Dodge the Fall: A Newborn Fall Prevention Initiative

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Abstract

**Problem:** This newborn fall prevention initiative was developed in response to an increase in the number of newborn falls at a Bay Area hospital on the postpartum unit. This hospital had gone six years without a newborn fall but by September of 2023 had three falls on the postpartum unit. **Context:** The setting for this newborn fall prevention initiative is an urban, NICU level III Bay Area hospital that provides high-risk obstetric care. This Bay Area hospital has 247 licensed patient beds; 10 beds make up the postpartum unit and 11 beds make up the antepartum unit which serve as the postpartum overflow. This postpartum department is not a part of the Baby-Friendly Hospital Initiative (BFHI) but does promote rooming-in practice. **Interventions:** A signed Pledge Form for Infant Safety was developed to create a sense of accountability on the parent’s behalf regarding newborn fall prevention measures. **Measures:** The effectiveness of the signed Pledge Form for Infant Safety was measured using both objective and subjective data collection. Objective measures were collected from the review of patient electronic medical records (EMR) for the documentation of newborn fall education as well as the documentation of safety indicators related to newborn fall prevention. Subjective information was collected from postpartum nurses during the pre-implementation phase, as well as from newborn mothers during both the pre- and post-implementation phase of the study. **Results:** The specific aim of increasing nurse-to-patient education by 10% and decrease the number of newborn falls in the postpartum unit from September to November 2023 was not fully met. There were no further newborn falls on the postpartum unit through November 2023, however subjective patient data and objective chart audits were conflicting in terms of nurse-to-patient education receipt. **Conclusion:** The use of a signed Pledge Form for Infant Safety alone was not enough to increase nurse-to-patient education by 10% to meet the specific project aim. However, the addition of a required staff training and patient educational material (Pledge Form for Infant Safety) created an awareness of newborn falls and assisted in avoiding additional newborn falls on the postpartum unit.
Dodge the Fall: A Newborn Fall Prevention Initiative

A newborn fall is defined by the National Database for Nursing Quality Indicators (NDNQI) as a sudden, unintentional descent, with or without injury that results in a patient coming to rest on the floor, on or against another surface, on another person or object (The Joint Commission [TJC], 2018). Newborn falls are nationally recognized to be underreported for various reasons including parental fear of judgement, embarrassment, guilt, reprisal, or the belief that a fall does not need to be reported if the newborn appears unharmed (Carr et al., 2019). Although most newborn falls result in minor, temporary harm such as bruises, bumps or swelling, the number and rate of serious injuries from newborn falls requiring prolonged hospitalization has increased since 2014 (Kukielka & Wallace, 2019). Newborn falls resulting in serious injuries can include depressed skull fractures, subdural hematomas, subarachnoid bleeding, encephalopathy and even death (Brown et al., 2017). If the goal of all postpartum units is to have zero newborn falls during admission, why do they happen? Research has repeatedly demonstrated a correlation of newborn falls with breastfeeding, maternal fatigue, and time of day, with most falls occurring between midnight and 6:00 AM (Ainsworth, 2016; Hughes Driscoll, 2019). It is the responsibility of the Maternal Child Health (MCH) unit to aid parents and staff in working together as a team to prevent in-hospital newborn falls by increasing self-awareness and education.

The Joint Commission Quick Safety advisory (2018) reports the rate of newborn falls to be between 600 - 1,600 every year in the United States. This translates to 1.6 - 4.14 falls per 10,000 live births (Brown et al., 2017). Although newborn falls occur each year, there is no validated risk assessment tool or structured prevention interventions specific to newborn falls, due in part to its historical underreporting and limited data. This newborn fall prevention initiative is specific to a Bay Area hospital that has been troubled by a recent increase in newborn falls since the start of the 2023 calendar year. After having gone six years without a newborn fall, this Bay Area hospital had three recent falls which translates to 8.75 falls per 10,000 live births, well above the national average of 1.6 - 4.14 falls per
10,000 live births (Brown et al., 2017). This hospital’s mission is to remain a national leader in patient safety by being the safest place to give and receive care. The MCH unit is determined to identify current gaps in practice, and effectively implement a process change using evidence-based practice to improve patient safety and quality of care.

Problem Description

The setting for this newborn fall prevention initiative is an urban, Bay Area hospital with 247 licensed patient beds; 10 beds on the postpartum unit and 11 beds on the antepartum unit which serves as the postpartum overflow. This Bay Area hospital averages more than 3,000 births per year and has had 3,429 births to date. The postpartum unit acuity has a maximum of three couplets (mother and infant) per single nurse with an average length of stay of 2-4 days depending on delivery type. Most deliveries at this Bay Area hospital are spontaneous vaginal deliveries (SVD), with c-sections making up only 25.28%-28.78%. This postpartum department is not part of the Baby-Friendly Hospital Initiative (BFHI) but does encourage rooming-in practice as promoted by the World Health Organization (WHO) and United Nations Children’s Fund (UNICEF), to support exclusive breastfeeding for the first 6 months of life (Wu, 2022).

This Bay Area hospital no longer has a nursery, as the well documented research on the benefits of breastfeeding outweighs the need for a dedicated space, and all newborns currently room-in. Research shows that newborns who room-in have more stable body temperatures and blood sugars, have less levels of stress hormones and are more content (Conway Medical Center, 2019). The unintended problem that arises from rooming-in and breastfeeding on demand is that mothers are experiencing greater postpartum fatigue and interrupted rest, which poses a risk for newborn falls. Evidence has shown that most postpartum newborn falls occur because mothers are falling asleep while breastfeeding (Hughes Driscoll, 2019). This too was the experience of this Bay Area hospital, as the
recent newborn falls were believed to be related to breastfeeding and maternal fatigue, according to the nurse manager.

A barrier in determining the reason for the increase in newborn falls, at this Bay Area hospital, includes a lack of detailed information from improper reporting to risk management. Of the three falls that occurred in 2023, only one was reported in the hospital’s Market Information Data Analytics System (MIDAS). The details of the single reported fall in the MIDAS report states the fall occurred at 6:55 AM after the 35-year-old mother had fallen asleep in her bed while holding the newborn. This resulted in a two-foot drop from the bed onto the floor, but the newborn sustained no injuries as confirmed by MRI and neuro examination. This mother was a primigravida who delivered via c-section at 41 weeks and one day. The mother’s last sedating medication was given before the newborn’s birth and is unlikely to have contributed to the fall which occurred on postnatal day two. The lack of reporting in the MIDAS system makes it difficult to draw causal associations from a root cause analysis (RCA) to prevent future newborn falls. However, the nurse manager reported that the other two falls also occurred during shift change and were attributed to maternal exhaustion and falling asleep while breastfeeding or holding the newborn in the mother’s bed. This is supported by research from Kukielka & Wallace (2019) who report 52.8% of newborn falls being associated with caregivers falling asleep and 56.6% of falls occurring between midnight and 7:00AM. This similarity between time of day and maternal behavior led to a deeper investigation of current practice and prevention methods.

Literature Review

A literature review was conducted to gather best practices in preventing additional newborn falls at this Bay Area hospital. Literature was found using CINAHL Ultimate, PubMed, EBSCOhost, Scopus, and Google Scholar. A search using the following key terms was used to obtain relevant data: *newborn fall prevention, postpartum newborn fall, maternal exhaustion newborn fall, breastfeeding newborn fall, fall*
prevention safety bundle. Comprehensive details from the literature review are summarized in Appendix B.

The use of a signed safe sleep pledge has been demonstrated through research to increase newborn fall awareness and establish a partnership between parents and staff (Lipke et al., 2018). The safe sleep pledge is an educational tool meant to empower involvement in the newborn’s care and promote safe sleep and handling. The safe sleep pledge requires acknowledgement that the newborn will sleep alone on their backs, in a crib and in a smoke free environment (Karlsson et al., 2021). Previous studies have used a safe sleep pledge in combination with other interventions, presented as a newborn safety bundle, to aid in preventing newborn falls. In one study, after implementing a signed safe sleep pledge (in addition to education, teach-back, and role modeling), there were no additional newborn falls, and risk assessments trended downward over a one-year period (Lipke et al., 2018). Another study implemented a maternal rest bundle that included: patient and staff education, a safe sleep pledge contract, official quiet time, and signage on the unit and patient rooms that led to the elimination of newborn falls on the postpartum unit over a two-year period (Karlsson et al., 2021). Although there is little research on the use of a signed safe sleep pledge to prevent newborn falls, available research suggests this can be used as a supplemental intervention to prevent newborn falls. A signed safe sleep pledge establishes a team-like approach in the accountability and prioritization of newborn safety from parents and staff.

Maternal rest periods are defined as a dedicated, uninterrupted time with the purpose of promoting bonding and maternal rest to support families on the postpartum unit (Church, 2020). Research by Grassley et al. (2018) confirms that the hours of 2:00 PM and 4:00 PM are ideal for maternal rest as it coincides with a low point of the body’s circadian rhythm and a natural lull in activity on the postpartum unit. Maternal rest can take various forms and can be as simple as supporting a friendly “Please check with the nurse before entering” sign outside patient rooms or near the entrance onto the
unit. Another means of promoting maternal rest include altering the default physician’s standard order for vitals to say while awake instead of Q4hr to promote maternal rest by skipping midnight vitals, if the patient’s condition permits (Lopez et al., 2018). A study from Waller-Wise and Maddox (2019) used a multifaceted approach of signage on patient doors, dimming of lights, and allowing only one support person during quiet hours to promote clustered care and maternal rest. Dimming the lights is a natural way to decrease the volume of conversations on a unit and was affiliated with a 70%-unit noise reduction, per patient feedback in the Church (2020) research study. The Karlsson et al. (2021) study reported that 95% of patients believed unit quiet time was beneficial to maternal rest and 53.33% of staff agreed with the timing of the maternal rest period. Research has shown that dedicated maternal rest periods can positively contribute to combatting maternal exhaustion by promoting maternal rest through a variety of means.

**PICOT Question**

PICOT is an acronym for population, intervention, comparison, outcome, and time and is a well-known template to present a research question that investigates the effect of a therapy (Riva et al., 2012). The following PICOT question was developed in consideration of the findings from the literature review and the information from the single MIDAS newborn fall report: In newborns on the postpartum unit (P), will requiring mothers to sign the Pledge Form for Infant Safety (I) compared to current newborn fall prevention methods (C) decrease fall rates (O) within three months (T)? This PICOT question will assist in directing project implementation to create a change initiative that improves safety measures and quality of care through evidence-based research at this Bay Area hospital.

**Rationale**

The clinical nurse leader (CNL) is a known champion of change who is guided by research and theory to create practice improvements within a microsystem (King & Gerard, 2016). To implement effective, long-lasting change, CNLs rely on their leadership abilities and systematic processes to help
carry out organized, focused initiatives. Change theories are integral in effectively translating research into clinical practice to improve a microsystem. For this newborn fall prevention initiative, Barbara Spradley’s change theory is the conceptual framework that was used to guide project implementation.

Spradley’s change theory stems from Kurt Lewin’s change model which consists of three stages: unfreezing, changing, and refreezing (Hawkes & Hendricks-Jackson, 2017). Lewin believed human behavior was the centerpiece and driving force of change. The first step of Lewin’s change model is to unfreeze or alter one’s behavior (Hawkes & Hendricks-Jackson, 2017). The next step includes creating a consistent changed behavior between management and employees. Refreezing is the final step that occurs when the new behaviors become integrated into the organization (Hawkes & Hendricks-Jackson, 2017). Spradley expanded on Lewin’s three step model and developed her own eight-step model that includes recognizing the symptoms, diagnosing the problem, analyzing the alternative solutions, selecting the change, planning the change, implementing the change, evaluating the change, and stabilizing the change (Hawkes & Hendricks-Jackson, 2017). This change theory seemed most relevant in addressing the newborn fall prevention initiative as it requires having a well-versed understanding of the symptoms and problems before analyzing solutions. Evaluating the status quo to find gaps in practice is integral in developing an effective newborn fall prevention initiative.

The first step in Spradley’s change theory is to recognize the symptoms, which is the need for change (Teegardin, 2020). Until a specific problem is identified, research and implementation are futile because they can address an entirely different problem. Solidifying the need for change by answering “why” the status quo is ineffective, helps the CNL in creating valuable practice improvements. Spradley’s second step is to diagnose the problem, which includes investigating current practices and conducting an RCA to help identify the issue that needs to be addressed (Hawkes & Hendricks-Jackson, 2017). The third step is to analyze alternative solutions (Hawkes & Hendricks-Jackson, 2017). This step is crucial because it includes conducting a literature review to investigate how others are addressing the same problem.
This allows the CNL to conduct risk anticipation, outcome management, system analysis, and compare feasibility against their own microsystem workflow (Spradley, 1980). This step of Spradley’s change theory allows evidence-based research to be the driving force in influencing change, improving patient safety and quality of care (Connor et al., 2023). The fourth step is selecting the implementation and considering the practicality and costs affiliated with implementation (Spradley, 1980). This occurs after all relevant literature has been reviewed, summarized, and narrowed down to solutions that best address the identified problem. The fifth step is to plan the change by creating a purposeful design that includes specific, measurable objectives and the development of a project timeline (Spradley, 1980). Steps one through five include all the data collection, analysis, and preparation of project implementation.

The sixth step in Spradley’s change theory is to implement the change. This occurs after all resources are available and staff are trained in how to implement the change in a standardized manner (Spradley, 1980). Spradley’s seventh step is to evaluate the change once specific objectives have been addressed. This step includes an analysis of what worked, what requires fine tuning, if the problem is being addressed, and if there is room for improvement (Spradley, 1980). The eighth and final step is to stabilize the change. This step requires reinforcement of the change process and ensures all participants are consistent in their implementation before the change can become a part of the microsystems standard practice (Spradley, 1980). The benefit of Spradley’s theory over Lewins theory is the emphasis on constant evaluation during implementation to manage the success of the project (Teegardin, 2020). Spradley’s change theory provides a systematic process that will help outline this newborn fall prevention initiative in response to the recent newborn falls that occurred at this Bay Area hospital.

**Specific Aim**

The specific aim for this newborn fall prevention initiative is to increase nurse-to-patient education by 10% and decrease the number of newborn falls in the postpartum unit from September to November 2023. This aim will be carried out using the Pledge Form for Infant Safety that was created to
address the concerns of a rising incidence of newborn falls at the Bay Area hospital. The Pledge Form for Infant Safety is a standardized form for nurses to use as an educational tool for newborn fall prevention. This specific aim will help focus the efforts of this initiative by establishing a clear, measurable outcome to address the microsystem needs of this Bay Area hospital.

Section III: Methods

Context

The context of this study describes the background information that was used to guide the creation of a change project based on the evaluation and need of the Bay Area hospital. This section will describe the microsystem assessment, including the 5 P’s, SWOT analysis, fishbone diagram, PDSA chart, Gantt chart, and projected return on investment for this Bay Area hospital, that will aid in decreasing newborn falls on the postpartum unit.

Microsystem Assessment

A microsystem is a small, functional, essential frontline unit where patients and health care providers interact within a larger organization, known as the macrosystem (Nelson et al., 2007). The microsystem of this initiative is the postpartum unit of a Bay Area hospital. Before performance optimization can occur, a microsystem assessment must be conducted. An effective microsystem assessment uses an organized, systematic process to assess and diagnose gaps in practice so efficient, patient-centered services can be provided. The 5 P’s from the Dartmouth Clinical Microsystems Toolkit was used to help focus the microsystem assessment. The 5 P’s is an analytical method that allows CNLs to review the purpose, patients, professionals, processes, and patterns of a microsystem.

Purpose. The purpose of the postpartum unit at this Bay Area hospital is to provide family-centered care by using rooming-in practice to support parents in caring for their newborn and facilitate breastfeeding and bonding. The unit values rooming-in because research has demonstrated its benefits
in improving breastfeeding success rates and reducing physiological stress and depression in new mothers after discharge (Wu, H.L., 2022). The postpartum unit is dedicated to providing a safe environment for both newborns and mothers that can seamlessly transition into safe at home practices.

**Patients.** The patient demographic of this Bay Area hospital is 39.6% White, 35.5% Asian, 15.3% Hispanic and 4.9% Black. The average age of mothers on the postpartum unit ranges from 33 to 38 years-old. Most mothers on the unit are multipara’s (54.02%-55.9%), females who have given birth to two or more infants as opposed to primipara’s (41.5%-44.34%), females who are giving birth for the first time. Most of the patients at this Bay Area hospital have a support person with them for the duration of their stay based on staff feedback.

**Professionals.** The frontline professionals providing care on the postpartum unit at any given time include one unit assistant (UA), one certified nursing assistant (CNA), one lactation consultant (LC), three registered nurses (RN), one break nurse and three nurse practitioners (NP) or two NP’s if a pediatrician is available, but this is rare. Access to one 24-hour OBGYN and one 24-hour neonatologist is available as needed. All staff in the unit work 8-hour shifts with start times of 7:00 AM, 3:00 PM, or 11:00 PM. The postpartum unit leadership team includes a nurse manager, an assistant nurse manager and a director of nursing who oversee a total of 77 staff members, 54 of whom are RN’s.

**Processes.** The current unit process is a 3:1 acuity ratio, meaning three couplets (mother and infant) to one nurse. Since the COVID-19 pandemic, there has been a change to the visitor policy at this Bay Area hospital. There are no restrictions to visitation hours, however there is a maximum of two visitors at a time, and children under the age of 2 are limited to siblings. This bay area hospital is a NICU level III hospital who also provides high-risk OB care. The admissions process from the L&D unit varies by delivery type; infants of vaginal deliveries are transferred in a wheelchair in the arms of their mother, while c-section deliveries are transferred in a bassinet separate from their mother.
Current newborn fall prevention strategies at the Bay Area hospital include an ABC (alone, back, crib) Poster and ABC crib card that detail safe newborn sleep practices. All patient rooms are equipped with an Infant Safety flyer which describes an increased risk for accidental newborn falls when someone falls asleep while holding the newborn because of fatigue, being drowsy from medication or related to an unfamiliar setting. The Infant Safety flyer requests families to place the newborn in the bassinette when feeling sleepy and to not sleep with infant in the bed, couch, or chair. Patients also have access to the Bay Area hospital’s Newborn Channel which includes a video clip on Preventing Infant Falls that describes risks for falls as well as steps to prevent falls. In response to the current increase of newborn falls on the postpartum unit, all nurses are now required to complete the Preventing Newborn Falls and Drops training module on their own time.

Current post-fall protocol includes a physical assessment by the nurse, stabilization of the newborn, then reporting the event to the provider so they can place an evaluation order set. A post-fall huddle with involved care providers is completed to debrief issues and opportunities. If there are no obvious skull abnormalities and the newborn has a normal neurological exam, an MRI of the head is completed. If there is a change in the infant’s neurologic exam, a CT of the head is required. The current post-fall reporting protocol includes the completion of an electronic Responsible Reporting Form that is typically completed by the nurse manager then queued to the Department of Risk Management to be stored in the MIDAS reporting system. The Department of Risk Management then conducts an RCA in the MIDAS system within 7 days. If the fall is a sentinel event, defined by The Joint Commission (n.d.) as a safety event that results in severe temporary harm, permanent harm, or death, then a Causal Systematic Analysis meeting is held. The event would be reported to the Northern California Risk Management team and followed up with a formal investigation and action plan monitored by the hospital’s Medical Executive Committee.
Patterns. The patterns of the postpartum unit include regularly scheduled team meetings that measure the microsystem’s progress in achieving safe, efficient practices. At the beginning of every nurse’s shift, handoff reports are given to the oncoming nurse that include essential patient care information to promote care continuity. The leadership team conducts a daily safety brief at 8:00AM to decide what safety information is pertinent to the unit and then disseminates this information to the staff at their weekly unit huddles. Unit council meetings occur monthly to review operational and professional practice issues within the postpartum unit. These routine meetings promote fluid interprofessional communication within the microsystem to help solve workflow problems and improve patient care practices.

Strengths-Weaknesses-Opportunities-Threats Analysis

To successfully plan and implement a change initiative, a CNL should complete a SWOT analysis to identify aspects that can both positively and negatively affect a project. A SWOT analysis is an objective review of the internal processes and personnel to determine the readiness of implementing a safety initiative (King & Gerard, 2016). Evaluation of the strengths, weaknesses, opportunities, and threats (SWOT) was evaluated for the Bay Area hospital and is detailed for the newborn fall prevention initiative in Appendix E.

Strengths. The most important strength identified in the SWOT analysis is the staff’s acknowledgement of the need for intervention based on the recent increase in newborn falls on the postpartum unit. Having a current newborn fall protocol is also helpful in determining the readiness of the unit because modifying a current practice is typically less challenging to implement. The hospital promotes a safety culture which aids in the willingness of staff to participate in the initiative. The leadership team is very supportive and committed to reducing the rate of newborn falls on the unit and this may have also contributed to the staff’s receptiveness of the initiative. The identified strengths of the postpartum unit include all the current newborn fall prevention methods including the ABC poster.
and crib card, Infant Safety Flyer, Preventing Infant Falls on the Newborn Channel, and the required Preventing Newborn Falls and Drops staff training module. Additional strengths include the standard practice of hourly patient rounding to ensure parents are not falling asleep while holding their newborns.

**Weaknesses.** The largest weaknesses identified in implementing a newborn fall prevention initiative are related to a lack of standardization. There is no standardized risk assessment tool specific for newborn fall prevention, like the well-known Mores Fall Scale for adults. There are also no standardized education methods to provide patients with specific education on newborn falls, like the ABC poster for safe sleep practices. The Pre-Intervention Staff Survey revealed the methods of presenting newborn fall education to be varied between verbal (from memory), to teach-back, to use of the Pledge Form for Infant Safety (handouts). The pre-intervention microsystem assessment revealed inconsistencies in post-fall data reporting as evidenced by only one of the three newborn falls being reported into the MIDAS system. Inconsistent documentation of fall education in the electronic medical record (EMR) was also noted as a part of the microsystem assessment. In the Pre-Intervention Staff Surveys 86% of staff said they document providing education on newborn falls, while patient chart audits revealed only 49% of staff were documenting in the EMR. An inherent weakness to any change project is staff who are inherently resistant to change as well as a lack of available staff members to implement the initiative.

**Opportunities.** The greatest opportunity for this initiative is for this Bay Area hospital to have a reduction in newborn fall rates. This alone would improve patient safety and satisfaction scores. High satisfaction scores reflect positively on the hospital’s macrosystem and translate to overall cost reduction. Cost reduction can be from preventing an extended length of stay or reducing the need to conduct additional or follow up imaging. The education piece of the newborn fall prevention initiative increases collaboration between parents and staff and simultaneously increases a patient’s autonomy.
and confidence in caring for their newborn after discharge. Opportunities to standardize unit processes and have consistent documentation allow for improved EMR utilization. Maximizing the use of the EMR is beneficial because it offers a systematic tracking mechanism that can be referenced for future performance evaluations.

**Threats.** External threats to implementing a newborn fall prevention initiative include rapid staff turnover which can provide inconsistencies in care and effect project outcomes. These inconsistencies in care can affect patient safety and have legal and regulatory implications. A lack of parental awareness of newborn fall prevention methods is an additional threat in ruling out this newborn fall prevention initiative. A lack of parental awareness can be due to language barriers and can influence communication skills. Cultural values can also contribute as a barrier if certain cultures promote co-sleeping, but this is not permitted on the postpartum unit.

**Fishbone Diagram**

A fishbone diagram was also completed to help narrow down a causative factor contributing to the recent increase in newborn falls on the postpartum unit. The fishbone diagram allows a microsystem to create a visual theory to identify potential causes to help guide a change project (Nelson et al., 2007). As seen in Appendix F, contributing factors to the newborn fall were divided into the following categories, procedures/protocols, education/training, equipment/environment, and people. The procedural barriers that were identified and addressed from the fishbone diagram include a lack of a post-fall assessment tool and inconsistent terminology related to fall prevention education. The education barriers include the inconsistent education methods on newborn fall risks and strategies as well as the inconsistent use of the signed Pledge Form for Infant Safety as an educational tool. The environmental barriers include a wordy Infant Safety flyer that has a lot of great information but is visually unappealing and inconsistent in its visualization in patient rooms. This fishbone diagram helped identify problems that can be empirically tested using PDSA cycles.
**Plan-Do-Study-Act Cycle**

The plan-do-study-act (PDSA) cycle is a scientific process used to repetitively test changes in a rapid systematic fashion (King & Gerard, 2016). The plan step correlates with planning the data collection methods, the do step involves the collecting of data, the study step entails evaluation of the data, and the act step focuses on the adjustments needed for future PDSA cycles (Nelson et al., 2007). The plan phase for this newborn fall prevention initiative includes identifying key stakeholders, conducting a microsystem assessment as well as collecting pre-intervention surveys and audits to assess current gaps in practice. The do phase includes implementing the signed Pledge Form for Infant Safety and conducting post-intervention surveys and audits. The study phase includes analyzing the post-intervention surveys and audits against the pre-intervention data to identify common themes to review with the nurse manager. The act phase involves making adjustments to the interventions and continuing to amend and test new tools. The PDSA cycle (see Appendix D) continues until staff and patient satisfaction is achieved.

**Gantt Chart**

A Gantt chart was used for this newborn fall prevention initiative to supplement the PDSA cycle by creating a timeline for the overall project. A Gantt chart is a horizontal bar chart used to manage overall quality improvement work by providing an illustration of the activity and help plan, coordinate, and track specific tasks (Nelson et al., 2007). The Gantt chart for this initiative includes a timeline of a three-month period from August 2023 to November 2023 and details specific target goals for project initiation, planning, implementation, and evaluation (see Appendix C).

Project initiation phase includes meeting with key stakeholders to determine areas of the postpartum department that require immediate attention. These immediate areas required a subsequent literature review and meeting with the director of risk management to review the current newborn fall report in MIDAS. The project planning phase included the microsystem assessment and pre-implementation data collection using the Staff Survey, Patient Education Survey, chart audits and visual
audits. The creation of the signed Pledge Form for Infant Safety was also developed during the planning phase.

The project evaluation phase entailed the collection of post-implementation Patient Education Surveys, and chart audits. The post-implementation data was evaluated against the pre-implementation data to determine if there was a p-value of < 0.05 which would indicate statistically significant findings.

**Return on Investment**

Falls make up the largest category of preventable adverse events and are estimated to cost a total of $17 billion annually because the Centers for Medicare and Medicaid Services (CMS) do not reimburse the cost of preventable hospital mistakes (Dykes, 2023). There is limited availability on the estimated cost of newborn falls because direct costs are case dependent. For the purposes of this newborn fall prevention initiative, fall costs were calculated based on the current post-fall processes of this Bay Area hospital. Research supports that most falls do not result in serious injury (Whatley et al., 2022), however current practices at this Bay Area hospital contribute to additional costs acquired per fall, regardless of the severity of harm.

The least severe outcome of a newborn fall is estimated to cost between $5,700-$8,500 at this Bay Area hospital. This would include the cost of a brain MRI ($2,400-$5,200), which is the standard of care policy after a newborn fall plus an additional stay on the postpartum unit ($3,300 per day). The most severe outcome of a newborn fall is estimated to cost $12,590 -$18,450, and includes the cost of a CT scan ($390-$1,050), which is indicated when injuries are present or the infant has a change in neurologic status, plus the cost of a NICU stay, which varies in price depending on the treatment severity ($8,900-$14,100 per day), and the cost of a mother’s additional stay on the postpartum unit ($3,300 per day). Reducing the incidence of newborn falls by implementing this newborn fall prevention initiative could save this Bay Area hospital anywhere from $5,700-$18,450 per fall.
**Intervention**

Based on the data analysis from the microsystem assessment, many inconsistencies in practice were identified. For this reason, the focus of this intervention is to standardize the delivery method of the newborn fall prevention education. The signed Pledge Form for Infant Safety is intended to be used as an educational tool for nurses. The form itself highlights both the risk factors and preventative actions that can help parents minimize the risks of an accidental newborn fall. The purpose of the signed Pledge Form for Infant Safety was to create a sense of accountability for parents on newborn fall prevention. This form is intended to be reviewed by the nurse upon admission to the postpartum unit and signed by the patient as an acknowledgment of their role in providing a safe environment and preventing newborn falls.

Additional interventions were developed with the intent of presenting multiple initiatives as a newborn fall prevention bundle, however, time constraints and approval processes limited this option. The additional interventions include the use of a standardized Infant Safety Pledge script, a Call Don’t Fall poster, and a Post-Newborn Fall Escalation Pathway.

An Infant Safety Pledge script was developed to address the lack of standardization of education methods, as evidenced by the Pre-Intervention Staff Surveys and the SWOT analysis. The Infant Safety Pledge script is an educational tool that ensures nurses are providing thorough, consistent verbiage regarding newborn fall prevention, to capture educational effectiveness more reliably. The term *newborn fall* was unfamiliar to patients based on the Patient Education Surveys, however when patients asked for clarification some changed their answer and agreed the nurses did mention those safe practices. The disconnect appears to be that patients are not translating safe sleep practices as a method of newborn fall prevention. Using the term *newborn fall* during patient education should resolve this unintended issue. A sample Infant Safety Pledge script is provided in Appendix J.
The Call Don’t Fall poster was developed to provide patients with appealing and easily digestible information specific to newborn fall prevention, stemming from research and evidence (see Appendix K). This poster is intended to be an educational tool placed in a highly visible area in all postpartum patient rooms. The Call Don’t Fall poster includes statistics, causes and risks associated with newborn falls and includes a QR code with a link to a research study (Lipke et al., 2018) that patients and visitors can further investigate. The Call Don’t Fall poster is meant to replace the Infant Safety flyer and serve as an updated solution to the former unattractive poster. Additionally, the Infant Safety flyer was not consistently placed, and some patient rooms did not include the form at all. Consistent placement of the Call Don’t Fall poster is of the upmost importance and should be hung in a visible area of patient rooms, such as next to the daily patient board that are updated by nurses every shift.

A Post-Newborn-Fall Escalation Flowchart was developed to provide staff with the appropriate post-fall escalation pathway in an easily accessible format based on this Bay Area hospital’s newborn fall protocol. Initially, this flowchart is to be introduced by the nurse manager at the nurse’s huddle as a tool for nurses to ensure consistency in practice and the following of newborn fall protocol. The Post-Newborn-Fall Escalation Flowchart is to be posted in a visible area at the nurse’s station to improve accessibility. The nurse manager reported that nurses were contacting the nurse manager prior to the physician in the event of a newborn fall, creating a delay in assessment. This flowchart addresses the inconsistent reporting into the MIDAS portal and ensures nurses are assessing the newborn and calling the physician before contacting the nurse manager, to avoid diagnosis and treatment delays after a newborn fall.

**Study of the Intervention**

The tools used to measure the signed Pledge Form for Infant Safety include the use of the Pre-Intervention Staff Surveys, Pre- and Post-Intervention Patient Education Surveys, pre- and post-intervention chart audits, and pre- intervention visual audits. The Pre-Intervention Staff Surveys include
questions about newborn fall training, education, confidence, and methods in both yes/no format and a Likert scale with a comments section at the end (see Appendix G). The Pre- and Post- Intervention Patient Education Surveys include both subjective and objective patient information that the quality improvement team gathered directly from patients in an interview format (see Appendix H). Chart audits were completed by reviewing the EMR of current patients and examining if nurses were documenting newborn fall prevention education and whether nursing actions to promote infant safety and prevent newborn falls had occurred. Visual audits include the quality improvement team examining patient rooms to ensure all newborn fall prevention materials are available and being utilized. Visual audits also include witnessing admission and discharge education completed by the nurse to evaluate the provided newborn fall prevention education.

Measures

This newborn fall prevention initiative is being measured by both objective and subjective means. The success of the signed Pledge Form for Infant Safety is measured by an increase in nurse-to-patient education and a decrease in the number of falls on the postpartum unit. Objective measures are primarily collected from the patient’s EMR on whether nurses are documenting newborn fall prevention education, as well as documenting the number of safety indicators addressed. The percentage of nurses documenting newborn fall education was only 49% as evidenced by the pre-intervention chart audits. This requires improvement as there are legal implications that can arise from improper documentation of nursing activities. Another objective measure to be evaluated is the number of safety indicators present in the EMR. The pre-intervention chart audits revealed that almost the same number of nurses who document both safety indicators (41%) are not documenting any safety indicators (35%). All staff should be documenting the use of safety indicators (documentation of maternal rest, side rails up, both or none) as this supports a nurse’s role in promoting newborn safety. The final EMR documentation that will be measured is the percentage of staff who are specifically documenting the use of the signed
Pledge Form for Infant Safety as an education tool. This is important to note if staff are using the resources provided to improve standardization of newborn fall prevention education.

The subjective data that will measure nurse-to-patient education is collected from the Pre- and Post- Intervention Patient Education Surveys. The ultimate validation of the effectiveness of the Pledge Form for Infant Safety is to measure whether patients feel they received education on newborn falls. Baseline data revealed contraindicating information regarding the effectiveness of newborn fall prevention education. The Pre-Intervention Staff Surveys revealed 95% of staff were providing newborn fall prevention education, while only 61% of patients said they received newborn fall prevention education, according to the Pre-Intervention Patient Education Surveys. The final subjective measure to be collected is the method of the newborn fall prevention education. Of the 61% of patients who said they received newborn fall prevention education, only 63% of patients said this education came from a physical form. All staff are supposed to obtain a mother’s signature on the Pledge form for Infant Safety as an acknowledgment that education was provided. This is an important data point to measure because it would indicate staff compliance and allow the newborn fall prevention initiative to be measured statistically.

Ethical Considerations

Creating a quality improvement project that encompasses the American Nurses Association (ANA) Code of Ethics (COE) is important to ensure ethical standards of the nursing profession are maintained. The COE is a foundational outline for nursing specific values, obligations and moral norms that inform the nursing profession through nursing theory (American Nurses Association [ANA], 2015). This newborn fall prevention initiative seeks to uphold provisions that use the reporting of errors and scholarly inquiry to promote safe environments.

Provision 3.4 describes a nurse’s professional responsibility in promoting a culture of safety. Nurses can promote patient health and safe environments by reporting errors or near misses to address
contributing system factors (ANA, 2015). This newborn fall prevention initiative seeks to ensure nurses understand the proper escalation of a newborn fall using a Post-Newborn Fall Escalation Pathway (see Appendix L). A standardized reporting procedure that is readily available can help ensure newborns are being thoroughly assessed in a timely manner and reduces the risk of additional injury.

Provision 6.3 details the nurse’s responsibility of the healthcare environment. This includes discouraging unsafe or inappropriate activities or practices (ANA, 2015). Providing parental education on newborn fall prevention methods is one way this initiative discourages unsafe newborn activities and promotes a safe practice environment. Additionally, this initiative seeks to improve consistency and standardization of educational materials available in patient rooms. The implementation of the Call Don’t Fall Poster addresses ways parents can promote a safe newborn environment and prevent accidental newborn falls (see Appendix K).

Provision 7.1 outlines nursing contributions through research and scholarly inquiry to advance the nursing profession (ANA, 2015). Scholarly inquiry is fundamental for knowledge development and is a way for nurses to advance nursing theory. Scholarly inquiry is a cornerstone of this quality improvement project as the implementation of a signed Pledge Form for Infant Safety (see Appendix I) was developed after a thorough literature review to determine its effectiveness in combating this Bay Area hospital’s rise in newborn falls. This newborn fall prevention initiative is compliant with the ANAs code of ethics as evidenced by its specific aim to provide a safe environment by increasing nurse-to-patient education and decreasing the number of newborn falls in the postpartum unit. This quality improvement project meets the guidelines for an evidence-based change in practice project that did not require IRB approval (see Appendix A).

Section IV: Results

To analyze the results of this newborn fall prevention initiative and go through multiple PDSA cycles, it is important to consider the patient demographics of the postpartum unit. Noting similarities
between a population can indicate potential options for improved practices that cater to the needs of
the target population. Below is a comparison of the Pre- and Post-Intervention Patient Education Survey
Demographic Data. Overall, most mothers were primiparous and had a support person present during
patient interviews. Mothers on the postpartum unit are averaging less than 5 hours of sleep (in the last
24-hours), and most mothers were successfully breastfeeding at the time of the Patient Education Survey
(see Table 1 and Table 2).

**Table 1**

*Pre-Intervention Patient Education Survey Demographic Data*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Result</th>
<th>Percentage (result/n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (n=38)</td>
<td>~31.16 years old</td>
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</tr>
<tr>
<td>Gestational age (n=34)</td>
<td>38 weeks, 3 days</td>
<td></td>
</tr>
<tr>
<td>Postpartum day (n=40)</td>
<td>~2.03</td>
<td></td>
</tr>
<tr>
<td>Parity status (n=41)</td>
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<td></td>
</tr>
<tr>
<td>Primiparous</td>
<td>33</td>
<td>80.5%</td>
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<tr>
<td>Multiparous</td>
<td>8</td>
<td>19.5%</td>
</tr>
<tr>
<td>Support person (n=40)</td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Delivery method (n=41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-section</td>
<td>10</td>
<td>24.4%</td>
</tr>
<tr>
<td>Vaginal</td>
<td>31</td>
<td>75.6%</td>
</tr>
<tr>
<td>Sleep (last 24 hours) (n=40)</td>
<td>~4.99 hours</td>
<td></td>
</tr>
<tr>
<td>Breastfeeding (n=40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>75.0%</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>25.0%</td>
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</table>

**Table 2**

*Post--intervention Patient Education Survey Demographic Data*

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<th>Characteristic</th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td>Maternal age (n=32)</td>
<td>~35.53 years old</td>
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</tr>
<tr>
<td>Gestational age (n=31)</td>
<td>39 weeks, 1 day</td>
<td></td>
</tr>
<tr>
<td>Postpartum day (n=32)</td>
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<td></td>
</tr>
<tr>
<td>Parity status (n=32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primiparous</td>
<td>20</td>
<td>62.5%</td>
</tr>
<tr>
<td>Multiparous</td>
<td>12</td>
<td>37.5%</td>
</tr>
</tbody>
</table>
A NEWBORN FALL PREVENTION INITIATIVE

Support person (n=32)
  Yes  28  87.5%
  No   4   12.5%

Delivery method (n=32)
  C-section  12  37.5%
  Vaginal    20  62.5%

Sleep (last 24 hours) (n=31)  ~4.73 hours

Breastfeeding (n=31)
  Yes  23  74.2%
  No   8  25.8%

The results from this newborn fall prevention initiative include data from the pre- and post-intervention chart audits, and Pre- and Post-Intervention Patient Education Surveys. The Pre-Intervention Staff Surveys (n=21) were determined futile and post-intervention surveys were not collected due to the consensus of compliance to newborn fall prevention measures, as evidenced by nursing confidence levels. As presented in Figure 1, 90.5% (n=19) of nurses were confident in their ability to educate patients on newborn falls, and 85.7% (n=18) of nurses were confident in reporting a newborn fall, should one occur. The need for improvement of current processes regarding newborn falls was nearly split, with only 52.4% (n=11) of nurses disagreeing with a need for improvement in this area (Figure 2). This is likely because 90.5% (n=19) of nurses confirmed they were trained in newborn fall prevention (likely related to the required Preventing Newborn Falls and Drops training module) and 85.7% (n=18) of nurses are documenting education specific to newborn fall prevention (Figure 2).

Figure 1

*Pre-Intervention Staff Survey Results-Staff Confidence*
Chart Audits

After the implementation of the Pledge Form for Infant Safety, chart audits revealed an 18.9% increase in nurses who document newborn fall prevention education, and an 18.9% decrease in the number of nurses who did not document any education (see Figure 3). The pre-intervention chart audits had a sample size of (n=49) while post-intervention chart audits had a sample size of (n=28). Newborn fall prevention actions were collected from the documentation of safety indicators. Safety indicators
include Side Rails, indicating the nurse raised the side rails while the infant was on the mother’s bed, and Maternal Rest, which indicates the infant was placed in their bassinet to allow for maternal rest. Figure 4 demonstrates an overall 9.7% decrease in the number of zero safety indicators being documented and a 14.8% increase in the documentation of one safety indicator. The documentation of the safety indicator for maternal rest increased 15.8%, while documentation of other methods decreased overall, as seen in Figure 5.

**Figure 3**

*Pre- and Post-Intervention Chart Audit-Documentation of Fall Prevention Education*

![Newborn Fall Prevention Education Documented](image)

**Figure 4**

*Pre- and Post-Intervention Chart Audit-Documentation of Safety Indicators*
Figure 5

Pre- and Post-Intervention Chart Audit-Documentation of the Types of Safety Indicator

Patient Education Survey

The Patient Education Survey’s indicated that most patients felt they were not being educated on newborn fall prevention, with the number increasing 4.6% after study interventions (see Figure 6).

The Pre-Intervention Patient Education Survey’s had a sample size of (n=41) while the Post-Intervention
Patient Education Survey’s had a sample size of (n=32). Patients who said they were educated on newborn fall prevention were asked if they could identify who provided the information. There was a 51.1% increase in newborn fall prevention education coming from nurses after study interventions, as seen in Figure 7.

Maternal rest was measured in the Pre- and Post-Intervention Patient Education Surveys by asking mothers to rate their level of fatigue on a scale of None, Mild, Moderate to Severe. Most mothers rated their fatigue as moderate (see Figure 8). In assessing sedative medications, Tylenol and Motrin were the most common pain medications prescribed, meaning it is unlikely that medications contributed to the rise newborn falls (see Figure 9). Additional pertinent information gathered was the fatigue rating of newborn mothers. The pre-intervention cohort averaged 4.99 hours of sleep while the post-intervention cohort averaged 4.73 hours of sleep in the last 24 hours.

**Figure 6**

*Pre- and Post-Intervention Patient Education Survey-Documentation of Newborn Fall Education*

**Figure 7**

*Pre- and Post-Intervention Patient Education Survey- Newborn Fall Education Source*
Figure 8

Pre-Intervention Patient Education Survey - Fatigue Rating

Post-Intervention Patient Education Survey - Fatigue Rating
Figure 9

Pre-Intervention Patient Education Survey- Pain Medication

Post-Intervention Patient Education Survey-Pain Medication
Section V: Discussion

Summary

Key Findings

Newborn falls are preventable occurrences that require education and standardized practice in addition to efforts from both the parents and healthcare providers. Education is a powerful and necessary tool required for an effective change in practice, and accountability is of the utmost importance to ensure project sustainability. The Pledge Form for Infant Safety was implemented to meet the needs of the specific aim to increase nurse-to-patient education by 10%. This aim was measured by the collection of subjective patient data gathered from the Pre- and Post-Intervention Patient Education Surveys. This specific aim was not fully met however, as the Patient Education Surveys revealed a 4.6% decrease in patients who said they were educated on newborn fall prevention methods, and there was, in fact, a 4.6% increase in the number of patients who said they were not educated in newborn fall prevention methods (Figure 6). This could mean the delivery method of the newborn fall prevention education is unmatched to a patient’s learning style. This may also indicate that maternal fatigue was too severe for mothers to overcome and be receptive to additional information (supported by Figure 8).
A positive result from the Patient Education Surveys was an increase in the source of newborn fall education coming from the nurse (51.1%). This demonstrates an increase in communication between the nurse and patient, which can have implications for future safety initiatives. Pre- and post-intervention chart audits had an 18.9% increase in the number of nurses who documented providing newborn fall prevention education (Figure 3). This highlights a newborn mother’s potential inability to absorb new information during their inpatient stay after the physical and mental act of giving birth. It could mean that providing newborn fall education should begin before the delivery of the infant, and this is an area deserving of further investigation.

Lessons Learned

With the understanding that this quality improvement project is anticipated to continue, it is important for future individuals to learn from this team’s reflection to avoid similar challenges and accelerate quality improvement collaboration. This newborn fall prevention initiative held a high priority ranking for this Bay Area hospital’s leadership team in response to the three newborn falls that occurred in 2023. Leadership was welcoming, supportive and thrilled for this change project to promote a safer unit culture and patient experience. The downfall, however, was leadership’s excitement to implement the Pledge Form for Infant Safety that subsequently resulted in its premature execution. Leadership rolled out the Pledge Form for Infant Safety before the quality improvement team could conduct a microsystem assessment and the quality improvement team was not involved in the delivery of this information to staff. It is advised that future individuals conduct a thorough microsystem assessment before introducing implementation options to key stakeholders. This will ensure the quality improvement team maintains a level of control and standardization in process execution.

The quality improvement team was ambitious in its desire to implement a newborn safety bundle that included multiple interventions to be rolled at once, replicating other previous quality improvement studies. This led to unnecessary delays in the implementation phase that was already
restricted by a three-month time constraint. Increasing the length of the implementation phase would have allowed for an increase in sample size of the Post-Intervention Patient Education Surveys. This could have improved the significance and outcome of the initiative by conducting a like-to-like comparison of study measures. Due to time limitations, only the Pledge Form for Infant Safety was able to be implemented, but in hindsight, this was in the best interest of the initiative. Having too many changes occur at the same time can lead to unnecessary barriers and resistance from the nursing staff. It can also make it difficult to know which interventions are the most and least impactful in the overall outcome. To optimize time constraints, it is important for future individuals to focus on the quality of the implementation measures and maximize the time of the implementation phase.

Conclusion

Implications for Practice

This newborn fall prevention initiative developed a standardized education tool focused on patient understanding and accountability of newborn fall prevention methods. Evaluation of the fall prevention initiative had conflicting results, and the project aim to increase patient education by 10% was not fully met. Staff documentation of newborn fall education improved by 18.9%, which surpasses nurse-to-patient education goals, but the patient perception of newborn fall prevention education worsened by 4.6%, which does not meet the specific project aim. This assures the team that the fundamental issue is not a lack of knowledge or education on the nurse’s behalf, but rather a lack of receptiveness on the mother’s behalf. Newborn fall prevention education is somehow lost in translation and a plausible reason can be due to maternal fatigue. The estimated hours of sleep for a mother on the postpartum unit averages less than five hours in a 24-hour period. Maternal fatigue is a barrier and risk factor of newborn falls, and this can have negative implications for safety outcomes on the postpartum unit.
The postpartum unit demographics revealed that most mothers spoke English (85.4%), were breastfeeding (92.2%), primiparous (80.5%), with a support person (100%), had vaginal deliveries (94.4%) and were not using sedative medications. These demographics can be useful in organizing future implementation projects to the individual needs of the postpartum unit. Unit demographics can help identify risk factors within patient populations and aid in providing proactive instead of reactive care. A standardized risk assessment tool does not currently exist for newborn falls and the use of department demographics may be one way to assess risk and mitigate the probability of future newborn falls.

**Recommendations**

The premature roll out of the Pledge Form for Infant Safety was a significant weakness in this quality improvement project that contributed to the mixed results of this initiative. A recommendation for future studies is to standardize the use of the pledge and conduct routine audits. Auditing for patient signatures on the Pledge Form for Infant Safety is crucial in measuring effectiveness and this was not completed as a part of this initiative. Inconsistencies in practice were noted, for example, whether patients were signing the form, when they were signing the form and the variability in EMR documentation that the “Pledge” was used for patient education. An additional means of standardizing this tool is the use of the Pledge Form for Infant Safety script (see Appendix J). A script would ensure nurses use complete and consistent newborn fall prevention education and contribute to an increased awareness of accidental newborn falls by saying *newborn falls*, which was seldom said during patient education. Standardizing the use of the Pledge Form for Infant Safety should lead to better patient outcomes, and routine auditing and reinforcement of the pledge will improve its validity as an education tool.

Providing additional education on newborn fall prevention using posters in patient rooms can be another way to diffuse education in a natural format. Mothers and support persons are more likely to read what is on the walls during down time, if their interest is drawn because materials are creative and
easy to read. The quality improvement team noted inconsistencies in what was posted in patient rooms and where educational materials were placed. Having a consistent location for a standardized document that specifically addresses newborn falls in all patient rooms would improve efficiency and effectiveness of newborn fall awareness. A Call Don’t Fall poster was created to provide newborn fall prevention information in an attractive, easy to read format, but was unable to be approved in time to implement (see Appendix K). Further efforts to improve consistency in patient rooms is recommended, so all patients have the equal access to readily available newborn safety information.

An area of particular interest for future studies is addressing maternal fatigue. Since most patients were first time mothers who had a support person with them, it is important to focus on decreasing maternal fatigue with the use of the support person. Dedicating a maternal rest period, with a two-hour time block during the day and night shift, when newborn falls are more likely to occur, would be the ideal way to combat maternal fatigue. Time did not allow for the implementation of a maternal rest period as it required additional stakeholder buy in prior to unit implementation, but this should be investigated for future consideration. Using the support person as a target for education for newborn falls can also improve newborn safety outcomes and prevent accidental falls. The support person, as someone who hasn’t gone through a physically demanding and exhausting event, may be able to better absorb safety information. Having the main support person cosign the Pledge Form for Infant Safety may heighten their sensitivity in identifying risky situations and intercepting to prevent a newborn fall.

A final recommendation for a future quality improvement project includes a readily available flowchart that details the order and required steps in reporting a newborn fall (see Appendix L). This recommendation arises from the need to ensure all staff are aware of how to properly report newborn falls. Although 85.7% of nurses said they were confident in reporting newborn falls on the Pre-Intervention Staff Surveys, there was an evident disconnect because only one of the three falls in 2023 were correctly reported into the MIDAS system. Creating a standardized flowchart that remains at the
nurse's station is likely to decrease the stress of a newborn fall event and improve the proper reporting for accurate hospital tracking and interventions.

This newborn fall quality improvement project provided useful information regarding the staff and patient experience on a postpartum unit. The inconsistencies of this Bay Area hospital are likely congruent to other hospitals as far as education materials, delivery methods and standardized reporting procedures for newborn falls. The importance of utilizing a support person was not found in the literature review (see Appendix B) and may be a missing element in current practice. The findings of this quality improvement project have the potential to decrease newborn fall rates by enhancing awareness of both informational and procedural gaps, with implications reaching far beyond this Bay Area hospital.
Section VI: References


[https://doi.org/10.1097/ANC.0000000000001041](https://doi.org/10.1097/ANC.0000000000001041)


Whatley, C., Schlogl, J., Whalen, B. L., & Holmes, A. V. (2022). A Longitudinal Study of a Multifaceted Intervention to Reduce Newborn Falls While Preserving Rooming-In on a Mother-Baby Unit. *Joint Commission journal on quality and patient safety, 48*(10), 521–528. [https://doi.org/10.1016/j.jcjq.2022.06.007](https://doi.org/10.1016/j.jcjq.2022.06.007)

Project: Statement of Determination and Non-Research Determination Form

Student Name: Lenora Thompson

Title of Project: Dodge the Fall: A Newborn Fall Prevention Initiative

Brief Description of Project

A) Data to Support Project Need: This year to date (2023), three newborn fall incidents occurred on the postpartum unit. The hospital’s newborn fall rate, 8.75 per 10,000 live births, is far greater than the national average of 1.61 to 4.1 per 10,000 live births. Thus, newborn falls were identified as a priority concern during initial discussions with nursing leadership pertaining to potential quality improvement projects.

B) Aim Statement: This quality improvement project aims to increase nurse-to-patient education by 10% and decrease the number of newborn falls in the postpartum unit from September to November 2023.

C) Description of Intervention(s): The intervention for this project includes the enforcement of a signed Pledge Form for Infant Safety document, a supplemental standardized script for staff-patient education, Call Don’t Fall wall signage, and a post-falls flowchart.

D) Desired Change in Practice: This project aims to reduce the occurrence of in-hospital newborn falls and increase nurse-to-patient education through various methods. The signed Pledge Form for Infant Safety document establishes a commitment to newborn safety by the patient and nurse. This project aims to standardize newborn fall prevention education provided by staff to patients using a supplemental standardized script for staff-patient education. The post-falls flow sheet provides a guideline for staff to follow in the event of a newborn fall, reducing variance in the post-fall workflow. Equipping each postpartum unit with a “Call Don’t Fall” poster reminds patients and their families to request help in specific situations to ensure newborn safety.

E) Outcome measurement(s): Evaluation of the project’s success will be determined by the number of newborn falls occurring post-intervention. Chart audits will be conducted to assess the percentage of patients receiving newborn falls education as well as the number of safety interventions provided to patients, as documented by the nurse. Patient interview checklist questionnaires will determine the percentage of patients receiving newborn falls education as well as the percentage of education provided using the signed “Pledge Form for Infant Safety” document.
To qualify as an Evidence-based Change in Practice Project rather than a Research Project, the criteria outlined in federal guidelines will be used: [http://answers.hhs.gov/ohrp/categories/1569](http://answers.hhs.gov/ohrp/categories/1569)

✔ This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

☐ This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

**EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST** *

_Instructions: Answer YES or NO to each of the following statements:_

<table>
<thead>
<tr>
<th>Project Title: Dodge the Fall: A Newborn Fall Prevention Initiative</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and is a part of usual care. ALL participants will receive standard of care.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/or patients.  

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: &quot;This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.&quot;</td>
<td>YES</td>
</tr>
</tbody>
</table>

**ANSWER KEY:** If the answer to ALL of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required.** Keep a copy of this checklist in your files. If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.*

**STUDENT NAME (Please print):**

Lenora Thompson

**Signature of Student:**

[Signature] DATE 11/9/2023

**SUPERVISING FACULTY MEMBER NAME (Please print):**

Scout Hebinck

**Signature of Supervising Faculty Member**

[Signature] DATE 11/9/2023
### Literature Review Evaluation Table

<table>
<thead>
<tr>
<th>Authors</th>
<th>Purpose</th>
<th>Design/Sample</th>
<th>Methods</th>
<th>Results</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abike, F., Tiras, S., Dunder, I., Bahtiyar, A., Uzun, O. A., &amp; Demircan, O.</td>
<td>Develop a new scale for evaluating risks and preventative measures for inpatient newborn hospital falls.</td>
<td>Prospective study using a quality improvement team which consists of an obstetrician, a neonatologist, nurses, and quality staff who worked for 20 hours at 10 sessions (lasting 2 hours each session) between January and March of 2009.</td>
<td>Failure Modes and Effects Analysis (FMEA) criteria was used to determine Risk Priority Numbers (RPN) by multiplying scores of severity, probability of occurrence and probability of detection. RPN’s were determined twice: before and after preventative measures.</td>
<td>Reduction in all RPNs after applying preventative measures. The highest RPN was mothers with patient-controlled analgesia (RPN 350, dropped to RPN of 60), holding of the baby at delivery (RPN 240, dropped to RPN 40), and transportation of the baby after delivery (RPN 240, dropped to RPN 40).</td>
<td>Level IV</td>
</tr>
<tr>
<td>Ainsworth, R. M., Summerlin-Long, S., &amp; Mog, C.</td>
<td>Share the experience of this hospital in addressing and preventing newborn falls and the continued challenges we are faced with in this area.</td>
<td>The falls committee included 14 staff nurses and unit leaders. 7 newborn fall events were evaluated in a large community hospital-4,500 births/year.</td>
<td>Formed a falls committee to develop policy and procedures on newborn falls, create education tools for staff and produce materials to educate parents about fall prevention.</td>
<td>Common factors for falls were time of day (early morning) and exhausted parents, typically falling asleep while feeding the newborn. Incidence of newborn falls decrease since implementation of the</td>
<td>Level III</td>
</tr>
<tr>
<td>Bittle, M. D., Knapp, H., Polmano, R. C., Giordano, N. A., Brown, J. &amp; Stringer, M.</td>
<td>Determine how much sleep women are getting during the early postpartum period and determine if modifiable variables were related to infant drops.</td>
<td>Prospective descriptive study. 101 postpartum mother-infant dyads. (N=4,550 observations)</td>
<td>Hourly assessments of maternal sleepiness using Stanford Sleepiness Scale (SSS) and surveillance of patient rooms</td>
<td>Average hours of sleep for mothers is 3.7 hours/day (median = 5.0). Peak sleepiness observed at 0400 and mothers were most awake until 1800. No infant drops during the project, but 50 participants required intervention due to unsafe</td>
<td>Level III</td>
</tr>
<tr>
<td>Study</td>
<td>Objective</td>
<td>Methodology</td>
<td>Findings</td>
<td>Level</td>
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</tr>
<tr>
<td>Brown, M., Killian, M. &amp; Joseph, R.</td>
<td>Explore potential causes, conditions, injuries &amp; outcomes of newborn falls to develop standard procedures to assess risk &amp; education to reduce/prevent newborn falls</td>
<td>Literature Review</td>
<td>Compare how the Joint Commission’s 2010 report and the 2013 American Nurses Association’s addition of newborn falls in the definition of the NDNQI effected newborn fall reporting rates and proposed interventions</td>
<td>Level VII</td>
<td></td>
</tr>
<tr>
<td>Carr, H., Crotto, J., Demirel, S., Fisher, S., Logue, L., Marcott, M., Miller, L. R., Mochnal, M. &amp; Scheans, P.</td>
<td>Multipronged approach to address newborn falls during birth hospitalization.</td>
<td>QI project developed by nurse leadership team. 5 hospitals (2 high-ris perinatal centers with level III-IV NICU &amp; 3 community hospitals)</td>
<td>Literature review, identify current and ideal states, obtain stakeholder input, identify contributing factors &amp; agree on standardized interventions.</td>
<td>Level III</td>
<td></td>
</tr>
<tr>
<td>Church, L.</td>
<td>Explore current research on quiet time during postpartum hospitalization</td>
<td>Literature review</td>
<td>Literature review of quite time initiatives during inpatient stay on the postpartum unit</td>
<td>Quiet time initiatives support rest, bonding, and breastfeeding and improved satisfaction scores</td>
<td>Level V</td>
</tr>
<tr>
<td>Grassley, J. S., Tivis, R., Finney, J., Chapman, S., &amp; Bennett, S.</td>
<td>Implement a daily family bonding time on the mother/baby unit and evaluate its effect on the interruptions, mothers’</td>
<td>Quality improvement project. Pre-/post-intervention design conducted in three phases. 60 postpartum women</td>
<td>Phase 1 and 3: data collection on interruptions, women’s perceptions of interruptions and</td>
<td>Interruptions decreased in both phases between 2:00-4:00PM, significant increase in exclusive breastfeeding rates and no significant</td>
<td>Level V</td>
</tr>
</tbody>
</table>

Sleep observation. 35 instances (2%) of participants were observed holding newborns while asleep.

60% of newborn falls occur between midnight and 7:00am. 78% of near misses occur between 11:00pm and 7:00am. Most common fall position occur while caregiver is laying in the hospital bed or sitting in a chair. 98% of near misses are due to sleepiness of mothers while holding the newborn.
<table>
<thead>
<tr>
<th>Study</th>
<th>Objective</th>
<th>Methods</th>
<th>Results</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hofstaedter, C. E., Mi, S. J., &amp; Hughes Driscoll, C. A.</td>
<td>Assess existing guidance for NICU staff where a visiting parent is overly sedated or intoxicated and identify policy changes over time of hospitals adverse event reporting system.</td>
<td>Case study of 68 Level III and IV NICU’s in Maryland, Virginia, District of Columbia, Pennsylvania, Delaware, and West Virginia from 2015 to 2021. Regional, telephone questionnaires of NICU staff who were expected to know unit-based policies and guidelines to address the 2 case study scenarios. The case scenarios reported a newborn fall and a near-suffocation in a single-patient room NICU when a visiting parent appears overly sedated or intoxicated. Sites completed questionnaires twice; the first in 2019 and the second in 2021.</td>
<td>14.7% (10 of 68) of the first round of NICU’s had at least one policy addressing the scenario of an overly sedated patient, under the influence or intoxicated. None of the NICU’s had a policy that referenced drug-related newborn falls or suffocations. 92% (59 of 64) of the second round of NICU’s had appropriate resources to manage substance abuse scenarios.</td>
<td>Level VII</td>
</tr>
<tr>
<td>Karlsson, K., Makatura, J., &amp; Mulkey, D.</td>
<td>Examine the demographics of newborns who fell and their mothers, implement maternal rest bundle and decrease the total number of newborn falls to zero events within 3 months.</td>
<td>Retrospective review of medical records for 9 inpatient newborns who fell and their mothers at a 40-bed mother-baby unit in an urban, safety-net, teaching hospital with a Level 1 nursery with newborns of at least 35 weeks gestational age. All newborns and moms admitted to the Quality improvement project with a pre/post intervention design. Implement a maternal rest bundle including staff and patient education, safe sleep pledge contract, official quiet time and signage in each patient room. Improvement was No newborn falls occurred during 2 years after maternal rest bundle implementation. 95% of patients reported quiet time was beneficial and 53.33% of staff believed quiet time should stay the same.</td>
<td>Level III</td>
<td></td>
</tr>
</tbody>
</table>
### A NEWBORN FALL PREVENTION INITIATIVE

<table>
<thead>
<tr>
<th>Study Authors</th>
<th>Methodology</th>
<th>Findings</th>
<th>Evidence Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kukielka, E., &amp; Wallace, S. C.</td>
<td>Data analysis of recent falls and an evidence-based review of prevention strategies.</td>
<td>332 fall records reviewed (318 were actual falls, 14 were near misses) from the Pennsylvania Patient Safety Reporting System (PA-PSRS) due to an increase in newborn falls. PA-PSRS database was queried from January 1, 2014 through December 31, 2018. The average annual rate of falls was 4.8 falls for every 10,000 births. 69.3% of falls occurred within the first 72 hours. 56.6% of falls occurred between midnight and 7:00am. 84.6% of falls occurred in the caregiving of mom. 52.8% of falls were associated with caregivers falling asleep.</td>
<td>Level V</td>
</tr>
<tr>
<td>Lipke, B., Gilbert, G., Shimer, H., Consenstein, L., Aris, C., Ponto, L., Lafaver, S. &amp; Kowal, C.</td>
<td>Develop a newborn safety bundle and evaluate its efficacy in reducing unsafe sleep practices and preventing newborn falls. Observational, descriptive safety study to assess environmental conditions, behaviors and interactions between parents and newborns. Participants were all babies less than a week old in postpartum and NICU. A risk assessment tool was used to collect data one month out of every quarter, for four quarters. Bundle includes a parent safety agreement, education, teach-back and role modeling safe sleep practices and implementation of a debriefing system for newborn falls. 14% of babies were at risk for falls, and over half of all moms were found asleep holding the newborn. After bundle implementation, no newborn falls occurred, and risk assessments trended down.</td>
<td>Level III</td>
<td></td>
</tr>
<tr>
<td>Lopez, M., Blackburn, L., &amp; Springer, C.</td>
<td>Minimizing the number of unnecessary sleep interruptions in patients Quality improvement project (a DNP scholarly project). 15-minute poster presentation current evidence about the</td>
<td>Staff had improvement in sleep promotion knowledge and an overall decrease in</td>
<td>Level V</td>
</tr>
</tbody>
</table>
and implement evidence-based night care.  

**Martin, D. J., Chwal, C., Ward, M., Long, K. & Holdbrooks, Heaven.**  
Develop a fall prevention program  
Unit evaluation (using the hospitals event-reporting system) of events surrounding the newborn falls  
0 falls in 1 calendar year.  
Level IV  

Create a comprehensive newborn fall/drop event prevention and response strategy in the form of a newborn fall safety bundle and reduce newborn fall/drop events across an 8-hospital health system.  
Performance improvement initiative (PDSA). RN’s, educators, MD, nursing leadership representatives (tertiary, community & critical access settings). 8 sites within the health system.  
Evaluation of problem (RCA & Pareto principles), gap prioritization, and focus areas were identified. EBP to develop Newborn Fall Safety Bundle (education for unit managers, RN, nursing  
Implementation of Newborn Fall Safety Bundle was 90%. Overall, 36% reduction in newborn fall/drop events during a 1-year period (6.66 to 4.06 events per 10,000 births). Pilot site had a reduction from 21.95 to 0 newborn  
Level III
### Mitchell, E. A., Rajay, A., Freeman, L. & McIntosh, C.

Report the experience of newborn fall in an ethnically diverse and socioeconomically disadvantaged community

**Retrospective case series of all baby falls in the Counties Manukau Health post-natal care wards, birthing suits & birthing units from 2015-2018. 32 cases reviewed.**

Information from incident reporting system used to identify circumstances surrounding the fall.

Mothers of babies who fell were more likely to present late for antenatal care, smoke, be obese, delivered by caesarean. Falls were more likely to occur at night, on weekends and 84% of instances were due to mothers falling asleep while breastfeeding.

**Level III**

---

### Savage, K., Antista, H., Diamond, T., Knepp, A., Oja, K.

Evaluate the content validity and interrater reliability of a fall risk assessment tool for newborns in the acute care setting. To create strategies that decrease the difference in nursing practice related to

Western Mountain Region of the U.S. on a 26-bed Level III NICU. NICU nurses (n=27) Pairs of NICU nurses (n=130)

Modified Delphi technique with NICU nurses was used to develop a risk assessment tool to calculate an intraclass correlation coefficient to help identify newborns at high risk for falls to

28 items classified into 2 sections (newborn and caregiver variables). Resulted in the “KAnt Fall” tool with 7 items for assessing newborns and 7 items for caregivers. Intraclass correlation coefficient of 0.99

**Level V**
| **Waller-Wise, R. & Maddox, B. L** | Determine if instituting an afternoon quiet time would improve patient satisfaction and breastfeeding success, promote rest, and improve infant parent bonding. | Nonexperimental, descriptive, comparative design used to measure pre-and post-intervention patient perceptions at a community hospital in the southeastern United States. | 420-bed community-based hospital with a 27-bed labor-delivery-recovery-postpartum unit with a 5-bed triage unit. Follow-up phone calls to postpartum patients seeking their experience specific to the rest they received, their breastfeeding experiences and bonding opportunities before and after instituting a 2-hour quiet time on the unit. | There was no significant difference between patient perceptions of rest, interruptions, breastfeeding education or satisfaction after the implementation of quiet time on the postpartum unit from 2:00pm to 4:00pm, including the dimming of lights and a “do not disturb” sign on patient doors. In fact, there was an increase (M=1.02 difference) in the patient perception of interruptions during the post-implementation period. | Level V |
| **Wells, J. N., Newcomb, P. & Schweitzer, M.** | Increase healthcare providers’ knowledge and awareness of in-hospital infant fall risks to reduce the | 7 hospitals within Texas Health Resources network in Dallas-Fort Worth | Project team (L&D & PP nurses and RN leaders, 2 nurse scientists, a system education consultant & corporate branding personnel created online | Quantitative data showed staff had increased knowledge of infant fall risk factors in hospital settings and improved confidence to know what to do if they | Level VI |
| Whatley, C., Schlogl, J., Whalen, B. L. & Holmes, A. V. | Reduce newborn fall incidence (back to a baseline of fewer than 10 falls per 10,000 births and to go 365 days without a fall), and to eliminate fall-related injuries while maintaining optimal rooming-in | 3-year improvement project developed by QI team. | RCA of events and 10 in-depth cart reviews. Parent education materials, nursing risk assessment tool & job aid, and standardized reporting system. Outcomes measured using statistical process control methods for rare events. | 3 falls within a 2-month period due to sustained prenatal maternal opioid intake (4/10 cases). More drops were associated with sleeping caregivers post vaginal deliveries, followed by maternal trips after cesarean delivery. Fall rates decreased from 71.8 to 15.5 per 10,000 births. The days between falls increased from a low of 9 days to a high of 467 days with no newborn injuries for 3 years. | Level III |
# Dodge the Fall: A Newborn Fall Prevention Initiative

<table>
<thead>
<tr>
<th>TASKS</th>
<th>START DATE</th>
<th>DUE DATE</th>
<th>DURATION (hours)</th>
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<tbody>
<tr>
<td><strong>Project Initiation</strong></td>
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<tr>
<td>Project Initiation Team Meeting</td>
<td>8/23/23</td>
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<tr>
<td>Meet with Unit Leaders</td>
<td>9/1/23</td>
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<tr>
<td>Literature Review and Research</td>
<td>9/7/23</td>
<td>9/25/23</td>
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<tr>
<td>Meeting with Risk Management Director</td>
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<td><strong>Project Planning</strong></td>
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<tr>
<td>Creation of Newborn Safety Pledge</td>
<td>9/2/23</td>
<td>9/10/23</td>
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<tr>
<td>Staff Survey and Patient Questionnaire Creation</td>
<td>9/13/23</td>
<td>9/19/23</td>
<td>8</td>
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<tr>
<td>Develop chart audit tracking list and staff survey</td>
<td>9/14/23</td>
<td>9/19/23</td>
<td>8</td>
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<tr>
<td>Microsystem Assessment</td>
<td>9/20/23</td>
<td>10/3/23</td>
<td>8</td>
</tr>
<tr>
<td><strong>Project Implementation</strong></td>
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</tr>
<tr>
<td>Implement Newborn Safety Pledge</td>
<td>9/18/23</td>
<td>Present</td>
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<tr>
<td>Conduct Patient Questionnaire</td>
<td>9/20/23</td>
<td>10/3/23</td>
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</tr>
<tr>
<td>Conduct Pre-Survey to Staff</td>
<td>9/20/23</td>
<td>10/3/23</td>
<td>42</td>
</tr>
<tr>
<td>Collect Patient Chart Audits</td>
<td>9/20/23</td>
<td>10/3/23</td>
<td>42</td>
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<tr>
<td><strong>Project Evaluation</strong></td>
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<tr>
<td>Administer Post-Survey to Patients</td>
<td>11/13/23</td>
<td>11/24/23</td>
<td>24</td>
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<tr>
<td>Collect Patient Chart Audits</td>
<td>11/14/23</td>
<td>11/25/23</td>
<td>24</td>
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<tr>
<td>Data Evaluation and Analysis</td>
<td>11/27/23</td>
<td>11/30/23</td>
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<tr>
<td>Present Results to Unit Staff and CNL</td>
<td>12/1/23</td>
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</table>
Appendix D

Plan-Do-Study-Act Cycle

**PLAN**
- Identify key stakeholders
- Develop and administer pre-intervention surveys including the Staff Survey, Patient Education Survey, and chart audits
- Conduct microsystem assessment
- Develop Call Don’t Fall poster
- Develop signed pledge form, and supplemental script
- Develop post-falls flowchart

**DO**
- Implement signed Pledge Form for Infant Safety on unit
- Administer post-intervention surveys, including the Patient Education Survey and chart audits
- Conduct informal, qualitative interviews with staff to assess satisfaction with new tools
- Present post-falls flowchart to nurse manager

**ACT**
- Adapt Call Don’t Fall poster and standardized script, depending on feedback from patients and staff
- Make changes to post-falls flowchart, depending on feedback and the nurse manager
- Continue testing the new tools
- Once staff and patient satisfaction is achieved, adopt the changes and maintain them

**STUDY**
- Analyze data collected from the Patient Education Survey and chart audits
- Compare post-intervention data with pre-intervention data
  - Discuss common themes identified in the informal, qualitative interviews with staff
  - Share data with the nurse manager
Appendix E

Strengths-Weaknesses-Opportunities-Threats Analysis

**STRENGTHS**
- Hourly rounding
- Safety culture
- Use of ABC crib card and Infant safety poster
- Preventing Infant Falls on newborn channel
- Staff trained in newborn fall prevention
- Leadership support and commitment to reduce fall rates
- Staff acknowledge the need for intervention
- Newborn fall protocol

**WEAKNESSES**
- No standardized risk assessment tool for newborn falls
- No standardized education script specific to newborn falls
- Inconsistent documentation of fall education in EMR
- Inconsistent post-fall data reporting
- Staff resistance to change
- Staffing issues

**OPPORTUNITIES**
- Fall incidence reduction
- Increase patient education
- Improved patient safety
- Improved patient satisfaction scores
- Increase patient autonomy
- Standardization of unit processes
- Improved EMR utilization
- Documentation consistency
- Collaboration between patients and staff
- Cost reduction

**THREATS**
- Rapid staff turnover (inconsistencies in care and training)
- Legal and regulatory implications of safety non-compliance
- Lack of parental awareness in newborn fall prevention
- Language barriers (communication failure)
- Cultural values and practices that contradict inpatient safety protocols (co-sleeping)
Appendix F

Fishbone Diagram
Appendix G

Pre-Intervention Staff Survey

STAFF SURVEY

1. Were you given any training on the prevention of newborn falls?
   ○ Yes ○ No

2. Do you document that you have educated on newborn falls/safety measures taken?
   ○ Yes ○ No

3. I feel confident in my ability to provide patient education on the prevention of newborn falls.
   
<table>
<thead>
<tr>
<th>Rating</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
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</tr>
</tbody>
</table>

4. How often do you provide patient education on newborn fall prevention?
   
<table>
<thead>
<tr>
<th>Rating</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
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</tbody>
</table>

5. What methods are you using to provide patient education on newborn falls?
   ○ Verbal ○ Teach-back ○ Infant Safety Pledge/Hand-out ○ Other: __________

6. In the event of a fall, I am confident in reporting procedures and next steps.
   
<table>
<thead>
<tr>
<th>Rating</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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</table>

7. Do you feel there is a need for improvement in the current processes regarding newborn fall prevention?
   ○ Yes ○ No

Comments:

Thank you for your time!
Appendix H

Pre- and Post-Intervention Patient Education Survey

Patient Education Survey

Hi, CONGRATULATIONS on your new baby!

My name is ____________ & I am a student nurse, working on a quality improvement project to improve future mom’s experiences and safety on the unit. Would you mind answering a few questions about your experience here so far? It should only take about 5 minutes of your time.

- Preferred Language __________
  - Interpreter offered? ______
- Race/Ethnicity
  __________________________
- How would you rate your fatigue/tiredness?
  - None
  - Mild
  - Moderate
  - Severe
- How many hours of sleep have you had in the last 24 hours? ______
- Is your sleep often interrupted by staff?
  - Y ______
  - N ______
  - How frequently? ______
- Have you received any breastfeeding information and/or education?
  - Y ______
  - N ______
  - Who was it from? ______
- Are you successfully breastfeeding?
  - Y ______
  - N ______
- Have you received SIDS prevention information?
  - Y ______
  - N ______
  - Who was it from? ______
- Have you received any newborn fall prevention information/education?
  - Y ______
  - N ______
  - Who was it from? ______
- Did you take any prenatal classes?
  - Y ______
  - N ______
- Postpartum Day ______
- Maternal Age ______
- Gestational Age ______
- Gravidarum:
  - Primipara ______
  - Multipara ______
- Delivery:
  - C-section ______
  - Vaginal ______
- Epidural:
  - Y ______
  - N ______
- Pain Meds:
  __________________________
  __________________________
- Who is present:
  __________________________
  - Support person ______
- What is the time: ________
Appendix I

Pledge Form for Infant Safety

Your baby's safety is a top priority. Parents, hospital personnel, and visitors all play an important role in keeping your baby safe.

Accidental infant falls increase when someone holding a baby falls asleep with the baby in his or her arms. Unfamiliar surroundings and the side effects of medication (drowsiness, sleepiness) can also contribute.

Please help keep your baby safe by:

• Not sleeping with your baby in your bed or while relaxing on the couch or chair.

• When you feel sleepy or plan on sleeping, place the baby in the bassinet.

• If you should fall asleep with your baby in your arms, your nurse will move the baby to the bassinet.

I have read and understand the above information.

______________________________
Parent
Appendix J

Infant Safety Pledge Script

Safety is a priority at this facility and especially on this floor and we have some safety protocols to help ensure your new baby’s safety:

1. Newborn falls can occur, and we want to do everything in our power to prevent them.
2. Research shows that newborn falls are associated with;
   a. Falling asleep while nursing/holding baby
   b. Caregiver fatigue
   c. Slipping/tripping
3. Co-sleeping is a personal decision; however, we ask that during your stay, you always place the baby in the bassinet after nursing and if you feel sleepy.
4. Please call if you are sleepy, do not sleep with the baby on the bed, couch or chair.
5. Please always push the baby in the bassinet while in the hallways, do not carry your baby.
6. We are here to support you while you heal, and partner with you to encourage safety in preparation for your journey home.
CALL DON’T FALL

In the United States, 600 to 1,600 newborn falls occur in the hospital annually.

Newborn falls are associated with caregiver fatigue and falling asleep while breastfeeding.

Please CALL staff for help if you:

- Feel weak or unsteady
- Feel sleepy when breastfeeding
- Need help placing your baby in the bassinet

Scan the QR code for more information:
Appendix L

Post-Newborn Fall Escalation Pathway

NEWBORN FALLS / DROPS STEPS

Activate Fall Response Team

Head-to-Toe Physical Assessment
- Lesions, bumps, bleeding, bruises, other breaks in skin integrity and/or deformities.
- Palpate for tenderness to include skull, spine, and hips.
- Range of motion in all extremities as compared to before the fall, unless obvious injury/deformity.
- Assess for pain during motion.
- Neurological assessment, including any change in orientation/mental status or level of consciousness.
- If monitored, cardiac rhythm.
- Complete vital sign assessment, including blood pressure.

Neurological Assessment:
- Head injury
- Had an un witnessed fall
- On anticoagulation therapy
- Have a bleeding tendency due to an existing medical condition.

Reassessment
- Every 4 hours x 4 hours (or per physician order).
- Focused or Neuro (or both depending on severity).

Interventions
- Implement and document individualized interventions to maintain patient safety.

Notification
- The Pediatric Provider and supervisor will be notified of all patient falls.
- Provider physical exam within 4 hours of fall (unless nursing assessment determines emergent need).
- Physical findings, including whether patient bit head (if applicable).
- If patient is on anticoagulant therapy.
- Has an existing medical condition leading to bleeding tendency.

Update:
- Update Plan of Care if appropriate to the department setting.
- Specifically review and revise the plan of care to add preventative measures to ensure another fall does not occur.

Documentation
- Complete the "apparent fall this shift" row on the shift assessment and a narrative note, including:
  - Circumstances surrounding the fall (symptoms, patient activity).
  - Assessment findings including lesions, bumps, bleeding, bruises, other breaks in skin integrity and/or deformities and changes in fall body assessment.
  - Pain, including interventions and response.
  - Vital signs, including blood pressure changes.
  - Neurological status.

Notify family immediately for falls if applicable.

- Complete Debrief Form for Newborn/Infant Falls (Baby/child Drops).
- Complete An electronic Reporting Form (eRRF) should be submitted for all falls.