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Implementing Bedside Shift Reporting on an Adult Medical-Surgical Unit: An Evidence-Based Intervention for Inpatient Fall Reduction

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**Implementing Bedside Shift Reporting on an Adult Medical-Surgical Unit: An Evidence-
Based Intervention for Inpatient Fall Reduction**

A DNP Project Submitted to the
Graduate Faculty
of Jacksonville State University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Nursing Practice

By

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Jacksonville, Alabama

August 2, 2024

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August 2, 2024

Abstract

Background: Patient falls are a continuous issue in healthcare facilities because they increase patient length of stay and hospitals receive no reimbursement for these falls from insurance providers. Falls are a patient safety issue and can result in long-lasting damage for patients in the healthcare facility, including fear of ambulation. Falls in a facility can impact a facility's ability to meet strategic planning goals and receive state and federal funding.

Purpose: The Doctor of Nursing Practice (DNP) quality improvement project aimed to reduce inpatient falls during shift change by implementing an evidence-based bedside shift reporting (BSR) protocol.

Methods: Quantitative data collection was used as the outcome measurement for the project and included the total number of falls occurring over twelve weeks per 1,000 bed days.

Results: The facility saw a reduction in patient falls of 1.96 falls per 1,000 bed days during the twelve-week project, the equivalent of an 88% reduction.

Conclusion: Implementing bedside shift reporting has been proven to benefit facilities as a system-wide intervention. When facilitated properly, fall risk goals are easier to meet, patient safety is improved, and patient satisfaction is greatly enhanced.

Keywords: falls at shift change, bedside shift report, patient safety, quality, safety, falls, fall prevention, fall rates.

Acknowledgments

The Doctor of Nursing Practice (DNP) project was guided by Dr. Kimberly Helms, Professor/Chair, and Michelle Hoehn, project preceptor. I would like to sincerely express my gratitude to my mentors, such as my Doctor of Nursing Practice chair and Doctor of Nursing Practice faculty, for their time and efforts provided to me throughout the last four years. I am grateful to my preceptor, key stakeholders, and facility staff for allowing me to implement bedside shift reporting and helping to implement and sustain this project. Lastly, I would like to sincerely thank my husband, kids, mom, and other family that helped me finish this doctoral program. I would not be where I am today without each of you. I am grateful to have accomplished this journey and hope to continue to positively impact the healthcare industry.

Table of Contents

Abstract	3
Background	6
Problem Identification	8
Review of Facility Trended Fall Data	8
Identified Gap in Practice	9
Problem Statement and PICOT Question	9
Review of Literature	9
Significance of Falls Nationwide	9
Varying Outcomes from Bedside Reporting	10
Strategies for Implementing Bedside Reporting	11
Theoretical Framework	11
Quality Improvement Methodology	12
Project Design	13
Project Results and Evaluation	14
Conclusion	15
References	16
Appendices	
Appendix A: JSU IRB Approval Letter	19
Appendix B: CITI Training	20

Implementing Bedside Shift Reporting on an Adult Medical-Surgical Unit: An Evidence-Based Intervention for Inpatient Fall Reduction

Inpatient falls are the most frequent adverse events in hospitals and continue to be the leading cause of sentinel events reviewed by The Joint Commission (TJC, 2023). In October 2008, the Centers for Medicare and Medicaid Services (CMS) ceased reimbursing hospitals for costs related to inpatient falls. According to the World Health Organization (WHO, 2023), the change in reimbursement to hospital facilities has resulted in the adoption of innovative and diverse strategies to avoid and reduce patient harm.

A review of national, state, and local facility data revealed that facilities consistently allocate financial resources to care for a patient after a fall. The estimated cost for the facility where the DNP project was implemented was between \$5,000 - \$35,000 annually due to the increased need for radiological imaging and longer lengths of patient stays (Meyers, 2020). The facility financially absorbs a patient's care related to their fall, which means there is less funding for other vital projects.

Background

Nationally, falls are the second leading cause of unintentional injury deaths in inpatient facilities (WHO, 2021). Each year, 684,000 patients die from falls, and 37.3 million falls are severe enough to require further medical attention (WHO, 2021). Preventative strategies should focus on the education of staff and patients, the creation of a safe inpatient environment, the integration of evidence-based protocols, and the development of policies focused on fall reduction within the facility (TJC, 2022). Between 700,000 and 1,000,000 people fall annually in facilities (Fehlberg et al., 2018). Data from the Agency for Healthcare Research and Quality

(AHRQ) revealed that falls occur at 2.6 to 2.8 per 1,000 bed days (National Institutes of Health [NIH], 2021).

In the state of Georgia, data from the Centers for Disease Control and Prevention (CDC, 2024) revealed that falls continued to be the leading cause of unintentional injury deaths for those age 65 and older and falls are the fifth leading cause of accidental injury death among those of all ages. Falls are also the leading cause of traumatic brain injuries (Georgia Department of Public Health [DPH], 2022). Georgia has a fall rate of 28.4%, or 398,498 falls yearly. In the Southeast United States, Alabama, in comparison, has a fall rate of 28.1% or 231,050 falls, and Florida has a rate of 24.4% or 128,468 falls (CDC, 2024).

Patient safety is the absence of preventable harm to a patient and the reduced risk of unnecessary damage associated with health care to an acceptable minimum (WHO, 2021). Patient harm, such as an inpatient fall, reduces global economic growth by 0.7 percent annually (Fehlberg et al., 2018). Patient safety is a vital component of the National Patient Safety Goals (TJC, 2023). In attempts to address the issue, in 2022 the facility developed a nine-page policy on fall prevention and reduction and formed a falls committee which included representation from diverse departments within the facility. Key members consisted of direct care inpatient employees, directors, and managers. During the August 2023 Falls Committee meeting, the facility's Director of Risk Management noted an upward trend in all falls with 1/3 resulting in injury and a lack of reimbursement. According to TJC (2022) contributing factors to falls included nonadherence to facility policies, inadequate staff-to-staff communication during handoffs or transitions of care, and lack of shared understanding or mental model regarding the plan of care.

Problem Identification

A needs assessment was conducted at the facility. This assessment included reviewing the current fall policy and analyzing the number of inpatient falls during specific timeframes. In addition, the needs assessment for this DNP project included a review of trended fall data over specific time frames at the facility. The current fall policy included hourly rounding on patients, the placement of a high fall risk sign at the entrance door to the patient's room, a sign on the ceiling over a high fall risk patient's bed that states "call don't fall", inclusion of yellow armbands on fall risk patients, and use of the Johns Hopkins Fall Risk Assessment Tool (2007) on each patient upon initial admission to the facility. BSR was not a strategy used by the facility to mitigate inpatient falls.

Review of Facility Trended Fall Data

To provide comparable data for pre- and post-implementation of the project, trended fall data was reviewed between January 1, 2021, and March 31, 2023, over a twelve-week time interval. The project was implemented over 12 weeks from January to March 2024. Based on the standard calculation of 1,000 patient days, 2023's fall rate at this facility was 3.146 compared to the national average of 2.6-2.8. The risk management department at the facility collected and analyzed data from the National Database of Nursing Quality Indicators (NDNQI) reporting system. The data obtained from the risk management department was reviewed at the micro level to assess falls on specific units within the facility. At the micro level, Unit 3 East had 22 falls in 2021, 33 falls in 2022, and 52 falls in 2023. Unit 3 East had five falls from January through March of 2021, four in 2022, and nine in 2023, which equated to 12.9 falls per 1,000 bed days for twelve weeks in 2023, solidifying the need for project implementation on Unit 3 East.

Identified Gap in Practice

The needs assessment was analyzed and a gap in best practices was revealed. The desired state of the facility was 2.6 falls or less per 1,000 bed days, and the current state was 3.146 falls per 1,000 bed days. Furthermore, best practices indicated the need for the implementation of a BSR policy.

Problem Statement and PICOT Question

The problem identified for the DNP project was an increase in inpatient falls during the three-year trended data. Upon completion of the needs assessment and identification of a gap in practice, the following PICOT question guided the project: On an adult medical-surgical unit, does implementation of bedside shift reporting, compared to the current practice of reporting at the nurses' station, reduce fall rates within a twelve-week time frame?

Review of Literature

As mentioned earlier, TJC (2023) has established national patient safety goals, and reducing falls in an inpatient hospital setting is listed among those goals. A literature review on inpatient falls included using critical terms of patient safety, inpatient falls, and reducing falls, and the databases PubMed, CINAHL, and Google Scholar. Three recurring themes emerged in the literature review. The identified themes were the significant negative impact of inpatient falls nationwide, the reduction of inpatient falls when BSR was implemented, and the importance of implementing and sustaining BSR in a facility for improved patient outcomes.

Significance of Falls Nationwide

Falls are the leading cause of sentinel events monitored by TJC. The TJC (2022) defines a sentinel event as a "patient safety event resulting in death or harm," and 611 sentinel events that year were classified as patient falls, which is a 27% increase in falls since 2021. Of those falls,

five percent resulted in death, and 70% resulted in severe harm (TJC, 2022). Researchers conducted a study on inpatient falls in acute care over two years. The data included 114,951 patients and 743 had fallen. One-third of falls caused injury, most of which were head injuries, and one-tenth of injuries were fractures (Heikkilä et al., 2023). The strengths of these articles include data showing that falls are a nationwide problem in acute care facilities, leading to a tremendous increase in the cost of care and a reduction in the quality of care delivered.

Varying Outcomes from Bedside Reporting

A positive correlation exists between BSR and decreased patient falls (AHRQ, 2024a). Most patient falls happen when a healthcare worker is not present (McAllen, et al., 2018). Evidence-based research showed that 1/3 of falls are preventable if a nurse is in the room more frequently (Humphreys, 2009). Bedside Shift Reporting (BSR) increased patient safety, enabled accurate and timely communication between nurses, allowed the nurse to assess the patient and environment, included the patient in their care plan, and was paramount in delivering safe, high-quality care (Godbold, 2022). Furthermore, McAllen et al. (2018) reported that BSR is a prime opportunity to educate the patient on fall risk and prevention. Malfait et al. (2020), McAllen et al. (2018), and Pham (2020) implemented a BSR protocol in acute care facilities. Malfait et al. also included two rehabilitation units. Interestingly, McAllen et al. noted a 24% decrease in falls over four months while Malfait et al. and Pham did not note any changes in fall rates. However, Malfait et al. and Pham concluded that BSR did promote patient safety. Pham included multiple strategies for fall reduction such as non-skid footwear for patients, special bracelets to identify patients at risk for falls, and turning on bed alarms. It could be hard to determine which factor reduced falls due to the facility implementing multiple prevention strategies. McAllen et al. included an audit tool and staff education to support compliance with the policy. A weakness of

this study could be the lack of staff education on the new process change. Reducing falls and increasing patient safety were accomplished with Malfait et al., McAllen et al, and Pham, and the studies aligned with the patient safety goals by TJC.

Strategies for Implementing Bedside Reporting

Sharp et al. (2019) and AHRQ (2024a) evaluated different BSR models and both concluded that BSR should include face-to-face information exchange, patient involvement, and structured documentation to be successful. The implementation and sustainability of BSR on two large units were observed over three months, and 43 BSRs were audited (Sharp et al., 2019). Sharp et al. found that the above structure emitted a seamless process to conduct BSR, and promoted nurse satisfaction which will help ensure compliance. According to AHRQ (2024b), implementing and sustaining BSR effectively reduces inpatient falls by ensuring a safe handoff of care between nurses by involving the patient. The listed studies that implemented BSR had staff buy-in and input throughout the project to ensure success. Themes to a successful implementation of BSR included piloting the project on one unit first, getting feedback from staff, and staff education. Dorvil (2019) stated that the concepts used in the literature for achieving acceptance and sustainability of BSR follow Everett Rogers' five-step approach which includes: knowledge, persuasion, decision, implementation, and confirmation. The DNP student incorporated these concepts along with Paterson and Zderad's framework to ensure success.

Theoretical Framework

The theoretical framework for the DNP project was Paterson and Zderad's (1971) *Humanistic Nursing Theory*. The theory was an appropriate fit for the DNP project, as it sought to describe phenomena without explaining or predicting precise instances and followed a five-step process. The processes included (a) the nurse preparing to know something or someone by

opening the mind and spirit to the unknown, (b) the nurse gaining knowledge of the patient through intuitive impressions and learning about the patient's experiences, (c) the nurse gaining scientific knowledge of the patient by analyzing data, (d) the nurse synthesizing the subjective and objective information to gain perspective on the situation, and (e) the nurse arriving at a new truth, a concept that includes all the information gained, refined into a descriptive construct (Zaccagnini & Pechacek, 2021). The DNP student used each of the steps in the theoretical framework to plan, implement, and evaluate the DNP project. Step one was used when the DNP student identified a gap in practice and began exploring a solution. Step two was used when the staff was surveyed, and research was completed on current evidence-based solutions to falls. Step three was used when the DNP student collected data over twelve weeks on inpatient falls. Step four was used when the DNP student used the data from the project and the current best practice guidelines to understand why falls are occurring. Lastly, the DNP student found an evidence-based solution that reduced falls over twelve weeks and constructed that information into a poster and PowerPoint presentation.

Quality Improvement Methodology

The *Knowledge to Action* framework Ian Graham and colleagues developed in 2006 best aligns with the DNP project of implementing BSR to reduce inpatient falls, allowing for continuous quality improvement. The seven components of this framework include identifying the problem, adapting knowledge, assessing barriers, implementing, monitoring, evaluating, and sustaining (Moore, 2018).

All steps of the Knowledge to Action framework shaped the DNP project. The DNP student identified a gap in best practices; subsequently, more knowledge was necessary, and the facility policy was modified. The DNP student assessed potential project barriers, including an

unoccupied nurse's station during report time. The obstacle was addressed by the nursing team purchasing and utilizing cell phones strictly within the facility (coined interfacility). The interfacility cell phones were used for communication during shift changes and all nursing unit calls, including call lights, were deferred to this interfacility communication system.

The DNP student collected the fall data by reviewing post-fall huddle sheets and National Database of Nursing Quality Indicator data. The DNP student reviewed all data and entered it into a spreadsheet securely protected on a password-protected computer, which required login and badge credentials, in the nursing administration office, behind a locked door with limited access. The paper forms were locked in a filing cabinet behind a locked door. The DNP student worked with a qualified statistician to analyze the data using a t-test method that compared the means pre- and post-intervention. An Institutional Review Board application was submitted for review; however, approval by the University committee was not required, as the project was deemed a quality improvement project (see Appendix A). In addition, to ensure the integrity and ethical implementation of the DNP project, the DNP student completed the required training for protection of human subjects (see Appendix B).

Project Design

The setting for the DNP project was a 181-bed acute care facility in an urban area in the southeastern region of the United States. The DNP project implementation occurred on a 31-bed medical-surgical unit staffed 24 hours per day by nursing staff. The DNP student encouraged the cooperation and training of employees to ensure they are confident and competent in the process of BSR. The nursing staff were also informed about the need for this change and the process for data collection and analysis. In addition, the charge nurses and unit managers received one-on-one training on the audit tool. For the DNP project, the inclusion criteria included adult patients

admitted to the medical-surgical unit 3 East, and the exclusion criteria included pediatric and pregnant patients. The unit manager, clinical coordinator, Director of Nursing, and informatics director were resources for this project and it was determined no additional financial resources would be needed.

BSR started in January 2024 and concluded in April 2024. The staff and patients embraced BSR and individualized it to the facility, which attributed to the success of reducing patient falls.

Project Results and Evaluation

The results for the DNP project were analyzed to determine the frequency of hospital falls over twelve weeks following BSR implementation. The project's data revealed that falls occurred at 1.96 per 1,000 bed days. There were 0.43 falls per week, with a standard deviation of 0.65. A Wilcoxon rank test was used to analyze the data. The results indicated a 0.05 level of significance, and there was sufficient evidence that the average number of falls at this facility was significantly lower than 1.00 ($W=1.00$, $p=0.028$).

The pre-project implementation data indicated a 12.9 fall rate per 1,000 bed days, higher than the national average of 2.6 percent- 2.8 percent. The significant decrease in the fall rate following the implementation of the project suggests that BSR had a notable, positive impact on reducing falls within the facility. According to the CDC, sustainability is a priority for DNP projects (CDC, 2023). To facilitate sustainability at the micro level, BSR will be integrated into the daily nursing workflow using a clinical coordinator who monitors the nursing unit and provides daily reports to the unit manager and clinical outcomes manager. At the macro level, the executive nursing team will perform weekly unit visits during shift reports to ensure nursing staff compliance. The informatics director will review audit tools. Executive nursing staff will continue to trend fall data for a year following BSR implementation. The unit manager and

charge nurses will ensure compliance with BSR by using a daily audit tool and completing random evaluations for compliance on the unit.

Conclusion

The DNP project was designed to positively impact health outcomes for patients within the facility. Individuals admitted within inpatient facilities were generally more vulnerable to adverse outcomes. The implementation of BSR on the adult medical-surgical unit reduced falls over twelve weeks. Implementing BSR will benefit patients system-wide and also assist the facility in meeting organizational fall risk goals, improving patient safety, and enhancing patient satisfaction.

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Appendix A:
JSU IRB Approval Letter



Institutional Review Board for the Protection of Human Subjects in Research

203 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

November 14, 2023

Halie Blackerby
Jacksonville State University
Jacksonville, AL 36265

Dear Halie:

Your protocol for the project titled "Implementing Bedside Shift Reporting on an Adult Medical-Surgical Unit: An Evidence-Based Intervention for Inpatient Fall Reduction" protocol number 11142023-02, has been approved by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB).

If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sarah Donley'.

Sarah Donley
Human Protections Administrator, Institutional Review Board

Appendix B:
CITI Training



Completion Date 26-Jul-2023
Expiration Date 26-Jul-2026
Record ID 57238964

This is to certify that:

Halie Blackerby

Has completed the following CITI Program course:

Not valid for renewal of
certification through CME.

Social and Behavioral Responsible Conduct of Research
(Curriculum Group)
Social and Behavioral Responsible Conduct of Research
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

Jacksonville State University

CITI
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