Implementation of a Purposeful Rounding Checklist for Fall Prevention

Zaineb Albachachy

University of Detroit Mercy

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**Abstract**

Inpatient falls are preventable hospital acquired conditions that can lead to negative patient outcomes and increased health care costs. Around one million inpatient falls occur every year in the United States (U.S.) and cost the U.S. health care system around 34 billion dollars (Johns Hopkins Medicine, 2021). The purpose of this quality improvement project was to implement a purposeful hourly rounding checklist using the four Ps (pain, potty, position, and possessions) to help decrease inpatient falls on the third-floor medical surgical unit at Beaumont Hospital Wayne (BHW). The purposeful hourly rounding checklist was implemented during the month of October 2021. During checklist implementation, nursing staff used the checklist only three times and no documentation was done during the rest of the month. Pre-project implementation fall data from September 2021 was compared to fall data from October 2021. The results of implementing purposeful hourly rounding checklist were found to be neither effective nor ineffective in decreasing inpatient falls because there were three falls in September 2021 and three falls in October 2021. An anonymous post implementation survey was given to nursing staff to assess for barriers and nursing staff perception of the checklist. Nursing staff reported utilizing the checklist while hourly rounding but not documenting on it due to lack of time. Since this project was implemented during the Covid-19 pandemic, limitations include the Covid-19 pandemic exacerbating the nursing shortage. Nursing staff had to prioritize tasks due to lack of time which limited the use of the checklist. Nursing leadership will need to take the Covid-19 pandemic and staffing shortages into consideration when implementing this checklist on another unit.

*Keywords:* rounding with purpose, fall prevention, inpatient fall prevention, hourly rounding

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**Introduction**

Around one million inpatient falls occur every year in the U.S. (Johns Hopkins Medicine, 2021). Inpatient falls cost the U.S. health care system around 34 billion dollars a year and are considered preventable hospital acquired conditions (Johns Hopkins Medicine, 2021). An unintentional descent to the floor with or without injury is defined as a patient fall (Agency for Healthcare Research and Quality, 2021). Patient falls are identified by the Centers for Medicare and Medicaid Services (CMS) as adverse events that are preventable and should never occur in the hospital setting (Centers for Medicare and Medicaid Services, 2021). Serious injury or death occurring due to a fall in the hospital is considered a “never event”. A “never event” is a medical error that is a significant contributing factor to increased morbidity and mortality, creating unnecessary financial burdens for patients as well as healthcare institutions (Agency for Healthcare Research and Quality, 2021). Inpatient falls can lead to disability, trauma, reduced quality of life, increased fear of falling, increased health care use, increased health care costs, and even death (Agency for Healthcare Research and Quality, 2021; The Joint Commission, 2021). Inpatient falls with injury on average cost hospital systems $13,316 per fall (Bott et al., 2019). The average increased length of stay due to inpatient falls is 12.3 days and the average cost of the length of stay is increased by 61% (Ampe et al., 2016).

**Background/Significance**

In 2008, inpatient falls in which a patient sustains an injury were no longer being reimbursed by Centers for Medicaid and Medicare because they are considered hospital acquired conditions (Agency for Healthcare Research and Quality, 2021). Therefore, the direct financial cost of falls acquired within the hospital setting is burdensome for the hospital organization. Inpatient falls can strain organization budgets. This encourages health care systems to research fall prevention methods and implement stringent fall prevention programs and initiatives (Chandler et al, 2018).

Injuries associated with patient falls can be classified as minor, moderate, or major. Minor injuries result in bruises, abrasions, and application of dressing/ice. Moderate injuries result in suturing wounds or splinting. Major injuries result in internal organ bleeding or bone fractures needing surgery, casting, or traction (Titler et al., 2016). When patients fall within an organization, injuries may occur leading to detrimental consequences causing poor patient outcomes. Chronic pain, functional impairment, disability, premature nursing home admission, increased length of hospital stay, fear of falling, trauma, increased health care costs, and death are all poor patient outcomes associated with an inpatient fall (Agency for Healthcare Research and Quality, 2021; King et al, 2016; The Joint Commission, 2021). Hospitalized adults older than 65 years are at the highest risk for falls and commonly occur within this age group. Patient falls have increased in the last three decades and will continue to rise due to the increase age in the population (King et al, 2016).

Inpatient falls can be placed into three categories and are classified as anticipated, unanticipated, and environmental falls. The first category is physiological anticipated falls, which consist of gait instability, fall history, and current risk for falls (Agency for Healthcare Research and Quality, 2021). The second is physiological unanticipated falls which consists of syncopal episodes and falls caused during seizures (Agency for Healthcare Research and Quality, 2021). The third category is environmental falls which consists of falls caused by equipment failure and external hazards such as tripping on intravenous (IV) pole wires and IV/oxygen tubing (Agency for Healthcare Research and Quality, 2021; King et al, 2016). As the coordinator of care for the patient, the registered nurse is ultimately responsible for assessing for possible fall risks and implementing measures for fall prevention. Protecting patients from preventable harm is within a nurse’s scope of practice and standard of care

**Organization**

The third-floor medical surgical unit at BHW was the site for project implementation. BHW is a ninety-nine-bed teaching hospital that is verified by the American College of Surgeons as a Level III trauma center. BHW is partnered with Detroit Metropolitan Airport and the Centers for Disease Control and Prevention. Staff are trained to handle mass trauma and emergency patients coming from the airport. The hospital is known for their bariatric and heart and vascular services. The mission of BHW is to deliver compassionate and extraordinary care everyday (Beaumont Health, 2021). Despite the implementation of fall prevention measures and best practices, BHW still has a significant number of inpatient hospital falls. Hourly rounding is already required at BHW, but a unit assessment done by verbally surveying staff members on the third floor revealed “rounding with purpose” was often not done (L. Rich & B. Green, personal communication, September 10, 2021). Nursing staff round on their patients hourly but admitted to not doing it with purpose (A. Leach, personal communication, September 10, 2021).

**Statement of the Problem**

Decreasing the incidence of inpatient falls is not only a benefit to the patients but also the provision of high-quality nursing care. The Joint Commission’s national safety goals require hospitals to focus on reducing the risk of patient harm from falls while hospitalized (The Joint Commission, 2021). Inpatient falls in the hospital setting are multifactorial due to environmental unfamiliarity, medications, acute illness, placement of various tubes and drains, and significant patient health changes (Agency for Healthcare Research and Quality, 2021). BHW has implemented a policy to guide healthcare team members (nurses and nurse assistants) through the fall risk assessment, inpatient fall prevention program, and post inpatient fall management of patients. The purpose of the policy was to promote and improve patient safety at BHW. Within the policy, nursing staff must use the Morse Fall Scale to assess fall risk (Beaumont Health, 2021).

The Morse Fall Scale is a tool used to identify six factors that put hospitalized patients at risk for falls. The six factors assessed are: having a history of falling in the last three months, a secondary diagnosis (dizziness, myocardial infarction, cerebrovascular accident), using ambulatory aids, being connected to IV tubing, having a weak or impaired gait, and having an impaired mental status (Agency for Healthcare Research and Quality, 2021). A score is given after each question is answered on the tool and the total score is added up to determine the fall risk. A score of 0-24 is considered no fall risk, 25-50 is low fall risk, and greater than 51is high fall risk (Agency for Healthcare Research and Quality, 2021).

The “activity measure-post acute care six clicks” and “nurse driven activity protocol” are also used by nursing staff as part of BHW’s fall prevention program. The “activity measure-post acute care six clicks” is used to measure basic mobility in hospitalized patients. This tool is completed upon admission to assess the level of assistance needed with bed mobility, sit to stand, supine to sit, seated transfers, ambulation, and ascending stairs. The score generated from the tool helps guide the nurse in applying the “nurse driven activity protocol” that generates a best practice alert (BPA) to consult physical therapy and occupational therapy. A score of eighteen prompts the BPA for physical therapy and occupational therapy. The purpose of these two tools is to reduce complications related to immobility and decrease inpatient falls (Beaumont Health, 2021).

The fall prevention program also consists of using remote visual monitoring, patient sitters, bed alarms, nonslip socks, yellow fall risk arm bands, and universal precautions. Additionally, there is also an expected requirement for nurses and nurse assistants to round hourly on each patient as a method to prevent falls. Nursing staff complete yearly fall prevention modules online that update them on fall polices and hourly rounding (Beaumont Health, 2021). Despite these efforts, inpatient falls are still occurring at BHW. For the year 2021, an average of two to three falls occurred each month on the third floor (A. Leach, personal communication, November 19, 2021). Since inpatient falls are considered a “never event”, there is room for improving fall prevention measures.

If an inpatient fall occurs, post fall management of patients consists of notifying the provider of the fall. The provider assesses the patient at the bedside for injuries related to the fall. The nurse completes the post fall debriefing paperwork and nursing leadership investigate the cause of the fall. The nurse manager then has a meeting with the nursing staff responsible for the patient that sustained the fall and debriefs the cause of the fall and provides counseling on how to prevent future falls (A. Leach, personal communication, December 19, 2022).

Purposeful rounding to prevent falls is well established in research (Christiansen et al., 2018; Daniels, 2016; Grillo et al., 2019; Morgan et al., 2017). Purposeful rounding is the process of routine checking on patients at regular time intervals to assure all their needs are met. Patient’s needs consist of comfort, toileting, having their possessions within reach, and their pain addressed (Sims et al., 2018). Therefore, utilization of a continuous quality improvement methodology for hourly rounding may improve patient safety and create a safer environment for patients during their hospital admission. Hourly rounding with purpose may help prevent falls by providing a structured organizational process to guide nursing staff in fall prevention efforts (Sims et al., 2018).

The Agency for Healthcare Research and Quality (2021) recommends universal fall precautions to be implemented on all hospitalized patients. Universal precautions are recommended because they help keep patient’s environment comfortable and safe. One way to combat the rising fall rates within an organization is to institute universal fall precautions. Universal fall precautions include teaching the patient how to use the call light and maintaining it within reach, keeping patient’s possessions within arm’s reach, using nonslip socks, placing hospital bed in lowest position, keeping the hospital bed brakes locked, activating bed alarm, providing the patient with adequate lighting, keeping patient areas clean and uncluttered, and keeping the floor surfaces dry (Agency for Healthcare Research and Quality, 2021).

Falls and related injuries are important hospitalized patient concerns, therefore; nursing efforts need to be constructed to significantly reduce falls and related injuries. However, the cause of a patient fall can be multifactorial, therefore multiple interventions must be carried out to help with fall prevention (Chae et al, 2019; Radecki et al., 2018; King et al, 2016). Purposeful hourly rounding helps nursing staff ensure universal precautions are in place. The systematic process of purposeful rounding is an intentional act conducted with a clear purpose for the patient’s benefit and has significant value for the patient (Agency for Healthcare Research and Quality, 2021). Rounding hourly has an opportunity to ensure that the patient’s needs are being met. For example, asking a patient if he or she wants to use the bathroom during hourly rounding can help prevent him or her from trying to get up on their own to use bathroom (Agency for Healthcare Research and Quality, 2021).

A “rounding with purpose” checklist using and the Four Ps: Potty, Position, Pain, and Possessions (Altobaiti, 2019), was used for this quality improvement project to help reduce inpatient falls. This checklist simply ensures the patient was comfortable and pain free, they can reach and understand how to use the call light, the possessions are within reach, and the need to use the toilet was addressed. The checklist was introduced to nursing staff who were educated on how to utilize the visual aid for fall prevention.

**Clinical Questions**

The patients admitted to the third-floor medical surgical floor include patients 18 years old and up that are being treated for uncontrolled diabetes, sepsis, cellulitis, ethyl alcohol withdrawal, status post abdominal surgery, status post limb amputation, and status post hip and knee replacements. Among all patients aged 18+, admitted to the third-floor medical surgical unit at BHW, was purposeful hourly rounding effective at reducing the number of inpatient falls compared to pre-intervention fall rates? Was there evidence to support whether purposeful hourly rounding helped in reducing falls? Were there lower costs associated with falls as a result of the purposeful hourly rounding? A follow up question to the checklist if it was not completed included: What were the barriers to purposeful hourly rounding?

**Literature Review**

Rounding with purpose is the act of interacting with patients on a planned basis to anticipate their needs (Altobaiti, 2019). It was found that attending to patient’s fundamental needs such as toileting and comfort on a planned basis can prevent falls (Altobaiti, 2019). Rounding hourly with purpose provides an organizational workflow process for nursing staff (Christiansen et al., 2018). Rounding with purpose has been introduced to hospitals with the goal of improving patient safety, patient outcomes, preventing falls, and increasing patient satisfaction (Morgan et al., 2017).

A library database search of fall prevention and purposeful rounding intervention studies was conducted using the Cumulative Index to Nursing and Allied Literature (CINAHL complete), the United States National Library of Medicine, National Institutes of Health, PubMed, and the Cochrane Database. Search terms included: rounding with purpose fall prevention, fall prevention with rounding, purposeful rounding, inpatient fall prevention rounding, and hourly rounding fall prevention. The search was limited to full-text studies written in English in the last five years from 2016-2021, conducted in hospitals in which fall prevention interventions were initiated during the past ten years. A total of thirty-one articles were reviewed.

**Setting/Outcomes**

Because the analysis of purposeful rounding has been studied in multiple settings: acute inpatient hospitals, nursing homes and rehabilitation settings, only the inpatient acute hospital setting articles were reviewed. The results of the systematic review identified that hourly rounding had positive outcomes on the reduction of patient falls and improved patient outcomes (Christiansen et al., 2018; Daniels, 2016; Grillo et al., 2019; Morgan et al., 2017). Due to inpatient falls causing harm to patients, prolonging hospital stay, and increasing health care costs; rounding with purpose has been proposed to help prevent falls and improve patient outcomes. Rounding with purpose has shown variable outcomes, including a decrease in inpatient falls by 50%, decrease in falls compared to the national average, or the fall rate has remained unchanged (Christiansen et al., 2018; Daniels, 2016; Grillo et al., 2019; Morgan et al., 2017).

The primary outcomes of interest for the literature review included: fall rates, reduction in falls, increases in falls, including falls with injury. Data extraction included: study setting, population of interest, sample size, study duration, purposeful rounding interventions employed, outcomes, and researcher analysis. In each of the studies, falls were reduced when compared with pre-intervention fall rates (Daniels, 2016; Morgan et al, 2017; Grillo et al., 2019).

**Team Members**

The literature revealed that purposeful hourly rounding was performed by registered nurses (RN), licensed practical nurses (LPN), and nurse assistants (Christiansen et al., 2018). With each patient encounter, the RN, LPN, or NA rounded on their patients with anticipation to fulfill their needs. These team members were educated about purposeful rounding by their leadership team (Christiansen et al., 2018; Morgan et al., 2017; Grillo et al., 2019; Hall et al., 2016). Patient certainty of nurse presence due to the implementation of purposeful hourly rounding could increase their trust in good nursing care. Patients were less likely to get out of bed on their own when they were anticipating nursing staff to round on them hourly (Altobaiti, 2019).

**Patient Viewpoint**

Purposeful rounding has been shown to improve patient satisfaction (Morgan et al., 2017). Patients can experience anxiety while hospitalized (Grillo et al., 2019). Expecting the nursing staff to timely round routinely aids with alleviating anxiety and stress (Grillo et al., 2019). Patient satisfaction scores were taken from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores and Press Ganey scores. Patient satisfaction in the area of nursing communication and pain management increased 11% while satisfaction for responsiveness of nursing staff increased 15% (Daniels, 2016). In another study, patient satisfaction increased 23.6% after structured hourly rounding was implemented on a 24-bed medical surgical unit (Brosey & March, 2015).

**Challenges**

Due to conflicting priorities, nursing staff found it difficult to perform purposeful hourly rounding consistently (Christiansen et al., 2018). A systematic review conducted by Hall et al., (2016), found 13 out of 20 articles identified busy nursing staff workloads interfere with hourly rounding. Time constraints also impede with performing consistent hourly rounding (Hall et al., 2016). Another challenge to purposeful hourly was staff commitment. Staff believed they were constantly in their patients’ rooms and do not need a formal rounding process (Christiansen et al., 2018). An additional concern with sustaining the process of hourly rounding was the issue of high staff turnover (Hall et al., 2016).

**Strengths, Weaknesses, Opportunities and Threats (SWOT) of Organization**

The third-floor medical surgical unit at BHW was the site for project implementation, with a target population of patients 18 years old and older. The third floor was selected for this quality improvement project due to their high fall rate of an average of two to three inpatient falls per month. The third floor had a total of thirty-two inpatient falls for the year 2021. Three out of the thirty-two inpatient falls resulted in injury. Two out of the three inpatient falls with injury resulted in minor injury and one resulted in moderate injury. All three inpatient falls were physiological anticipated falls. The estimated cost BHW incurred due to the falls with injury was $39,948. One out of the three inpatient falls with injury resulted in a moderate injury that led to suturing of wounds sustained from the fall. Two out of three inpatient falls were minor injuries that resulted in bruising and application of ice to site.

The purposeful hourly rounding checklist was necessary to help aid in fall prevention efforts and promote patient safety. The visual purposeful hourly rounding checklist was posted in each patient room next to the white board on laminated paper, it served as a reminder for nursing staff to “round with purpose” and check off the fall prevention interventions they completed. Completion of the BHW third floor microsystem assessment using the strength, weakness, opportunities, and threats (SWOT) analysis depicted how implementing rounding with a purpose melds with the organization’s nursing model. **Figure 1** depicts a summary of the third-floor medical surgical unit’s SWOT analysis.

**Strengths**

The third-floor unit’s strengths consisted of the Morse Fall Scale being part of the nursing assessment within the patient’s electronic record. The floor already utilized fall prevention programs such as the “activity measure-post acute care six clicks” and the “nurse driven activity protocol”. Nurses on the unit also engaged with universal precautions, bed safety; lowest position, beds locked, safety rails up per BHW policy, and use of bed alarms. Staff welcomed purposely hourly rounding checklist that was supported by nursing leadership team and administration. Nursing staff utilized hourly rounding and were familiar with the process of rounding.

**Weaknesses**

Weaknesses included high nursing staff turnover on the unit and perception by nursing staff that current rounding practice was adequate, some even viewed it burdensome according to the third-floor unit manager Amber Leach (A. Leach, personal communication, November 19, 2021). The Covid-19 pandemic has caused high nursing staff turnover due to burnout and nurses leaving to do travel nursing (A. Leach, personal communication, November 19, 2021). As high staff turnover was identified as a weakness, an additional concern arose including the use of “per diem” staff and nursing staff pulled from other units in the hospital which may not understand the unit’s needs fully. Another weakness identified was the current form of hourly rounding on the unit was generic and lacked direction. There were no clear directions on what nursing staff should have been doing for patients when completing their hourly rounding.

**Opportunity and Threats**

Opportunities identified include the fact that falls are preventable and are a quality concern regarding patient care. There are multiple occasions to enhance the hospital’s reputation, reduce the hospital’s overall expenditure costs, and improve staff morale, which in turn decreases staff turnover and attracts new nurses to join BHW. Threats included other nursing units not implementing the purposeful hourly rounding checklist. The danger of not reducing the incidence of fall rates include patient harm, overall cost accrued with patient falls, and poor patient satisfaction. The Covid-19 pandemic was also a threat. Studies show that the Covid-19 pandemic intensified nurse’s stress because they had to manage patient’s extreme emotional and physical needs (Chen et al., 2020). Bedside nurses faced pain, suffering, and death along with powerful ethical dilemmas (Zhao, 2020). Because of this, it has exacerbated the national nursing shortage. Nurses have left the bedside due to burnout, fear, stress, and mental exhaustion. This causes a strain on nursing staff who stayed to work at the bedside with increased workloads and longer hours (Lopez et al., 2022). Lastly, potential of patient and nursing staff resistance to the use of the purposeful rounding checklist was a threat.

**Figure 1**

*SWOT analysis for the third-floor medical surgical unit.*

Shape, polygon

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**Cost Factors and Sustainability**

Costs were minimal for implementing the purposeful rounding checklist since nursing staff was already required to do hourly rounding. Printing the “purposeful hourly rounding checklist” and supplies had limited impact on the budget. Approximate cost for printing each checklist on laser printer and laminating was 0.25 cents per page. Fifty sheets were printed and laminated totaling a cost of about $12.50. Fifty sheets of the checklist were printed so two copies of the checklist were placed in each patient room. Two copies were placed in each patient room to ensure that data was not erased for patients that were discharged from that room.

An educational in-service on the use of the checklist was provided during the scheduled huddle that occurs during shift change twice a day until all staff was educated. The educational in-service was 10 minutes in length, followed by a 5-minute question and answer session where staff had the opportunity to find out more about purposeful rounding and ask questions. Nursing staff was provided a copy of the purposeful rounding checklist to review. By allowing the question and answer session, it created a relaxed atmosphere where deepening the nursing staff’s understanding was augmented.

Nurses and nurse assistants signed a form attesting that they received verbal education during huddle on the checklist. The sustainability plan included nurses and nursing assistants (from all shifts) as unit champions who were previously selected by unit leadership. The unit champions encouraged other staff members to use the checklist while rounding. The completion of the checklist was monitored daily by the primary investigator, and if the form was not completed, nursing staff was verbally encouraged to use the checklist to improve patient care.

**Conceptual Framework**

The utilization of a conceptual framework to guide the implementation of a rounding with purpose checklist for fall prevention was essential. There were two theories that guided the implementation of this project. The first theory was Kolcaba's Theory of Comfort. Kolcaba’s Theory of Comfort is a middle range theory developed in the 1990s that places comfort as a priority in healthcare. Comfort is the end goal of nursing care according to this theory. The theory described comfort that existed in three forms: relief, ease, and transcendence (Petiprin, 2020). Kolcaba’s Theory of Comfort guided purposeful hourly rounding and the use of the four Ps checklist (pain, position, personal needs, and potty). Addressing the patient’s need to use the bathroom, relief from pain, being in an uncomfortable position, and keeping personal needs within reach while performing purposeful hourly rounding equated to relief, ease, and transcendence. Comfort is a basic need for all humans and addressing the four Ps assists with promoting patient comfort (Vo, 2020). The second theory was Lewin's Change Theory. Lewin’s Change Theory is a three-stage model of change that could help facilitate the project of using a purposeful hourly rounding checklist to aid in decreasing inpatient falls. The three stages are unfreezing, change, refreezing (Petiprin, 2020). Unfreezing is the stage where resistance is identified and driving forces are built to change old patterns that are counterproductive (Petiprin, 2020). In the unfreezing stage, the development of the checklist took place and was introduced to nursing staff during daily huddles. Nursing staff were educated on the checklist and how to use it. The need for change to use the checklist was created and nursing staff’s doubts and concerns regarding the checklist was addressed during the educational in-service. The change stage of Lewin’s theory is where the change or new pattern occurs (Petiprin, 2020). In the change stage, the checklist was implemented, and nursing staff started utilizing it during their hourly rounding. The refreezing stage is where new patterns are established as a new habit and become the new way of doing things (Petiprin, 2020). In the refreezing stage, the checklist was fully implemented, evaluated, and with the anticipation of becoming a habit, it will be sustainable.

**Purpose Statement and Objectives**

Within the organization, each nursing staff member had a role along with the contribution they provided toward inpatient fall reduction. Since negative patient outcomes and increased health care costs are associated with inpatient falls, the falls patients incurred hindered quality patient outcomes. Creating a purposeful rounding checklist as a reminder for nurses and nurse assistants to round with intent provided a simple yet cost-effective intervention and mechanism to decrease the risk of inpatient falls and lower the hospitals overall fall rate. The purpose of this quality improvement project was to implement the use of an hourly purposeful rounding checklist to reduce inpatient falls. Patient outcomes in relation to the fall rate was also evaluated. The quality improvement project’s objectives were:

1. Educate the nursing staff on the checklist during huddle that occurs twice a day during change of shift. Education was done verbally, and nursing staff was given a copy of the checklist to review. Education and reminders were given daily during huddle to ensure all staff was educated.
2. Implement the use of a rounding with purpose checklist for patients on the third floor at BHW during their admission regardless of their Morse Fall Score.
3. Monitor the checklist for completion daily at the end of the midnight shift. Once implemented, staff were be reminded daily during huddle to complete the checklist.
4. Examine the rate of falls before implementation of the checklist for September 2021 and review the fall rate post implementation for the month of October 2021.
5. Evaluate nursing staff compliance with using the checklist and provide a post implementation survey to assess the strengths and weaknesses of the checklist.
6. Assess the costs saved for BHW by the number of inpatient falls reduced.

**Methods**

**Project Design**

The project was a quality improvement project to help reduce the fall rate using a rounding with purpose checklist on the third-floor medical surgical unit at BHW, utilizing a quantitative method design. This project was initiated during the Covid-19 pandemic. The proposal for a purposeful hourly rounding checklist was introduced by the primary investigator and accepted by the third-floor unit manager, unit educator, nursing staff and with leadership buy-in prior to the Covid-19 pandemic. The purposeful hourly rounding checklist was introduced to nursing staff during their daily huddle during the Covid-19 pandemic. A copy of the laminated checklist was given to nursing staff along with a verbal presentation about the checklist. Nursing staff received verbal education on the use of the checklist, where it was in patient rooms, how to complete it, the benefits of the checklist, and how it was audited. During the month of the project implementation, the checklist was audited at 0600 by the primary investigator every day, assessing the checklist for completeness and documenting the percentage of completion. If the primary investigator was not able to audit the checklist that day, the two unit charge nurses that work opposite of each other agreed to help with auditing the checklist.

After the checklist was implemented for a month, an anonymous post implementation survey using the Likert scale was given to nursing staff during their daily huddle to complete. The primary investigator ensured that the same staff member did not complete the survey multiple times by asking if they have completed the survey prior. The survey was given as a hard copy and had a total of twelve statements. It took less than two minutes to complete each survey. The Likert scale measured each statement as strongly disagree (1), disagree (2), agree (3), and strongly agree (4). Listed below were the statements on the post-implementation survey and **Figure 2** depicts an example of the Likert Scale.

1. The checklist was easily accessible in my patient’s room.
2. The checklist was useful when completing my hourly rounding.
3. I rounded with purpose on my patients and utilized the four P’s but did not document it on the checklist.
4. I did not have time to document on the checklist every time I rounded on my patients.
5. I want to continue using the rounding with purpose checklist.
6. I did not round hourly on my patients.

Purposeful rounding increased my workload.

Purposeful rounding decreased the number of patient’s interruptions during my shift.

I purposefully rounded every hour during the day and every 2 hours at night.

When I purposefully rounded, I always addressed the 4P’s (pain, potty, position and possession).

Purposeful rounding decreased my patients call light use.

Purposeful rounding makes my care more obvious to the patient/families and makes them feel safer.

**Figure 2**

Table

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**Outcome Measures**

The checklist was audited for completion by the primary investigator by visually reviewing the checklist at 0600 the end of midnight shift every day. Quantitative outcomes regarding falls include the number of falls, gender of patients who sustain a fall, type of injury associated with each inpatient fall, pre-implementation fall data for September 2021, the percentage of checklist completion, and post implementation survey results.

**Intervention/Implementation**

The Joint Commission’s national safety goals require hospitals to focus on reducing the risk of patient harm from falls while hospitalized (The Joint Commission, 2021). Improvements in the fundamental aspect of patient care and safety are imperative to improving and redesigning the healthcare environment, therefore; the aim of this quality improvement project was to reduce inpatient falls on the third-floor medical surgical unit at BHW and identify if the purposeful rounding fall checklist was an effective tool in decreasing falls.

All nursing staff including nursing assistants were educated on the use of the checklist prior to implementation. Education was done every day for seven days during the daily huddle that occurs twice a day during change of shift to ensure that all nurses and nursing assistants were provided with the information. A hard copy of the checklist was provided to nursing staff and were instructed on how to use it and where it would be placed in the patient rooms. The checklist consisted of the patient’s room number, fall risk score, use of fall cushion mats, and four Ps: Potty, Position, Pain, and Possessions. **Figure 3** provides a description of the checklist using the four Ps. The checklist was posted inside each patient room by the white board. Purposeful hourly rounding was completed and documented on the checklist every hour from 8 AM to 10 PM and every two hours from 10 PM to 6 AM by nursing staff on each patient. Rounding was done every two hours from 10 PM to 6 AM to minimize disturbing patients during sleep time. Nursing staff were instructed to write a check for completion on the open boxes when rounding was completed. If the patient was sleeping, the nursing staff were to place the letter “S” for sleeping in place of the check mark. Nurses were to complete the even hours and nursing assistants were to complete the odd hours. The time slots between 10 PM and 6 AM could be completed by either nurses or nursing assistants. The new purposeful rounding checklist initiative was emphasized in weekly huddle sessions using the two key messages: (1) all inpatients are at risk for falls, and (2) everyone has a role in fall prevention.

**Figure 3**

**Table

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**Setting and Sample**

This project was carried out on the third-floor medical surgical unit at BHW. There were a total of 25 beds on the third floor. The average daily census for the unit was twenty-three patients a day. The inclusion criteria were all medical surgical patients admitted to the third floor being treated for uncontrolled diabetes, sepsis, cellulitis, ethyl alcohol withdrawal, status post abdominal surgery, status post limb amputation, and status post hip and knee replacements. The patient’s ages ranged from 18 years old and up. The participants of this project included all inpatient medical surgical patients admitted to the third-floor, nurses, and nursing assistants. All patients regardless of Morse fall risk score were included.

**Data Collection**

The number of inpatient falls, gender of patients who had an inpatient fall and the type of inpatient fall injuries sustained on the third floor was collected for the months of September 2021 and October 2021. As part of the third-floor nurse manager’s priorities, keeping record of inpatient falls was one of the responsibilities required by administration. The daily patient census for the unit in September 2021 and October 2021 was also collected. The checklist was audited for completeness daily at 0600 in the implementation month of October 2021. The goal set by the primary investigator was for eighty percent of each checklist to be filled out by nursing staff to count as completed. This eighty percent goal was recommended by the third-floor unit manager. Every day at 0600, the checklist was reviewed by the primary investigator to examine whether nursing staff utilized the purposeful rounding checklist and audited the checklist for completeness. The unit’s charge nurse would have been used as a backup to audit the checklist if the primary investigator was not available, but the primary investigator made it a priority to audit the checklist themselves every day.

Evaluation of fall data and total checklist completion occurred during the month of November 2021. Also in November 2021, a post implementation twelve question anonymous survey using a four-point Likert Scale was used to assess for compliance barriers and nursing staff perception of the checklist. The survey’s Likert scale left out the option for “neutral” to force the individual completing the survey to form a response.

**Ethical Considerations**

This project posed minimal risk to human subjects. Identifiable patient information was not gathered. The checklist inside of each patient’s room did not include any patient identifying information. All post implementation surveys were anonymous. Approval to complete the project was obtained from Beaumont Health Institutional Review Board and the University of Detroit Mercy Institutional Review Board prior to implementation of the quality improvement project. The project was deemed as non-human subject research. None of the data gathered identified nursing staff. A data user agreement was completed and signed by the primary investigator to ensure that data collected from Beaumont Health was de-identified.

**Data Analysis and Results**

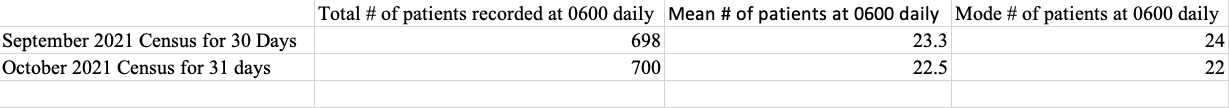
**Data Analysis and Results of Checklist**

During the first two days of checklist implementation, only three time slots were filled out on the checklist by nursing staff for all checklists. Nursing staff did not document on the checklist except for those three time slots in the first two days. On the first day there were twenty-four patients on the unit by 0600 and on the second day there were twenty-three patients on the unit by 0600. On day one, “pain” was checked off at 10 AM and “potty” was checked off at 12 PM only. On day two of project implementation, only “pain” was checked off at 8 PM. There was no documentation on the checklist for the rest of the days of the month. The primary investigator attempted to re-educate and remind nurses and nursing assistants during daily huddle to document on the checklist, but no new engagement occurred.

**Data Analysis and Results of Patient Census**

The primary investigator recorded the total number of patients daily on the third floor at 0600. There was a total of 698 admitted patients in September 2021 and 700 admitted patients in October 2021. This accounted for twenty-three hour holds and inpatient admitted patients. Data regarding daily patient census for the third-floor medical surgical unit for September 2021 and October 2021 was gathered and analyzed using descriptive statistics. See **Figure 4.** The daily unit census at 0600 for September 2021 was on average higher than the daily unit census for October 2021, September 2021; 23.3 and October 2021; 22.5.

**Figure 4**

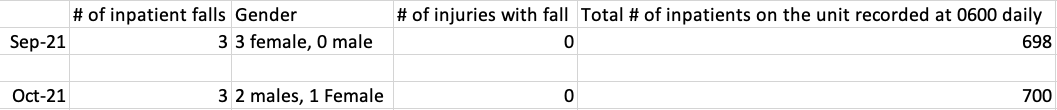
*Descriptive Statistics for September 2021 and October 2021 patient census on third floor at BHW.*

**Data Analysis and Results of Inpatient Falls**

Unfortunately, there were incidences of inpatient falls on the third-floor medical surgical unit during the months of September and October, 2021. Fall data was gathered regarding number of inpatient falls, number of injuries caused from the inpatient falls, and gender of patients who sustained the inpatient falls. Fall data from September 2021 was compared to fall data from October 2021. See **Figure 5**. There were three inpatient falls in September 2021 and three inpatient falls in October 2021 therefore, no change occurred. Three females ages 59, 65, and 86 sustained an inpatient fall in September 2021 and two males ages 66 and 47 and one female age 65 in October 2021. All three inpatient falls in September 2021 were physiological anticipated unwitnessed falls, the patients were found on the floor and the falls did not result in injury. Two out of the three inpatient falls in October 2021 were physiological anticipated witnessed falls and one was a physiological anticipated unwitnessed fall, the patients were on the floor, and the falls did not result in injury.

**Figure 5**

*September 2021 and October 2021 inpatient falls, gender of patients who sustained a fall on the third-floor medical surgical unit at BHW, number of injuries with fall, and total number of inpatients on the unit recorded at 0600 daily.*

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**Data Analysis and Results of Survey**

There was no change in the number of inpatient falls between the months of September and October 2021. Nursing staff did not document on the checklist after day two of checklist implementation. Since compliance with the checklist was not achieved, a post implementation survey was provided for the nursing staff that worked on the third-floor medical surgical unit during project implementation to address the underutilization of the checklist. The nursing staff completed the survey consisted of third-floor nurses, third-floor nursing assistants, travel nurses and nurses pulled from other units who cared for patients on the third floor during the month of October, 2021. The hard copy anonymous survey was provided to the nursing staff, including travel nurses and staff pulled from other units over a course of five days in November 2021 during daily huddle. The goal was to achieve more than sixty percent of nursing staff participation to complete the survey. Nursing staff were instructed by the primary investigator not to fill out more than one survey to ensure that the same individual did not complete the survey twice. The primary investigator had built trusting relationships with the nurses and nursing assistants on the unit and since nursing is the most trusted profession (American Nurses Association, 2022), the primary investigator trusted nursing staff to not fill out the survey more than once. A total of thirty-two out of fifty-one nurses and nurse assistants (63%) completed the survey. **Figure 6** depicts the questions asked in the survey and the breakdown of the answers with the number and percentage of each answer.

**Figure 6**

*Number and percentage for each question for the Post-Implementation Likert Scale**Questionnaire (n=32).*

**Table

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To summarize the findings in **Figure 6**, all thirty-two participants who completed the survey (100%) agreed and strongly agreed that the checklist was easily accessible in the patient’s room. Thirty-one out of the thirty-two participants (96.9%) agreed and strongly agreed that they rounded with purpose on their patients and utilized the checklist but failed to document on it. All thirty-two participants (100%) agreed and strongly agreed that they did not have time to document on the checklist every time they rounded on their patients. 100% (n=32) agreed and strongly agreed that purposeful rounding increased their workload. 43.8% (n=30) agreed and strongly agreed that they completed purposeful rounding every hour during the day and every two hours at night. 96.9% (n=31) agreed and strongly agreed that they always addressed the four P’s when completing their hourly rounding. 75% (n=24) who filled out the survey agreed and strongly agreed that purposeful hourly rounding made their care more obvious to their patients/patient’s family and made them feel safer. 25% (n=8) disagreed and strongly disagreed that purposeful hourly rounding made their care more obvious to their patients/patient’s family and made them feel safe.

Twenty-five out of the thirty-two participants (78.1%) disagreed and strongly disagreed that they did not round hourly on their patients. 21.9% (n=7) agreed and strongly agreed with this statement that they did not round hourly. 84.4% (n=27) disagreed and strongly disagreed that the checklist was useful when completing their hourly rounding, but 15.6% (n=5) agreed and strongly agreed with this statement. 100% (n=32) of participants disagreed and strongly disagreed that they want to continue using the checklist. 78.1% (n=25) disagreed and strongly disagreed that purposeful rounding decreased the number of interruptions during their shift. 78.1% (n=25) disagreed and strongly disagreed that purposeful rounding decreased their patient’s call light use. Descriptive statistics was used to describe the results obtained from the survey, see **Figure 7**.

**Figure 7**

*Descriptive Statistics for the Post-Implementation Likert Scale Questionnaire (n=32).*

**Table

Description automatically generated**

**Discussion**

Among patients on the third-floor medical surgical unit at BHW, purposeful hourly rounding was neither effective nor ineffective in reducing the number of inpatient fall rates, when comparing pre and post checklist implementation. There was no evidence that purposeful hourly rounding was effective in helping reduce inpatient falls because the number of inpatient falls for both September and October 2021 were the same. Unfortunately, since there was no change in the number of inpatient falls, there was no expectation in lower costs associated with purposeful hourly rounding.

There were thirty-two anonymous post project implementation surveys completed by the third-floor nursing staff during the month of November 2021. During project implementation in October 2021, the primary investigator verbally reminded nurses and nursing assistants during daily huddle to utilize the checklist and document on it. Although nursing staff did not document on the rounding with purpose checklist, 96.9% (n=31) of the nursing staff utilized the checklist while rounding hourly as evidenced by the post-implementation survey. The survey revealed that documentation was not done on the checklist due to lack of time, 100% (n=32). Lack of time was likely due to nursing staff shortages caused by the Covid-19 pandemic where nurses were leaving due to burnout or to do travel nursing. Because of this, the project never left the unfreezing stage of Lewin’s Change Theory. It was difficult to add additional tasks to the nurse’s workload when they were already working short staffed. This was confirmed by the unit’s charge nurse Lisa Rich. Rich also agreed with the primary investigator that the checklist was a great reminder for purposeful hourly rounding but documenting on it was time consuming (L. Rich, personal communication, January 28, 2022).

The cause of remaining in the unfreezing stage may also be because many nurses and nursing assistants were naturally resistant to change. Change is often met with resistance because it can be uncomfortable and viewed as a threat to one’s baseline status (Touch Point Medical, 2022). In addition to lack of time due to staffing shortages caused by the Covid-19 pandemic and nursing staff resistance to change, the project never left the unfreezing stage because the primary investigator only verbally reminded nursing staff to utilize the checklist. The primary investigator just verbally reminded nursing staff to utilize the checklist because she did not want to be a burden or feel like she was forcing the staff to utilize the checklist. The primary investigator was also a staff nurse at BHW and did not want to be overbearing toward her colleagues. To help move the project out of the unfreezing stage, the primary investigator could have reminded nursing staff to utilize the checklist in more creative ways. Creative ways the primary investigator could encourage more engagement with the checklist include putting sticky note reminders of the checklist on the unit computers, hand out little candy bars that have reminders of the checklist to nursing staff, and ask the unit manager to also encourage nursing staff to use the checklist. Nursing staff view the unit manager as their official leader and the primary investigator as their colleague, therefore; more engagement with utilization of the checklist could occur if the unit manager was asking staff to use the checklist. In the future, these ideas are a way to move out of the unfreezing stage and move into the changing stage.

There were several barriers to purposeful hourly rounding. According to the third-floor nurse manager Amber Leach, staffing has been critically low and patient acuity has been high for both the months of September 2021 and October 2021 (A. Leach, personal communication, November 19, 2021). The nurse-to-patient ratio was 1:6 daily, including the charge nurse having a full set of patients. This was unusual due to nursing staff shortages related to high nurse turnover. One staff nurse resigned in September 2021 and two staff nurses resigned in October 2021. These nurses resigned to complete nurse travel assignments and make more money. In addition to staff resigning, one third-floor nursing staff member was out on medical leave for personal reasons during October 2021. There was one travel nurse who worked during September and October 2021. This travel nurse was present during pre-checklist implementation education, implementation of checklist, and post implementation of checklist survey. The midnight shift on third floor was always short staffed one to two nurses and nurse assistants compared to dayshift due to higher nursing staff turnover on nightshift vs dayshift. At least one nursing staff member was pulled from another unit during the midnight shift every night in September 2021 and October 2021 but the unit was still never fully staffed. It was a different nursing staff member every night and they did not receive education on the rounding with purpose checklist and were unfamiliar with the unit’s routines and projects. This could have been resolved by the primary investigator taking the time to discuss the checklist 1:1 with them.

The checklist was a great tool to help with fall prevention, but the timing of checklist implementation was poor since it was implemented during the Covid-19 pandemic. The timing of checklist implementation was poor because nursing staff was burnt out from the Covid-19 pandemic. They were overworked due to staffing shortages, busy taking care of very sick patients, and just trying to get through their shift. Working short staffed was overwhelming and requires nursing staff to prioritize their time completing other tasks.

Rounding with purpose has shown variable outcomes, including a decrease in inpatient falls by 50%, decrease in falls compared to the national average, or the fall rate has remained unchanged. The results of this project were similar to some studies in the literature in relation to hourly rounding not having an effect on the inpatient fall rate (Christiansen et al., 2018; Daniels, 2016; Grillo et al., 2019; Morgan et al., 2017). This project revealed that hourly rounding with purpose had no effect on the fall rate. This could be due to only implementing the project for one month, and more time was needed to evaluate whether the hourly rounding with purpose checklist could decrease inpatient falls. The timing of this project was poor because it was implemented during a global pandemic, this could be another factor as to why hourly rounding did not have the desired effect on the inpatient fall rate.

**Implications for Practice and Sustainability Plan**

This project was informative as a Doctor of Nursing Practice student’s quality improvement project. Nursing leadership will need to take the Covid-19 pandemic, staffing shortages and high nursing turnover into consideration when implementing this checklist on another unit. A quality improvement project was not considered successful unless it was sustainable. The goal of this project was to use this checklist to improve patient outcomes by decreasing the incidence of inpatient falls. A recommendation for future sustainability plan could include collaborating with the unit educator and creating additional education via online modules on purposeful hourly rounding and the use of the checklist. This can ensure that education on the use of the checklist was efficient and carried out as intended. The third floor will need to stabilize its staffing since a barrier to using the checklist was lack of time due to short staffing. The use of the checklist was a culture change and ongoing support and guidance from nursing leadership was needed to help sustain the use of the purposeful hourly rounding checklist. Due to the Covid-19 pandemic, sustainability of the checklist was challenging but nursing staff can be encouraged by nursing leadership to continue using the checklist while completing their hourly rounding on patients. A major challenge for this quality improvement project accounted for factors outside of the primary investigators control, which influenced the impact of the post implementation outcomes. Additional research is needed to understand the efficacy of the checklist not during a global pandemic and with a unit that has stable nursing ratios. Recommendations for improving this quality improvement project are implementing the checklist on a unit that has stable nursing ratios and not during a global pandemic.

**Limitations**

There are several limitations that need to be considered for this project. There was a national nursing shortage due to the global Covid-19 pandemic. This nursing shortage has affected BHW, especially the third-floor medical surgical unit. There was a high nursing staff turnover in the months of September and October 2021. The unit was often running short on nursing staff and the charge nurse often has a full set of patients to take care of. Staffing shortages and high nursing staff turnover limit the proper utilization of the checklist.

The timing of the quality improvement project was poor because it was initiated during the Covid-19 pandemic. The Covid-19 pandemic exacerbated the nursing staff shortage. Due to staffing shortages, there was one travel nurses and nursing staff (nurses and nurse assistants) pulled from other units to work on the third-floor medical surgical unit. Non third floor nursing staff was often unfamiliar with the unit’s routines and projects, and they were not educated on the checklist. This limits the utilization of the checklist.

**Dissemination Plan**

The dissemination plan for this project involved submitting a final paper to the University of Detroit Mercy’s Doctor of Nurse Practice project database. This project and its findings was presented to nursing faculty at the University of Detroit Mercy. The third-floor medical surgical unit at BHW has monthly unit council meetings held by the nurse manager, nurses, and nursing assistants. This project and its findings were presented to the unit council during one of their monthly meetings, as well as the leadership at BHW.

**Conclusion**

The overall purpose of this project was to help decrease the incidence of inpatient falls on the third-floor medical surgical unit at BHW. This quality improvement project utilized a rounding with purpose checklist, however the results indicate that it was neither effective nor ineffective. The number of inpatient falls on the third-floor medical surgical unit did not change in the month of October 2021 during project implementation compared to September 2021 pre-implementation of project. The timing of the project implementation was poor due to the Covid-19 pandemic and the current nursing staffing shortage at BHW on the third floor. Further research and a longer project implementation period of more than one month is needed to evaluate the effectiveness of a purposeful hourly rounding checklist for fall prevention.

References

Agency for Healthcare Research and Quality. (2021). *Fall prevention*.

https://www.ahrq.gov/topics/falls-prevention.html

Agency for Healthcare Research and Quality. (2021). *Preventing falls in hospitals*. https://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtk3.html

Agency for Healthcare Research and Quality. (2021). *Morse fall scale for identifying fall risk factors.* https://www.ahrq.gov/patient-safety/settings/hospital/fall- prevention/toolkit/morse-fall-scale.html

Altobaiti, S.W. (2019). Impact of the use of the 4Ps in hourly rounds on reductions in patient falls in wards. *Journal of Contemporary Scientific Research, 3(7),* 1-7.

http://www.jcsronline.com/wp-content/uploads/2019/09/Volume3Issue7Paper1.pdf

American Nurses Association. (2022). *Honest and ethical professions poll.* https://www.nursingworld.org/news/news-releases/2020/american-nurses-association- president-proud-of-nurses-for-maintaining-1-spot--in-gallups-2019-most-honest-and- ethical-professions-poll/

Ampe, J., Balcaen, K., Goffin, J., Gu, Y., Ni, Y. (2016). Review on prevention of falls in hospital settings. *Chinese Nursing Research, 3(1),* 7-10. https://doi.org/10.1016/j.cnre.2015.11.002

Beaumont Health. (2021). *About us.* Retrieved from https://www.beaumont.org/about-us/mission-vision-and-values

Bott, M., Dunton, N., He, J., Kim, H., Park, S.H., Zhao, Y. (2019). Evidence on fall and injurious fall prevention interventions in acute care hospitals. *The Journal of Nursing Administration, 49(2),* 86-92.

Brosey, L.A., March, K.S. (2015). Effectiveness of Structured Hourly Nurse Rounding on Patient Satisfaction and Clinical Outcomes. *Journal of Nursing Care Quality, 30(2)*,153-159. DOI: 10.1097/NCQ.0000000000000086

Centers for Medicare and Medicaid Services. (2021). *Patient fall rate.* https://cmit.cms.gov/CMIT\_public/ViewMeasure?MeasureId=5285

Chandler, A.M., Fehlberg, E.A., Lucero, R.J., McDaniel, A.M., Mion, L.C., Richey, P.A., Shorr, R.I., Weaver, M.T. (2018). Impact of the CMS no-pay policy on hospital-acquired fall prevention related practice patterns. *The Gerontological Society of America, 1(3),* 1-7. doi:10.1093/geroni/igx036

Chae, J.S., Cho, I., Jung, M., Kim, Y.H. (2019). Development of ICNP-based inpatient falls prevention catalogue. *International Nursing Review 67,* 239-248. <https://doi.org/10.1111/inr.12566>

Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L., He, L., Sheng, C., Cai, Y., Li, X., Wang, J., & Zhang, Z. (2020). Mental health care for medical staff in China during the COVID- 19 outbreak. *The Lancet Psychiatry*, 7(4), e15– e16.

Christiansen, A., Coventry, L., Graham, R., Jacob, E., Twigg, D., & Whitehead, L. (2018 Intentional rounding in acute adult healthcare settings: A systematic mixed‐method review. *Journal of Clinical Nursing,* *27*(9-10), 1759-1792.

Daniels, J.F. (2016). Purposeful and timely nursing rounds: A best practice implementation project. *JBI database of systematic reviews and implementation reports, 14(1),* 248–267. https://doi.org/10.11124/jbisrir-2016-2537

Grillo, D., Firth, K., & Hatchel, K. (2019). Implementation of purposeful hourly rounds in addition to a fall bundle to prevent inpatient falls on a medical-surgical acute hospital unit. *Medsurg Nursing,* *28*(4), 243.

Hall, N., Meluskey, T., Toole, N. (2016). A systematic review: Barriers to hourly rounding. *Journal of Nursing Management, 24,* 283-290. DOI: 10.1111/jonm.12332

Hicks, D. (2015). Can rounding reduce patient falls in acute care? An integrative literature review. *Medsurg Nursing, 24(1),* 51-55. https://search.proquest.com/openview/7891afc5d54f14c1e75dacf018155793/1?pq- origsite=gscholar&cbl=30764

Johns Hopkins Medicine. (2021). *Falls cost U.S. hospitals $34 billion in direct medical costs*. https://www.johnshopkinssolutions.com/newsletters/falls-cost-u-s-hospitals-30-billion-in- direct-medical-costs/

King, B., Krupp, A., Liebzeit, D., Mahoney, J., Pecanac, K. (2016). *The Gerontological Society of America, 58(2),* 331-340. doi:10.1093/geront/gnw156

Lopez, V., Anderson, J., West., & Cleary, M. (2022). Does Covid-19 pandemic further impact nursing shortages? *Issues in Mental Health Nursing*, 43(3), 293-295.

Morgan, L., Flynn, L., Robertson, E., New, S., Forde‐Johnston, C., & McCulloch, P. (2017). Intentional rounding: A staff‐led quality improvement intervention in the prevention of patient falls. *Journal of Clinical Nursing,* *26*(1-2), 115-124.

Petiprin, A. (2020). Kolcaba's theory of comfort. [https://www.nursing-theory.org/theories-and- models/kolcaba-theory-of-comfort.php](https://www.nursing-theory.org/theories-and-%09models/kolcaba-theory-of-comfort.php)

Petriprin, A. (2020). Lewin's change theory. [https://nursing-theory.org/theories-and- models/lewin-change-theory.php](https://nursing-theory.org/theories-and-%09models/lewin-change-theory.php)

Petiprin, A. (2020). Watson’s philosophy and science of caring. <https://www.nursing-> theory.org/theories-and-models/watson-philosophy-and-science-of-caring.php

Radecki, B., Reynolds, S., & Kara, A. (2018). Inpatient fall prevention from the patient's perspective: A qualitative study. *Applied Nursing Research,* *43*, 114-119.

Sims, S., Leamy, M., Davies, N., Schnitzler, K., Levenson, R., Mayer, F., . . . Harris, R. (2018). Realist synthesis of intentional rounding in hospital wards: Exploring the evidence of what works, for whom, in what circumstances and why. *BMJ Quality & Safety,* *27*(9), 743-757.

Titler, M., Conlon, P., Reynolds, M., Ripley, R., Tsodikov, A., Wilson, D., & Montie, M. (2016). The effect of a translating research into practice intervention to promote use of evidence- based fall prevention interventions in hospitalized adults: A prospective pre–post implementation study in the U.S. *Applied Nursing Research,* *31*, 52-59.

The Joint Commission. (2021). *Preventing Falls.* https://www.centerfortransforminghealthcare.org/improvement-topics/preventing-falls/

Touch Point Medical. (2021). Why do nurses resist change? https://www.touchpointmed.com/system/files/private-resource/white-papers/20210601- WP-Nurses%20Resist%20Change-EN-Web.pdf

Vo, T. (2020). A practical guide for frontline workers during COVID-19: Kolcaba’s comfort theory. *Journal of Patient Experience,* *7*(5), 635-639.

Zhao, G. (2020). Taking preventive measures immediately: Evidence from China on COVID-19. *Gaceta Sanitaria*, 34(3), 217– 219.