
The QI project had the support of the nurse manager and the four charge nurses that oversaw the project unit. The nurse managers and charge nurses were briefed on the proposed QI project and had indicated that they would support the project as well as maintain a heavier presence to support the hourly rounding on the unit during the three-month project. In addition, the unit’s leadership also offered financial support with the project’s educational sessions that was to be held during paid working hours.

**Intervention Description**

Implementation of this QI project began after final permission was granted from the unit’s nurse manager, and charge nurses, the hospital’s chief nursing officer, the Jacksonville University IRB, and the institution’s IRB. One week prior to the start of the educational sessions, the project lead sent an email through the hospital-based email list serve to the project unit RNs and NAs. The email served to inform the RNs and NAs of the plan to implement hourly rounding and the dates of the educational sessions. Attendance at one of the twelve education sessions was mandatory as a job requirement. To capture the majority of the nursing staff working various day and night shifts, half of the twelve sessions were offered during the day and half at night spread over a two-week time period. The in-person sessions were facilitated by the project lead and were held in the unit breakroom. When a staff member was present on the unit but unavailable to attend the session, they were encouraged to attend a different session. Prior to the beginning of the formal presentation, the project lead welcomed the attendees and restated the purpose of the session. In addition, the project lead informed the attendees that the unit leaders fully endorsed the best practice of hourly rounding as a mechanism to increase patient safety and that they supported that the process of this practice change was to be used in the project lead’s doctoral studies. The project lead advised the attendees that they were being asked to complete the pre-
and post-education questionnaires as an optional job responsibility, and that their permission to allow the project lead to utilize the information obtained, was purely voluntary. Attendees were then handed a four-page document with the pre-education questionnaire (see Appendix C) as the first page, the consent form (see Appendix F) on the second page, a demographic survey (see Appendix E) on the third page and the post-education questionnaire (see Appendix C) as a fourth page. The attendees were then instructed that if they wished to supply permission, they should review the consent form. The consent form included a check box that if marked, indicated permission to use the questionnaire results. Attendees who completed the consent form were further instructed to complete the demographic survey on page three.

The educational session was led by the project lead and lasted approximately 30 minutes. The PowerPoint formatted presentation (see Appendix D) included information on hourly rounding specific to fall prevention utilizing the AHRQ toolkit. Time was allotted for questions and answers. Immediately following the education, attendees were instructed to complete the post-education questionnaire located on the fourth page of the previously distributed document. Only those pre- and post-education questionnaires accompanied by a completed consent form were included in the QI project’s data analysis. On the first day following the final education session, hourly rounding began. The charge nurse for each shift was available to support the RNs and the NAs in the adoption of hourly rounding practice. Hourly rounding was documented using the hospital’s computer-based patient chart. Ninety days later, the project lead retrieved from the Ascension Incident Reporting System the number of falls (calculated as 1,000 falls per patient days). The timeline for the implementation of this project is outlined below:

- Week One: Email announcement and invitation was sent out to the nursing staff of the project unit. Retrieved fall rates (per 1,000 patient days) for the prior 90 days.
- Week Two: Educational in-services were held on the unit with the nursing staff.
- Week Three: Educational in-services were held on the unit with the nursing staff.
- Week Five: The project was live for 90 days.
- Week Thirteen: Retrieved fall rates (per 1,000 patient days) for weeks five through thirteen.

**Measures**

The measures in this project included the total number of patient falls as well as the employee scores on the pre- and post-education questionnaire. The total number of patient falls are measured each quarter. The project unit averages 4.5 falls per month pre-implementation of hourly rounding. The 90-day post-implementation fall rate was determined and compared to falls occurring pre-implementation.

**Nurse**

To facilitate a successful adoption of the practice of hourly rounding for fall prevention, the unit’s RNs and NAs attended an education session prior to the expectation of hourly rounding. To determine the effect of the education, pre-and post-education questionnaires on knowledge level was compared. The questionnaire consisted of 13 questions that were intended to assess general staff knowledge on fall prevention. The pre- and post- questionnaire were identical. The questionnaire was based on the Singapore Ministry of Health Nursing Clinical Practice Guidelines (AHRQ, 2013) on prevention of falls in hospitals and long-term care institutions. The guidelines and accompanying questionnaire were later used by Koh, Hafizah, Lee, Loo, and Muthu (2009) in a fall education study. Although there is no current data validating the AHRQ Tool 2E questionnaire, the tool was published as a cost-free resource as part of the AHRQ (2013) “Preventing Falls in the Hospital” evidenced based practice toolkit. Once the project lead had
obtained the completed pre-and post-education questionnaires for those participants who signed the consent form, the questionnaires were graded to determine the number of correct answers out of 13 and those scores were entered on the electronic data collection sheet (see Appendix F). The questionnaire scores of those who do not sign the consent form were not included on the data collection sheet. It was anticipated that the scores on the post-education questionnaires would be higher than those on the pre-education questionnaires. Demographic information was collected to better understand the sample population. Information on job position (RN or NA), primary shift (day or night), years of experience, and years of education was ascertained. Years of education and work experience have shown to positively effect nursing productivity and patient health outcomes (Weiss & Yakusheva, 2017). The project lead entered the demographic data for participants who signed the consent form on the electronic data collection sheet (see Appendix F). Demographic data obtained from the non-consenting participants was not included on the data collection sheet.

There were minimal financial considerations for this QI project. The attendance of the educational sessions was voluntary and occurred during regularly scheduled shifts. Hourly rounding was incorporated into routine practice during already scheduled work hours. The pre- and post-educational questionnaires were optional, and consent was obtained prior to completion. In no way did attendance of the educational sessions or completion of the questionnaire survey affect the RN’s or the NA’s job. The cost of printing the questionnaires, consent forms, and demographic surveys was absorbed by the unit’s operating budget. The project lead attempted to secure a small grant to provide refreshments at each of the twelve educational sessions. Unfortunately, the grant was not approved by nursing leadership. The target number of employee participants to attend the educational sessions was 53 out of the 75 (70%)
total number of RNs and NAs for the project unit. The project lead’s voluntary time and effort in the project’s planning, implementation, and data collection were necessary for degree completion.

**Patient**

The effect of hourly rounding on patient safety is well-documented (Daniels, 2016). To analyze the effectiveness of a new hourly-rounding practice related to fall-prevention, the QI project unit’s fall rates in the 90 days prior to the project implementation were compared to those that occurred in the 90 days following the start of hourly rounding. Fall rates were calculated as falls per 1000 patient days. The baseline fall rates and post-implementation fall rates were retrieved from the hospital's data base: Ascension Incident Reporting System. It was anticipated that post-implementation fall rates would be lower than those during the pre-implementation period.

**Analysis**

Demographic and outcome data were collected for each of the staff participants in the project and stored in a spreadsheet with one row per participant. The demographic data that was included within the project was (a) shift worked, (b) job position, (c) questionnaire scores, (d) years of experience, and (e) years of education (see Table 1). Pre-questionnaire scores and post-questionnaire scores were the outcome variables.

Statistical analysis was conducted to determine the knowledge outcome of the intervention and the variables that affected the outcome. The demographic data was summarized using descriptive statistics and presented in a demographic sheet. Questionnaire scores were considered a demographic variable as it was reflective of potential knowledge gained regarding the implementation of the in-services. The pre- and post-education questionnaire consisted of 13
multiple choice questions. The scores from the pre-education questionnaires were compared with those of the post-education questionnaires. Statistical analysis using a paired $t$-test was conducted to determine if any difference between these two sets of scores was significant at the 5% level. A 95% confidence level was used for the difference in scores, for those scored that were normally distributed. The test outcome data was summarized in a table with columns PRE, POST, and CHANGE. The $n$, mean, median, mode, standard deviation, range, skewness, and standard error were calculated and included as rows in the table.

In the event that the paired $t$-test was inappropriate the Wilcoxon signed rank test was used to indicate whether a significant change had occurred from pre- to post- implementation.

**Table 1**

*Demographic Variables*

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Level of Measurement</th>
<th>Rationale for Inclusion</th>
<th>Descriptive Statistical Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift worked</td>
<td>Nominal</td>
<td>Describe sample population</td>
<td>Mode, percentage, and frequency</td>
</tr>
<tr>
<td>Job Description</td>
<td>Nominal</td>
<td>Describe sample population</td>
<td>Mode, percentage, and frequency</td>
</tr>
<tr>
<td>Years of Employment</td>
<td>Interval</td>
<td>Describe sample population</td>
<td>Mean, median, mode, and standard deviation, range, skewness, and standard error</td>
</tr>
<tr>
<td>Test Scores</td>
<td>Interval</td>
<td>Describe sample population</td>
<td>Paired $t$-test or Wilcoxon signed rank</td>
</tr>
<tr>
<td>Level of Education</td>
<td>Nominal</td>
<td>Describe sample population</td>
<td>Mode, percentage, frequency</td>
</tr>
</tbody>
</table>

The project used IBM SPSS v.25 and JMP PRO 15 to analyze descriptive and inferential statistics to interpret the results of the project variable. A Jacksonville University statistician assisted during the analysis section of this project. For the pre- implementation period the
number of falls and the number of patient days associated with the falls were analyzed. Additionally, for the post implementation period the number of falls and the number of patient days associated with the falls were analyzed. A generalized linear model, a Poisson regression, was used to perform the “test” for change from pre implementation to post implementation. Point estimates for the incidence rates as well as 95% confidence intervals were constructed. The number of falls was categorical data and the associated patient days was interval continuous data. The incidence rate was a ratio.

**Ethical Considerations**

Before initiation of this project, this project was approved by Jacksonville University's Institutional Review Board and the St. Vincent’s Medical Center Riverside Institutional Review Board to validate the planned protection of the rights of the proposed participants. Participation in the education sessions and incorporating hourly rounding into practice were job expectations. Completion of the pre-and post-education questionnaires was optional. Participants voluntarily consented to allow their questionnaire scores and demographic data to be used within this project’s scope. The project lead had no supervisory role on the project unit and therefore, coercion to consent for the data to be used for this project’s purpose was not a factor. An informed consent form (see appendix F) was physically provided to each potential participant before the beginning of the project. Informed consent included full disclosure of the nature of the project and involvement, adequate comprehension, the participant's voluntary choice to participate, description of any reasonably foreseeable risks or discomforts, and benefits. Informed consent was found on the back page of the pre-questionnaire that was completed during the educational sessions.
Attendees were handed a four-page document with the pre-education questionnaire (see Appendix C) as the first page, the consent form (Appendix F) on the back page of the pre-education questionnaire, a demographic survey (see Appendix E) on the third page and the post-education questionnaire (see Appendix C) as a fourth page. The attendees were then instructed that if they wished to supply permission, for use of their questionnaire scores and demographic data for this project, they should review the consent form. The consent form included a check box that if marked, indicated permission to use the questionnaire results. A formal signature was not be required so that consenting participants can be assured that the questionnaire scores and demographic data could not connect them individually. Attendees who completed the consent form were further instructed to complete the demographic survey on page three. All documents were collected at the end of each of the 12 sessions and kept in a secured folder to protect information related to attendees. For any attendees who did not consent that their information be used, their four-page packet was subsequently moved to a separate secured folder and was destroyed as it was not used in the project. The project documents were stored on the project implementors secure computer under password protection.

Falls that occurred both pre-implementation and post-implementation were gathered through use of the Ascension Incident Reporting System. Falls are calculated per 1,000 patient days and were reported as a 90-day total. Access to the Ascension Incident Reporting System was granted by the project unit’s supervisor to obtain the reported falls data. Patient identifiers were not included in the falls report. The data collection sheet was digitally formatted and stored on a secure computer under password protection.

Results
The aim of this project was to decrease falls by way of an evidence-based hourly rounding educational program. The project was implemented in an adult acute care setting where RNs and NAs were participants in educational in-services on hourly rounding. Participants were administered a pre-educational survey and a post-educational survey to evaluate knowledge gain from the in-service. The educational survey was obtained from the AHRQ Falls toolkit. Demographics of the participants (job position, shift worked, education level, and years of experience) were collected. Fall rates were then collected after 90 days.

**Sample Population**

A total of 57 employees (RN = 28; NA = 29) participated in the educational in-services. Of these employees, 33 (58%) worked during the day shift and 24 (42%) worked during the night shift. Five participants (8%) had high school diplomas, 21 (36%) had a non-nursing associate’s degree (AA), 10 (17%) had a nursing associate’s degree (ADN), 21 (36%) had a nursing bachelor’s degree (BSN), and 1 (0.57%) had a nursing master’s degree (MSN).

**Pre- and Post- Educational Questionnaires**

**Table 2**

*Summary of Test Scores Pre-Questionnaire and Post-Questionnaire*
The educational sessions appeared effective as both the RNs and the NAs had an increase in score between the pre- and post- education questionnaire. Specifically, the NAs had a higher overall increase in score of 17.58 compared with an increase in score of 10.68 for the RNs. The night shift staff had a higher overall increase in score of 22.17 compared with an increase in score of 8.39 for the day shift staff. The staff members who had a high school diploma had the highest overall increase in score of 23.2. The staff members who had an AA degree had an increase in score of 15.1. The staff members who had an ADN degree had an increase of score of 13.8. Lastly, the nurses who had a BSN degree had the lowest increase of score of 11.33. The investigator found that 63.2% of scores overall on the post-questionnaire increased.

**Figure 1**

*Stepwise Multiple Logistic Regression*
Figure 1 demonstrates the variables that were identified as predictive of increase in score. Employee position (RN or NA) was identified as a variable that predicts increases in scores. Furthermore, 75.9% of NAs scores increased on the post-questionnaire and 50% of nurses scores increased on the post questionnaire (p= 0.0415).

**Figure 2**

*ANCOVA Modeling to predict Post-Questionnaire score*
Figure 2 demonstrates that years of experience and position (NA or RN) are strong predictors of post questionnaire scores. The figure above shows that post-scores increased with years of experiences. Additionally, the figure shows that RNs score higher than NAs regardless of years of experience.

**Fall Rates**

*Table 3: Analysis of Maximum Likelihood Parameter Estimates*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>DF</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>Wald 95% Confidence Limits</th>
<th>Wald Chi-Square</th>
<th>Pr &gt; ChiSq</th>
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</thead>
<tbody>
<tr>
<td>Intercept</td>
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<td>-5.3574</td>
<td>0.2357</td>
<td>-5.8193 -4.8954</td>
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<td>0.0000</td>
<td>0.0000</td>
<td>0.0000 0.0000</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Scale</td>
<td>0</td>
<td>1.0000</td>
<td>0.0000</td>
<td>1.0000 1.0000</td>
<td>.</td>
<td>.</td>
</tr>
</tbody>
</table>
The estimated fall rates per 1000 patient days before the educational in-services were held was 4.71 (95% confidence interval 2.54 to 6.89). The estimated fall rates per 1000 days after the educational in-services were held and hourly rounding was implemented was 3.86 (95% confidence interval 1.97 to 5.75). Since the confidence intervals overlap, there was not a statistically significant difference between the pre- and post-intervention fall rates. PROC GENMOD was used to create a Poisson Regression model which showed that the estimated ratio of the incidence rates of 0.81 had a confidence interval of 0.417 to 1.61 which contains one (Chi-squared = 0.34, p= 0.5611) and suggests that there was not a significant difference between the pre- and post-fall rates. The evidence may suggest an intervention effect since the rate decreased from 4.71 to 3.86 per 1000 patient days.
Figure 3 displays the project unit’s fall rates for the two units. The months of December through February were the months prior to the implementation of hourly rounding. The months of March through May were the months post implementation of hourly rounding. In December, the average fall rate per 1000 patient days was 2.275. In January, the average fall rate per 1000 patient days was 3.49. In February, the average fall rate per 1000 patient days was 7.94. In March, after hourly rounding was implemented, the average fall rate per 1000 patient days was 4.48. In the month of April, the average fall rate per 1000 patient days was 3.31. In May, the average fall rate per 1000 patient was 3.52.
Key Facilitators and Barriers

Key facilitators included the institution’s focus on patient safety and quality improvement. Many nursing leaders at the institution were supportive of the implementation of hourly rounding and eager to see the results of the project. In daily staff huddles, supervisors and charge nurses continued to remind staff members about the importance of hourly rounding. Quality rounds with leadership occurred weekly on the project unit and leaders showed immense support and curiosity about project findings. There continues to be much discussion and focus on patient safety related to falls amongst staff members and leadership. Given that the organizational focus is on patient safety and quality patient care, another facilitator and strength is the alignment of this project with institutional priorities.

Unintended Consequences

Since an email was used to announce the dates of the in-services that staff members needed to attend, there was no assurance that staff members utilized their employee e-mail. Thus, several staff members were not aware that the in-services were taking place until they were occurring during their shift being worked. Future consideration would incorporate additional announcements including the use flyers to advertise the upcoming in-services.

Although instructions were explained by the project lead on how to fill out the educational surveys with emphasis on how each question could have multiple answers, per the AHRQ toolkit, some participants approached each question by only selecting one answer even when they later stated that there were multiple correct responses. Thus, future considerations might include placing higher emphasis on that each question can have multiple answers or perhaps selecting a different survey to use.
Summary

An improvement in RN’s and NA’s overall score in the hourly rounding educational questionnaire after participation in the in-service was supported by the results obtained. More specifically, there was a larger increase in score amongst the NAs compared to the RNs. The largest increase of score was found in the participants with a high school diploma (23.2 points). Additionally, job position (RN or NA) was found to be a variable that predicts increases in scores with the NAs scoring higher than RNs. This could perhaps be predictive in future projects that NAs are highly susceptible to increases in knowledge from participation in in-services. Years of experience was also a variable that was predictive of post-survey scores; the greater the years of experience, the higher the post-education scores. This finding is consistent with Weiss and Yakusheva (2017), who stated that years of education and work experience have shown to positively effect nursing productivity and patient health outcomes.

Fall rates dropped between the 90 period prior to hourly rounding implementation and the 90 days following hourly rounding implementation; however, the reduction was not statistically significant indicating that the decrease in falls might have occurred purely by chance. While the fall rate reduction was not determined to be statistically significant, the clinical significance should not be discarded as every fall carries with it the potential for injuries.

The theoretical framework selected to guide this project, Three Stages of Change by Kurt Lewin (1951), was first applied during the in-services. During the in-services, RNs and NAs began the process of change at the first step of unfreezing. The staff members participated in the in-services and evaluated the current practices on the project unit for fall prevention and current fall rates. Unfreezing is the first stage and is the process of letting go of an old practice, behavior, or pattern (Lewin, 1951). During participation of attending the in-service, employees looked at
internal performance measures such as their current practice habits related to fall prevention. The crucial aspect that will guide the unfreezing stage was completion of the educational sessions. The sessions allowed staff members to fully understand current practice and their outcomes on patients regarding falls. Once staff members displayed a clear understanding of why hourly rounding has been shown to be effective in the reduction of falls, staff members were able to become active participants in the next stage of this change model.

The second stage of Lewin’s (1951) model is the moving or change step which involves the process of a change in thoughts, behaviors or feelings. Actions during this stage may include redesigning roles, responsibilities and relationships, trainings and up-skilling, promoting supporters and acknowledging potential resisters. This stage during the change process allowed staff members to implement and trial the new hourly rounding program. Staff members who properly implemented hourly rounding were supported through praise and recognition during the daily staff huddles and monthly staff meetings. Staff members who resisted the change were given the opportunity to address any barriers or conflict they had to the implementation of hourly rounding. This allowed the project implementor to gauge the barriers staff members were facing in regard to hourly rounding. Such barriers encountered included staffing ratios, workload, and a continued knowledge deficit on hourly rounding.

Lastly, the third stage is the refreezing stage which involves establishing the change as a new habit in the setting (Lewin, 1951). The third stage allows for the change to stay implemented. This step was achieved as hourly rounding is the new practice standard on the project unit. The goal was for hourly rounding to be effective in the reduction of falls and thus be a part of the culture of the unit. Overall, organizational norms, practices and policy are aligned to support the continuation of hourly rounding on the project unit.
As identified above, the institution’s goal for falls per 1000 patient days was 2.76. In the fourth quarter of the year 2020, the unit reported 3.86 falls per 1000 patient days for the month of December. In the first quarter of the year 2021, the unit reported 4.65 falls per 1000 patient days for January, and 5.61 falls per 1000 patient days for February (Ascension Incident Reporting System, 2020). According to the Ascension Incident Reporting System (2020) the fourth quarter of 2020 and the first quarter of 2021 had an increase in fall rates comparatively to previous quarters. During the 90-day pre-implementation period the average fall per 1000 patient days was 4.71, which was above the institution’s goal. After the educational in-services and ninety days of hourly rounding, the falls per 1000 patient days was 3.86. The post-intervention fall rate showed an improvement; however, it still remains above the institution’s goal of 2.76.

A strength of this project was the support from the project unit’s nursing leadership. The nursing leadership was frequently available to the project lead to address any potential project concerns such as COVID-19 institution policies such as small in-service sizes (no more than 10 staff members and socially distanced). Additionally, the nursing leadership frequently provided check-ins to address any project concerns and update on patient fall trends. Another strength that was identified was the use of the AHRQ toolkit. The toolkit was used as a standard guide to implement the project and the survey was a key measure in this project that was valid and reliable.

**Interpretation**

The purpose of the doctoral project QI project was to pilot an hourly rounding program on one unit of a large northeast Florida acute care hospital and reduce falls. Hourly rounding has been shown to be an effective strategy in patient fall reductions. The QI project lead used the
PDSA model to guide the project and utilized Lewin’s (1951) Change Theory as the overarching framework to help assist the change in practice involving hourly rounding. It was anticipated that the change in practice to hourly rounding would decrease the rates of patient falls on this unit. Implementation of hourly rounding on the project unit was proceeded by nursing staff education using the AHRQ toolkit (see appendix C).

The intervention of the in-services on hourly rounding and falls in the acute care setting demonstrated tremendous success among the nursing staff. The goal was to capture 70% of the nursing staff, the actual outcome of staff participation was 76%. Nursing staff also demonstrated a large knowledge gain from attending the in-services. The pre-educational survey provided the project lead a baseline knowledge on falls and hourly rounding. The post-educational survey suggested that staff members actively participated and learned from the teaching and PowerPoint presentation on the topics of hourly rounding and falls.

This project’s findings support that the in-services on hourly rounding were effective in providing education to RNs and NAs on fall implications and hourly rounding. The educational in-services showed effectiveness by the score increases in both RNs and NAs on the project unit. The score increases demonstrate a knowledge gain on these topics.

It was anticipated that there would be a knowledge gain from the in-services on hourly rounding. More specifically, the project lead anticipated that NAs would demonstrate the largest knowledge gain, with the consideration that most of the NAs have not undergone vigorous training on fall precautions outside of annual competency training. The collected data on the post-surveys supports this anticipated outcome. The large knowledge gain demonstrates that the NA staff members were unaware of patient fall impacts. The knowledge gain also demonstrates that the NA staff members were unaware of hourly rounding and it’s effects on patient falls. The
project lead anticipated that RNs would have a higher score overall compared to the NA due to completion of a nursing degree. Additionally, as supported by current literature, post survey scores increased as years of experience increased. This was an anticipated outcome supported by Weiss and Yaku sheva (2017), who stated that years of education and work experience have shown to positively effect nursing productivity and patient health outcomes.

It was anticipated that there would be a statistically significant decrease in falls during the implementation period of hourly rounding. This was anticipated due to the immense body of literature and research that supports hourly rounding as an evidenced-based fall prevention strategy. Although the decrease in falls was not statistically significant, there was a decrease in the total number of falls from pre-intervention to post-intervention. This could be due to several factors or perhaps, by chance.

As discussed earlier, current literature has investigated these potential barriers that influence the success of implementation and sustainment of hourly rounding. Hall, Meluskey, and Toole (2016), identified themes of barriers such as size of workload, burdensome rounding documentation, lack of staff buy-in, inadequate patient acuity levels, staff education, and sustainability. Results from Hall, Meluskey, and Toole (2016), clearly identify barriers that are directly related and perceived by the front-line staff responsible for the practice of hourly rounding. Both nursing and hospital leadership can utilize this information regarding barriers to analyze and create successful options to overcome these challenges before, during and after the implementation of hourly rounding (Hall, Meluskey, & Toole, 2016).

Additionally, as discussed above, Borhani, Farokhzadian, and Nayeri (2018), identified common barriers and obstacles observed by the nursing staff. Like several other articles and supporting literature, common challenges highlighted by the nurses included shortage of
resources, weakness of the staff members, professional competence and empowerment, unfavorable work atmosphere, lack of commitment, non-supportive management, non-participatory decision making, culture of resistance to change, culture of blame and punishment, and weakness in a preventative or proactive culture.

**Financial Considerations**

The financial costs of the project were minimal. The project consisted of a packet that was provided to each participant. The project lead utilized the institution’s paper and copier machine to create the packets with approval by the unit supervisor. Costs were estimated to be $50.00 for paper materials. There was no cost for the project lead. With regards to the financial costs of hourly rounding, the act of hourly rounding was found to have no financial demands as the practice was incorporated into the RN’s and NA’s workload.

**Limitations**

A limitation of the project was the COVID-19 pandemic and its effects on the nursing staff on the project unit. Due to the COVID-19 pandemic, many of the RNs left the project unit to pursue travel or contract nursing. Subsequently, there was an influx of travel nurses that took contracts on the project unit. It was challenging to track which staff members actively participated in the in-services and at what time during the project timeline the RNs left the unit.

Another limitation of note was that some staff members completed the in-services one week prior to the initiation of hourly rounding. The week delay may have reduced their ability to recall the material provided in the in-services and thus affected their ability to implement hourly rounding. For the majority of the shifts during the 90-day data collection period the project lead, as well as, the charge nurses on the project unit were available to assist staff members with hourly rounding or address any questions.
Additionally, a limitation that was encountered was the timing of the educational in-services. Some staff members were unable to attend these sessions due to the timing of the sessions for various reasons including patient emergencies and unwillingness to stay after their scheduled shift. Although 57 of the 75 (76%) employees attended the educational in-services, additional efforts needed to be made to capture 100% of staff members. Perhaps for future projects, the in-services can be held at a more convenient time for the nursing staff or be held virtually.

Conclusions

From the findings of this quality improvement project, it can be concluded that the educational in-services on hourly rounding were effective and demonstrated a significant knowledge gain amongst the nursing staff on the project unit. A knowledge gain demonstrates that there was an underlying gap in knowledge regarding falls in the acute care setting, as well as, a knowledge gain on the practice of hourly rounding. This understanding of nursing staff knowledge and perception on falls and hourly rounding can be extremely useful for nursing leadership and educators. Nursing leadership and educators can continue to build on this knowledge through annual training and in-services to facilitate the nursing staff.

The data on falls demonstrate that in this quality improvement project, the decrease in falls cannot be strictly correlated to the implementation of hourly rounding. Although the decrease in falls was found not to be statistically significant, it was clinically significant with fall rates dropping from 4.71 falls per 1000 patient days to 3.86 falls per 1000 patient days. Further study of the effects of hourly rounding on fall prevention is warranted. There are many factors that affect falls in the acute care setting, such as staff motivation, staff workload, nurse-patient
ratios, acuity of patients, unforeseen circumstances such as the COVID-19 pandemic, and staff turnover. These factors all play a crucial role in patient safety, and more specifically patient falls.

**Sustainability**

As discussed in the Lewin Model of Change (1950), the refreezing stage of change is where changes are reinforced and stabilized. This step encourages the change to become a permanent part of the culture of the project unit. With the support of nursing leadership, this project has high potential to be sustainable. With annual training and in-services, staff members will become proficient in nursing modalities related to the implications of falls in the acute care setting and the practice of hourly rounding. A collaboration with nursing leadership on the project unit, which included the nursing supervisor and charge nurses was sought to help maintain the practice of hourly rounding. The nursing supervisor confirmed a need for the practice of hourly rounding and encouraged a continued collaboration with the charge RN’s as champions on the practice. The charge RN’s and supervisor were encouraged to incorporate a regular discussion during daily huddles and monthly staff meetings on the practice of hourly rounding to enable sustainability of the hourly rounding process. The supervisor was encouraged to monitor the progress of hourly rounding consistently by continuing to track fall rates.

**Implications for Practice**

The findings from this project provided a roadmap for future quality improvement projects which may benefit RNs and NAs, and even more importantly, patients. This project suggested that providing educational in-services on hourly rounding and falls would influence hourly rounding and thus reduce falls in the acute care setting. The duration of this DNP project was limited to 90 days following the in-services which might have an impact on data collected. Future projects might consider adding educational in-services on falls and hourly rounding
annually and collecting data on falls at one year, with additional data collected on falls at two years. This type of longitudinal project might provide insight into sustained practice change.

Although this project did not show a statistically significant change in falls, the number of falls did decrease. This decrease in falls needs to be further explored. As mentioned above, the duration of the pilot project was limited to 90 days. This timeline was only a snapshot of the yearly data regarding falls, to better gauge effects of hourly rounding, a longer implementation period is recommended.

Lessons Learned and Suggested Next Steps

The project implementor will follow up with the unit’s supervisor to investigate if there is any interest in using the educational in-services as an annual training for the nursing staff on the project unit. As demonstrated by the knowledge gained, it would be expected that this tool would aid the current nursing staff and new nursing staff that is hired with the process of hourly rounding and its implications. The educational tools such as the PowerPoint and AHRQ’s 3B: Scheduled Rounding Protocol used in this project will serve as a refresher in the process of hourly rounding, the importance of fall prevention in the acute care setting, and the crucial role of hourly rounding to patient safety and satisfaction. An alternative option that might combat limitations in capturing 100% of the staff would be to utilize an online module that is sent out to the staff members via email with a due date attached to it. This option would allow staff members to attend a virtual online educational in-service and has the potential to capture more of the nursing staff. This option would also allow staff members to complete the in-service and pre- and post-questionnaire on their own time versus after a scheduled shift. Furthermore, a future project suggestion would be to investigate staff perceptions on hourly rounding. This type of
project would explore how RNs and NAs perceive the practice of hourly rounding in regard to workload, patient safety outcomes, and effectiveness of the practice.

Another suggested next step for the implementation of hourly rounding is to better monitor staff members who perform hourly rounding. One such way would be to use a white board or form in the patient room with a space for staff members to sign their name each hour and the task that was performed. The data then could be collected or evaluated if a patient does fall to identify the last time the patient was rounded on.

**Dissemination Plan**

The plan for dissemination includes presentation to the project’s stakeholders, clinical leaders, supervisors, and both clinical and non-clinical staff at both St. Vincent’s Medical Center and Jacksonville University. This presentation will be conducted through PowerPoint presentation and interactive discussions to review the findings from the project. The project lead will highlight the knowledge gain that the data demonstrated through educational in-services on falls. The project lead will also discuss the findings of the hourly rounding implementation including successes and pitfalls.

Additionally, plans to submit to peer-reviewed nursing journals that focus on bedside nursing in the acute care setting and nursing leaders are underway. Such journals include *The American Journal of Nursing (AJN)* which is a monthly journal that covers many nursing topics such as diseases processes as well as politics. Another journal is *Nursing Management*, which is a peer-reviewed journal focused on leadership that ranges from topics on ethical aspects of nursing leadership to personnel management, recruitment and retention, budget issues, and quality control.
Ongoing Activities

The project unit continues to utilize the practice of hourly rounding to combat patient falls. With the support of the project unit’s charge nurses and leadership, hourly rounding is discussed in daily huddles and monthly staff meetings as a reminder of its uses and implications for patient care. Additionally, the unit council of the project unit has determined that there is a need for the continuation of hourly rounding and is currently brainstorming ways to continue this quality improvement project with the help of the institution’s shared governance board. The project lead continues to remain available for assistance to both the unit council of the project unit and the hospital’s shared governance board.
References


Appendix A

The Steps of the Unfreezing - Change - Refreeze Model

Unfreeze

- The process of letting go of an old practice or behavior.
- Educational sessions will be held to provide current information on current practices and policies in place regarding fall prevention on the pilot unit.
- Staff members will look internally on personal beliefs and potential barriers to change.
- Leadership will identify and support the need for implementation of hourly rounding to improve patient safety.

Change

- The process of a change in behaviors or feelings.
- Implementation of hourly rounding will begin.
- Resistors to change and supporters of change will be identified.
- Resistors to change will identify personal barriers and the project implementor will encourage the new perspective.
- Supporters of change will be recognized and encouraged.

Refreeze

- The process of establishing the change as a new habit in the project unit.
- The setting will allow for the change to stay as part of a new culture and policy.
- Nurse perceptions and leadership buy-in will guide this step as these are crucial aspects of the process.
Appendix B

3B: Scheduled Rounding Protocol

3B: Scheduled Rounding Protocol

**Background:** Hourly rounds are an opportunity to ensure that universal fall precautions are implemented and that patients’ needs are being met. These rounds integrate fall prevention activities with the rest of a patient’s care.

**Reference:** Adapted from Meade CM, Bursell AL, Ketelsen L. Effects of nursing rounds: on patients’ call light use, satisfaction, and safety. Am J Nurs 2006;106(9):58-70 with permission. Items that have been modified or added are marked with an asterisk.

**How to use this tool:** Review the hourly rounding protocol and adapt it to your specific circumstances. For example, components of the fall risk factor assessment can be added, such as a brief mental status screen.

This protocol can be used by staff nurses, nursing assistants, and the unit manager to ensure that universal fall precautions are in place.

The following items should be checked and performed for each patient. Upon entering the room, tell the patient you are there to do your rounds.

| 1 | Assess patient pain levels using a pain-assessment scale (if staff other than RNs are doing the rounding and the patient is in pain, contact an RN immediately so the patient does not have to use the call light for pain medication). |
| 2 | Put medication as needed on RN’s scheduled list of things to do for patients and offer the dose when due. |
| 3 | Offer toileting assistance. |
| 4 | Check that patient is using correct footwear (e.g., specific shoes/slippers, nonskid socks).* |
| 5 | Check that the bed is in locked position.* |
| 6 | Place hospital bed in low position when patient is resting; ask if patient needs to be repositioned and is comfortable.* |
| 7 | Make sure the call light/call bell button is within the patient’s reach and patient can demonstrate use.* |
| 8 | Put the telephone within the patient’s reach. |
| 9 | Put the TV remote control and bed light switch within the patient’s reach. |
| 10 | Put the bedside table next to the bed or across bed.* |
| 11 | Put the tissue box and water within the patient’s reach. |
| 12 | Put the garbage can next to the bed. |
| 13 | Prior to leaving the room, ask, “Is there anything I can do for you before I leave? I have time while I am here in the room.” |
| 14 | Tell the patient that a member of the nursing staff (use names on white board) will be back in the room in an hour to round again. |
Appendix C

Fall Knowledge Test

2E: Fall Knowledge Test

<table>
<thead>
<tr>
<th>Background:</th>
<th>The purpose of this tool is to assess general staff knowledge on fall prevention.</th>
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<tbody>
<tr>
<td>How to use this tool:</td>
<td>Administer the questionnaire to staff nurses and nursing assistants. The survey may need to be modified if certain questions are not consistent with your policies and procedures, or for the needs of specific hospital units. Use the findings to assess gaps in knowledge. Work with your education department to tailor specific education programs to the needs of your staff.</td>
</tr>
</tbody>
</table>


Fall Knowledge Test
Each question may have more than one option as the correct answer.

Please circle the letters that correspond to the correct answers.

1. Which of the following statements is correct?
   a. Falls have multifactorial etiology, so fall prevention programs should comprise multifaceted interventions.
   b. Regular review of medication can help to prevent patient falls.
   c. The risk of falling will be lessened when a patient’s toileting needs are met.
   d. The use of antipsychotic medications is associated with an increased risk of falls in older adults.

2. A multifaceted intervention program should include:
   a. Individually-tailored fall prevention strategies
   b. Education to patient/family and health care workers
   c. Environmental safety
   d. Safe patient handling

3. Risk factors for falls in the acute hospital include all of the following except:
   a. Dizziness/vertigo
   b. Previous fall history
   c. Antibiotic usage
   d. Impaired mobility from stroke disease

4. Which of the following statements is true?
   a. The cause of a fall is often an interaction between patient’s risk, the environment, and patient risk behavior.
   b. Increase in hazardous environments increases the risk of falls.
   c. The use of a patient identifier (e.g., identification bracelet) helps to highlight to staff those patients at risk for falls.
   d. A fall risk assessment should include review of history of falls, mobility problems, medications, mental status, continence, and other patient risks.

5. Patients with impaired mobility should be:
   a. Confined to bed
   b. Encouraged to mobilize with assistance
   c. Assisted with transfers
   d. Referred for exercise program or prescription of walking aids as appropriate
6. The management of the acutely confused patient should include all of the following except:
   a. Moving patients away from the nursing station
   b. Involving family members to sit with the patient
   c. Orienting patients to the hospital environment
   d. Reinforcing activity limits to patients and their families

7. Which of the following statements is false?
   a. Fall prevention efforts are solely the nurses’ responsibility.
   b. A patient who is taking four or more oral medications is at risk for falling.
   c. A patient who is taking psychotropic medication is at higher risk for falling.
   d. Testing or treatment for osteoporosis should be considered in patients who are at high risk for falls and fractures.

8. In hospital settings, intervention programs should include:
   a. Staff education on fall precautions
   b. Provision and maintenance of mobility aids
   c. Postfall analysis and problem-solving strategy
   d. Bed alarms for all patients, regardless of risk

9. When assessing patients, which of the following statements is false?
   a. All patients should be assessed for fall risk factors at admission, at a change in status, after a fall, and at regular intervals.
   b. Medication review should be included in the assessment.
   c. All patients should have their activities of daily living and mobility assessed.
   d. Environmental assessment is not important in the hospital as it is all standardized.

10. Risk factors for falls include:
    a. Parkinson’s disease
    b. Incontinence
    c. Previous history of falls
    d. Delirium

11. Exercise programs for ambulatory older adults should:
    a. Be very aggressive
    b. Be unsupervised
    c. Be ongoing
    d. Include individualized strength and balance training
12. Which of the following statements on education in fall prevention is false?

a. Education programs should target primarily health care providers, patients, and caregivers.
b. Education programs for staff should include the importance of fall prevention, risk factors for falls, strategies to reduce falls, and transfer techniques.
c. Instruction on safe mobility, with emphasis on high-risk patients, should be provided to both patients and families.
d. Education should only be given at the start of the fall prevention program.

13. Which of the following is recommended to improve patient safety?

a. Locking wheeled furniture when it is stationary.
b. Having nonslip flooring.
c. Placing frequently used items (including call bell, telephone, and remote control) within reach of the patient.
d. Rounding hourly to address patient needs.

Answer Key:

1. A, B, C
2. A, B, C, D
3. C
4. A, B, C, D
5. B, C, D
6. A
7. A
8. A, B, C
9. D
10. A, B, C, D
11. C, D
12. D
13. A, B, C, D
Appendix D

Hourly Rounding Presentation

Hourly Rounding

Courtney Delaparte, BSN, RN

What is hourly rounding?

► Hourly rounding is defined as timely and purposeful patient contact by the nursing staff to address patient care needs, ensure patient safety, proactively address problems, and manage patient care needs (Daniels, 2016)
► Research has shown that when nursing staff is more present for patients, patients are less likely to fall (Cato et al., 2020)
► Hourly rounding can be performed by both nurses and PCTs
► Additionally, it has been shown that patients are more satisfied when hourly rounding takes place (Daniels, 2016).
► Hourly rounding also increases communication between staff members and patients and their family members as well (Brearley et al., 2018).
Why is hourly rounding important?

- In the United States, every year, hundreds of thousands of patients fall while hospitalized with approximately 30-50 percent of the falls resulting in injury (Joint Commission, 2015).
- Inpatient falls, defined as a sudden, unintentional descent, with or without injury to the patient, which result in the patient coming to rest on the floor, on or against some other person or an object, are calculated as the rate of falls per 1000 occupied bed days, and in the U.S. range between 1.7 to 25 per 1,000 patient days. (Currie, 2018; NDBQI, 2016).
- With approximately 37 million hospitalizations each year in the U.S. there is potential for more than 1 million inpatient falls.
- Falls can have both physical and psychological consequences on the patient. Physical consequences include soft tissue injuries and fractures, and can lead to long-term health implications.
- Johns Hopkins Medicine (2015), found that as many as 20% of hip fracture patients die within a year of their injury.
- Additionally, 25% of patients who suffer a hip fracture who lived independently before their injury reside in a nursing home for at least a year after their injury (Johns Hopkins Medicine, 2015).
- In addition to physical consequences, falls have also been found to be an independent predictor for depression in the elderly population (Pin & Spini, 2016). Falls appear to have severe psychological consequences including depression, increased fear, and decreased life satisfaction (Berk, Jacka, Pasco, Stuart, & Williams, 2018).

What does hourly rounding look like?

- The act of hourly rounding begins with a staff member entering the room and using an opening phrase to introduce his or herself and put the patient at ease.
- Each hour, the nursing staff addresses the patient’s needs for nutrition, pain relief, repositioning, toileting, and proximity of possessions.
- Patient problems can also be addressed proactively through hourly rounding. Hourly rounding enables staff members to anticipate and proactively address patient needs instead of being reactive and waiting for the patient to use the call bell or exit the bed without staff assistance (Brearley et al., 2018).
- Nurses have also been found to intervene earlier when a patient’s medical condition was declining, thus preventing the need for transfer to a higher level of medical care (Brearley et al., 2018).
- Each hourly rounding interaction ends with a closing phrase such as “Is there anything else I can do for you before I go?” Additionally, in closing, the patient is made aware of when the staff members will return.
The 5 P’s

- Address the "5 P’s: potty, pain, position, possession and peaceful environment
  - Do you need to use the bathroom?
  - Are you in any pain or discomfort?
  - Are you comfortable in that position?
  - Do you have your call light, telephone, reading glasses or any other personal items you need close by?
- In special circumstances in which patients are unable to respond during the interaction, the nursing staff may follow the process with family members (Brearley et al., 2018). This reads well.

Questions?

- Please complete the post-survey at this time.
Appendix E
Demographic Survey

Demographic Survey
Please answer the following questions:

1) Do you work day shift or night primarily?
DAYS/NIGHTS (circle one)

2) Are you a nurse or patient care technician (PCT)?
NURSE/PCT (circle one)

3) How long have you worked in your current role?

4) What is your highest level of education?
Appendix F

Consent

INSTITUTIONAL REVIEW BOARD (IRB):
INFORMED
ADULT CONSENT
Quality Improvement

Project Summary

Title of the Project: Reducing Acute Care Hospital Setting Inpatient Falls with Implementation of Hourly Rounding

Project Lead: Courtney Delaparte, BSN, RN, Jacksonville University.

Faculty Advisor: Mary Gipson, PhD, APRN, Jacksonville University.

You are invited to participate in a scholarly project. In order to participate, you must be at least 18 years or older and a full-time, part-time, or PRN employee of the project unit. Taking part in this project is voluntary.

The purpose of the project is to determine if an in-service on fall prevention strategies using hourly rounding increases registered nurses’ and nursing assistants’ knowledge on fall prevention.

If you agree to take part in this study, you will be asked to allow the project lead to use your in-service questionnaire results in her Quality Improvement Project Report. The questionnaires include 1) Fall Prevention Knowledge Pre-Test; 2) Fall Prevention Knowledge Post-Test; and 3) Demographic Data (job title, time of shift, years of experience, and education level). Answering the pre- and post- in-service questionnaires is a job expectation but your consent to allow your responses to be included in this project is voluntary as is the completion of the demographic data form.

There are some risks and or discomforts you might experience from being in this project. This may include your time and effort it takes to read and complete this consent form. There are minimal risks of breach of confidentiality as your name will not be included on any of the three questionnaires and therefore, your test scores and demographic information cannot be traced back to you. All information will be kept secured and only the project lead will have access to it.

You may or may not benefit directly from being in this project. You will be contributing to the body of knowledge on fall prevention strategies including that of hourly rounding which may in turn lead to improving patient safety by preventing falls.

If you decide to take part in the project, it should be because you really want to volunteer. You will not lose any services, benefits, or rights you would normally have if you chose not to volunteer. If you are an employee, nothing about your employment will change no matter what you decide.

If you are interested in learning more about the project, please continue to read below. If you are not interested stop here.

Thank You.
TITLE OF THE PROJECT: Reducing Acute Care Hospital Setting Inpatient Falls with Implementation of Hourly Rounding

PROJECT LEADS: Courtney Delaparte, BSN, RN, Jacksonville University.
Responsible Primary Lead: Mary Gipson, PhD, APRN, Jacksonville University.

PROJECT LEAD’S STATEMENT: We are asking you to be in a scholarly project. The purpose of this consent letter is to give you the information you will need to help you decide whether to participate. Please read this form carefully. You may ask questions about the purpose of the project, the possible risks and benefits, and anything else about the project or this form that is not clear. When we have answered all your questions, you can decide if you want to be in the project or not. This process is called “informed consent.” We will give you a copy of this form for your records.

THE PURPOSE OF THE PROJECT: The purpose of the project is to determine if an in-service on fall prevention strategies using hourly rounding increases registered nurses’ and nursing assistants’ knowledge on fall prevention.

PROCEDURES: (What is expected from the participant?): You are being asked to allow the project lead to use your in-service questionnaire results in her Quality Improvement Project Report. The questionnaires include 1) Fall Prevention Knowledge Pre-Test; 2) Fall Prevention Knowledge Post-Test; and 3) Demographic Data (job title, time of shift, years of experience, and education level). Answering the pre- and post- in-service questionnaires is a job expectation but your consent to allow your responses to be included in this project is voluntary as is the completion of the demographic data form.

About 75 registered nurses and nursing assistants employed on one hospital unit of a northeast Florida acute care facility will be asked to participate in this QI project. Will take part in the project.

If you decide to be in the project, the Project Lead will collect the following information: shift worked, job position, years of experience, test scores on fall knowledge, and level of education. This information will be collected during the educational sessions. Prior to the beginning of the formal presentation, the project lead will welcome the attendees and restate the purpose of the session. In addition, the project lead will inform the attendees that the unit leaders fully endorse the best practice of hourly rounding as a mechanism to increase patient safety and that they support the process of this practice change to be used in the project lead’s doctoral studies. The project lead will advise the attendees that they are being asked to complete the pre- and post-education questionnaires as a job responsibility, but that their permission to allow the project lead to utilize the information obtained, is purely voluntary. Attendees will then be handed a four-page document with the pre-education questionnaire as the first page, the consent form on the second page, a demographic survey on the third page and the post-education questionnaire as a fourth page. The attendees will then be instructed that if they wish to supply permission, they should review the consent form. The
consent form will include a check box that if marked, will indicate permission to use the questionnaire results. Attendees who complete the consent form will be further instructed to complete the demographic survey on page three.

*I will not be using these de-identified data in future work.*

If you have any questions now or at any time during the project, you may contact anyone listed under Project Leads.

**BENEFITS OF THE PROJECT:** You [may or may not] benefit from being in this project. You may benefit by having obtained increased knowledge about the field, society, or professional growth that may result from conducting the project.

No promise or guarantee of benefits has been made to encourage your participation.

**RISKS OF THE PROJECT:** There are some risks and or discomforts you might experience from being in this project. This may include your time and effort it takes to read and complete this consent form. There are minimal risks of breach of confidentiality as your name will not be included on any of the three questionnaires and therefore, your test scores and demographic information cannot be traced back to you. All information will be kept secured and only the project lead will have access to it.

To minimize the risks associated from being part of the project, data will be kept on a secure server with an encrypted passcode. Data will only be handled by the project implementor and will be deidentified.

**IN THE CASE OF INJURY OR AdVERSE EVENT (USE IF CONDUCTING A CLINICAL TRIAL OR A PROJECT WHERE CLINICAL OR STANDARD OF CARE IS BEING EVALUATED):** Please contact the Project Leads immediately, but also in the case of emergency please seek medical attention. Jacksonville University has not set aside funds for any medical costs, damages, or other financial loss from this project. The only exception is if it is proved that your injury or illness is directly caused by the negligence of a Jacksonville University employee. “Negligence” is the failure to follow a standard duty of care.

If you become ill or injured from being in this project, your insurer may be billed for your treatment costs. If you do not have insurance, or if your insurer does not pay, then you would have to pay these costs. If you believe you have become ill or injured from this project, you should contact Courtney Delaparte at 904-392-6913 (24 hour cell number). You should also let any healthcare provider who treats you know that you are in a project.

**COSTS / COMPENSATION:** You will not have to pay any money for taking part in this project.

**ALTERNATIVE TO BE IN THE PROJECT:** The alternative to taking part in this project is not to participate and continue with the standards of care currently in place on the project unit.
CONFIDENTIALITY: Records or data obtained as a result of your participation may be reviewed by the Project Leads and/or The Jacksonville University's Institutional Review Board. However, they are legally obligated to protect any identifiable information from public disclosure, except where disclosure is otherwise required by law. These records will be kept private insofar as permitted by law. Also, other Jacksonville University officials have the legal right to review records, and they will protect the secrecy (confidentiality) of these records as much as the law allows. Otherwise, your records will not be released without your permission unless required by law or a court order. However, if we learn that you intend to harm yourself or others, we must report that to the authorities.

I plan to publish the results of this project. To protect your privacy, I will not include any information that may identify you.

I will not keep your data to use for future research or other purpose. Your name and other information that can directly identify you will be kept secure and stored separately from the data collected as part of the project. Your name and other information that can directly identify you will be deleted from the data collected as part of the project.

CONFLICT OF INTEREST: In general, presenting results helps the career of a scientist. The Project Leads may benefit if the results are presented at scientific meetings or published in scientific journals.

RIGHT TO PARTICIPATE OR WITHDRAW: You are free to stop taking part in this project at any time without penalty and without losing any benefits. You will be provided, as applicable, with any significant new findings developed during this project that may relate to your participation.

If you decide to stop taking part in this project for any reason, you should contact Courtney Delaparte at 904-392-6913. If you choose to tell the Project Lead why you are leaving, your reasons may be kept as part of the project record. If you decide to withdraw from the project, it may be impossible to exclude the data that has already been collected. In addition, Project Leads may retain and use data collected prior to your withdrawal, including Protected Personally Identifiable Information (PII), as long as the uses are consistent with the project purpose and procedures as described in the IRB application and consent documents. If you have any questions regarding your rights as a project participant, you may call the JU Office of Research & Sponsored Programs at (904) 256-7151.

You may be withdrawn from the project without your consent for the following reasons: You do not the meet the eligibility criteria.
INSTITUTIONAL REVIEW BOARD (IRB):
INFORMED ADULT CONSENT
Quality Improvement

CONSENT TO PARTICIPATE: I have been informed about this project’s purpose, procedures, possible benefits, and risks; and the alternatives to being in the project. I have been given the opportunity to ask questions before I sign, and I have been told that I can ask other questions at any time. I understand that my consent does not take away any of my legal rights. I also understand that nothing in this consent form is intended to replace any applicable Federal, state, or local laws.

☐ By checking the box, I voluntarily agree to take part in this project. I am not waiving any of my legal rights. I will receive a copy of this form.

__________________________  ___________________________  _________________
Date

Person Obtaining Consent and Authorization:

__________________________  ___________________________  _________________
Name Printed  Signature  Date
## Appendix G

**Demographic Collection Sheet**

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