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## Utilization of Bedside Shift Report to Decrease Medication Errors on a Cardiac Progressive Care Unit

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This doctoral project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

**Doctor of Nursing Practice**



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Dr. Joey Cope, Dean of the College  
of Graduate and Professional Studies

Date: 09/25/2019

Doctoral Project Committee:



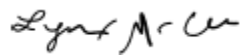
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School of Nursing

Utilization of Bedside Shift Report to Decrease Medication Errors on a Cardiac Progressive Care  
Unit

A doctoral project submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Nursing Practice

by

Maud Millicent Acquah Nelson

November 2019

## Dedication

I dedicate this study to all the beautiful nurses who provide excellent bedside care to patients every day. As bedside nurses, you touch many lives at their most vulnerable stage in diverse ways. The actions you take to engage patients, improve their safety, and optimize their health will go unrewarded. Selfless acts like turning a patient to avoid skin breakdown continue to be an excellent contribution that makes the world a better place. Also, to my parents who instilled in me a forever quest to seek excellence in whatever I do, I am forever grateful for the sacrifices. My children Kingsley Jr., Pauline, Michelle, and Myron Nelson, thank you for the sacrifice.

## Acknowledgments

I am forever indebted to the Almighty God for the gift of wisdom and excellent health to make this possible. I want to acknowledge and express my heartfelt appreciation to my project committee chair and members for their continuous supervision and guidance despite their busy professional lives. My profound gratitude goes to my family for their steadfast support and love that sustained me through my doctoral journey.

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## Abstract

Medication errors cause millions of deaths every year in the United States. Miscommunication during the transition of care accounts for the highest number of such errors. The lack of patient-inclusion in information exchange among nurses during the change of shift prevents reliable and accurate information exchange and threatens patients' safety. Inadequate transfer of patient information from one nurse to the other on a hospital unit can cause unfair irreversible harm to the patient and even death. Orlando's (1961) dynamic nurse-patient relationship theory explained the interdependent relationship between the nurse and the patient in achieving excellent treatment outcomes. This descriptive, inferential study examined the effect of a bedside shift report checklist on medication administration errors. Registered nurses from a large healthcare organization utilized a medication administration checklist to handoff at the bedside for 3 months. An independent samples  $t$  test of a preintervention checklist data comparison with a postintervention data showed no statistical significance. For the checklist group, the mean score and the standard deviation for the datasets were 6.7 and 1.2, respectively, and for the no checklist, the mean score and standard deviation were 8.0 and 3.5, respectively. There was no significant difference in the mean scores for the significance ( $p$ ), which equaled .561.

*Keywords:* bedside shift report, professional nurse handoff, patient, medication administration

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## **Chapter 1: Introduction**

Thousands of nurse handoffs occur daily in hospital units all over the United States. An integral part of those handoffs is communication and interactions between patients and nurses. On a busy cardiac unit, verifying patient medication history and reconciling with the current medication list at the bedside plays a significant role in ensuring patient safety (Johnson, Guirguis, & Grace, 2015). Bedside shift report (BSR) is the information exchange between the outgoing nurse and the oncoming nurse at the patient's bedside (Groves, Manges, & Scott-Cawiezell, 2016). Handoff at the patient's bedside provides equal level conversation between the outgoing nurse and the oncoming nurse and offers an opportunity to ask questions that verify the information accuracy as the oncoming nurse assumes ownership of the patient's care.

### **Problem of Interest**

The Joint Commission (2012, 2017) reported that miscommunication during patient handoff was responsible for 80% of serious medical errors and suggested to health organizations to adopt a useful communication tool for safe patient handoff. Patient communication is significant but not simple in a complex healthcare environment. Weant, Bailey, and Baker (2014) estimated that medication errors harm about 1.5 million US residents at a cost of \$3.5 billion yearly. A 2015 strategic research study by the Controlled Risk Insurance Company (CRICO) estimated the damage cost of communication errors in healthcare at \$1.7 billion (as cited in Kern, 2016). Also, Swift (2017) reported the Doctors Company announced that 27% of cases settled between 2012 and 2016 were related to communication errors. Characterizing caregiver language as technical and professional for patients to understand, researchers emphasized that patients lose the value of the message when they cannot understand the meaning. Lack of

effective communication between patients and caregivers causes medication errors, and clear communication among patients and caregivers can prevent such mistakes (Johnson et al., 2015; Shitu, Hassan, Thwe Aung, Tuan Kamaruzaman, & Musa, 2018).

Medication errors cut across many areas of hospital operations and killed more than AIDS, cancer, and motor vehicles accidents (Martin, Smith, Mathews, & Ventura, 1999). A medication error is defined as a failed action to achieve a plan or execute the wrong strategy to reach a goal (Wittich, Burkle, & Lanier, 2014). The Institute of Medicine (IOM) announced that medication errors are preventable but continue to be a challenge to healthcare quality (Da Silva & Krishnamurthy, 2016). Nurses played a leading role in about 41% of medication errors (Fogarty & McKeon, 2006). The majority of such errors were reported to occur during medication administration, where effective communication was needed to improve safety (Pagano, Ragan, & Booton, 1992).

## **Background**

Decoding the meaning and the essence of conversation can be challenging. Tracing communication as a topic to the Old Testament of the Bible, the researchers cited the division of tongues as a symbol of punishment or disobedience (Sundeen, Stuart, Rankin, & Cohen, 1994). Thus, the New Testament's story of Pentecost day and the ability to speak and understand others in the same language was a talent. The disciples' ability to speak in different languages and to be understood by others who spoke different tongues marked the beginning of significant events in Christianity. The ability to understand one another was a special gift that paved room for growth in the Christian faith.

Sundeen, Stuart, Rankin, and Cohen (1994) reported that inadequate and ineffective patient handoffs compounded the already complex hospital structure. Historically, relevant

patient information exchange occurred at different locations of the nursing unit away from the patient's bedside. When the handoff occurred anywhere but the bedside, it left room for errors and eliminated the patient, the primary focus, from taking part actively in the exchange. Also, the business model and its desperate desire to connect with consumers through communication required a review of practice to improve the nurse-patient communication for better outcomes (Sundeen et al., 1994).

Hilligoss and Cohen (2011) reported that the BSR handoff suited the inpatient care environment because of its ability to connect the various parts of the setting and still maintain accuracy. The exchange of patient information at the bedside was best practice because the method bridged gaps in communication. The interface allowed for the sharing of experiences, concerns, and allowed the inclusion of patient's preferences into the planning of care (Groves et al., 2016). Efficient bedside handoff decreased medication administration errors and patient safety (Sassoli & Day, 2017). "Having a perspective from the bedside is a key antecedent to reducing the risk of harm, as it supports the nurses' ability to identify and address risks subsequently" (Groves et al., 2016, p. 473).

## **Purpose**

The primary purpose of the project was to utilize a medication administration checklist (see Appendix A) to improve the nurse handoff process and to reduce the number of medication administration errors. Taking smaller steps from what the nurses know and are comfortable with without many disruptions in routine guarantees a better option in bridging the gap between the present and the future safety goals of nursing care at the hospital. The implementation of the standardized checklist for the Cardiac Progressive Care unit bedside handoff was expected to decrease medication administration errors. Orlando's (1961) dynamic nurse-patient relationship

theory provided a suitable framework for the checklist creation to enhance communication quality at the bedside, as well as supported patient interactions for medication reconciliation to decrease the chances of errors in administration.

Early detection of variances in medication administration prevents harm by decreasing or eliminating the risk to patients, preventing subsequent adverse events, and improving treatment outcomes. A false assumption was that once a speech was delivered effectively and convincingly the message was understood (Pagano et al., 1992). The researchers reiterated that message delivery does not convey understanding and cooperation. Also, perfecting speech did not guarantee the knowledge of the recipient. Effective communication must consider the differences between the sender, the recipient, and the environment. Therefore, for the audience to comprehend information correctly, the speaker must consider audience variation (Pagano et al., 1992). Increasing the efficiency in communication by using the checklist leads to the improvement of the information exchange to subsequently decrease medication administration errors.

### **The Significance of the Study**

The successful outcome of the project influenced a change in the handoff practice on the other nursing units of the hospital. Medication administration was part of the hospital's operations. According to the Agency for Healthcare Research Quality (AHRQ), several attempts aimed to improve patient safety had yielded minimal results (Melnik & Fineout-Overholt, 2011). An era where the patient experience had become a critical component of the consumer's choice, improving patient safety through effective communication should subsequently increase the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores for the organization. HCAHPS was a patient hospitalization satisfaction survey authorized by the

Centers for Medicare and Medicaid Services that assessed the hospital's ratings from the patient's view (Kemp, Chan, McCormack, & Douglas-England, 2015). As health organizations continuously look for ways to improve quality health outcomes and the patient experience, safety in medication administration should form a critical component of that goal.

Effective communication with appropriate patient interactions strengthens the foundation of the nurse-patient relationship (Pham, Bauer, & Balan, 2014). The corporate's "just" culture benefits from enforcement as the nurses learn to report accurately and the organization profits from safe, timely intervention. Pham, Bauer, and Balan (2014) explained that a just culture differentiated errors that occurred due to risk from a mistake made from disregard for consequences by accepting that to err was human and placed the blame on the associated behavior of the person who created the error but not the failure itself. Taking such a stance paved the way for opportunities to learn and grow through open communication (Ulrich, 2017). A decrease in the number of medication administration errors for the Cardiac Progressive Care (CPC) unit has promoted evidence-based practice implementation and guided nursing practice at the hospital. Also, the CPC nurses have embraced the newly standardized patient handoff with little or no opposition.

### **Nature of Project**

An introduction of the project and the checklist through a poster presentation was addressed to the unit at morning and evening huddles. Poster and flyers were placed in the common areas of the CPC unit. Information about the project and the checklist was shared with the unit management and consent signed to show a willingness to collaborate and commit. The number of medication errors entered into the Medical Information Data Analysis Systems (MIDAS) for each study month was harvested from the database. A comparison between the



three months before the BSR checklist and three months after the checklist was studied. The findings were displayed on charts to illustrate percentages for each month of the study period. Also, the descriptive statistics tool for the independent  $t$  test was used to analyze the differences between and within the means of the two groups of data. The six-month combined data allowed the use of 95% ( $p$  value  $< .5$ ) confidence interval for significance.

### **Research Question**

The hypothesis was that optimizing bedside shift reports with a checklist would decrease medication errors. Fitting the phenomenon into the PICO (T): “Among nurses on a Cardiac Progressive Care unit, what effect does a checklist have on medication errors, as compared to the medication errors on the unit with no checklist?” The population (P) defined was the inpatient Cardiac Progressive Care (CPC) unit nurses. The intervention (I) was the bedside shift reports with a checklist in comparison (C) with bedside shift reports with no checklist. The expectation or outcome (O) was a decrease in the unit’s medication administration errors after the checklist implementation.

**Population (P).** The population of this project was the licensed registered nurses in the Cardiac Progressive Care unit. The MIDAS web-based data system supports random medication administration error entry by nurses employed at the hospital.

**Intervention (I).** The project intervention was the utilization of nurse bedside handoff with a checklist to enhance the quality of medication reconciliation during handoff. The process aimed to decrease nurse medication administration errors through clarification and verification of patient medication administration records as well as allergies.

**Comparison (C).** The comparison was the bedside handoff without the checklist. Data was focused on the MIDAS web-based medication administration errors before the implementation of the checklist for the bedside handoff process.

**Outcome (O).** The requirement of safety in nursing practice was critical to healthcare delivery. The intention for the outcome of the project was that effective bedside handoff with the use of a checklist decreased the occurrence of medication administration errors. The result encouraged and supported the use of similar evidence-based practice interventions at the hospital. It provided a reason for the nurses at the hospital to engage their patients during the change of shift for better patient interaction and improved safety. Effective teamwork through information accuracy and a better working collaboration enhanced treatment outcomes.

**Time (T).** The time for the project referred to the three months immediately before bedside handoff checklist implementation and three months after the checklist implementation.

### **Hypothesis**

Null hypothesis ( $H_0$ ): The bedside checklist has no effect on medication administration errors (MAE) at the CPC unit. Thus, the mean of the medication administration errors before the BSR checklist equaled that of the BSR checklist.  $MAE \text{ before BSR checklist} = MAE \text{ after BSR checklist}$ . The null hypothesis was accepted when the implementation of the BSR checklist made no difference in the means of the number of reported medication administration errors. The idea was mathematically represented as  $t(df) = t \text{ value from SPSS}, p > \alpha$ . The null hypothesis was accepted.

Research Hypothesis ( $H_1$ ): The bedside checklist has an effect on medication administration errors at the CPC unit. The mean of the medication administration errors with the BSR checklist varied from the mean of the medication administration errors without the BSR

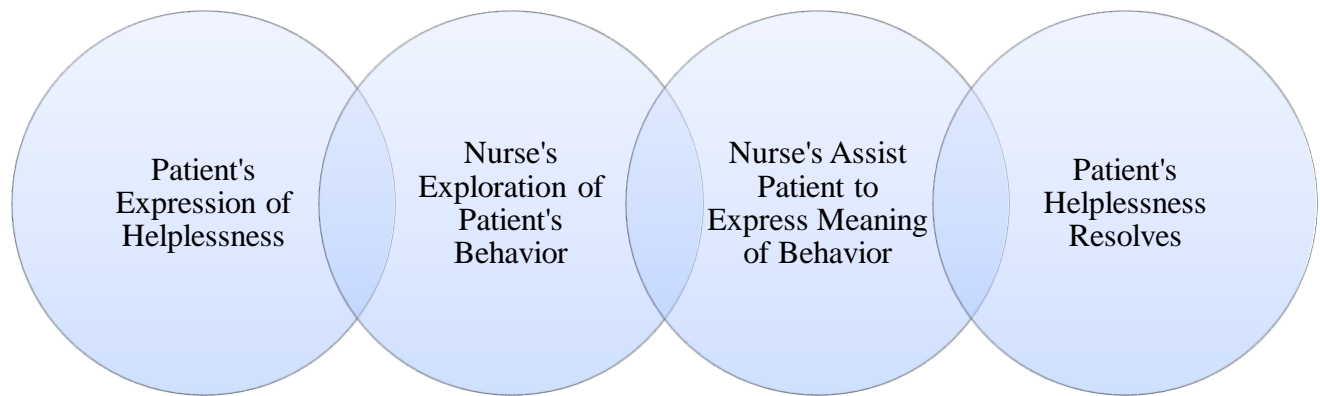
checklist. Thus, the mean of the MAE before BSR checklist implementation  $\neq$  the mean of the MAE after the BSR checklist implementation. The mean of the medication administration errors (MAE) before the BSR checklist statistically differed from the mean of the reported medication administration errors after the use of the checklist and represented by the equation  $t(df) = t$  value from SPSS,  $p < \alpha$ . The null hypothesis was considered rejected. The Significance Level ( $\alpha$ ) had been chosen to be less or equal to 0.05 (5% unlikely that the null hypothesis had occurred).

### **Theoretical/Conceptual Framework**

The dynamic nurse-patient relationship, function, process, and principles as a theory, provided an existing structure that defined the task of the professional nurse, and created an association between the patient's behavior and the nurse's role, as well as the nurse's reaction or response to the patient based on practice principles (Orlando, 1961). According to Orlando (1961), the professional nurse's task was to combine and understand scientific and common-sense knowledge to interpret observable patient behavior correctly. The nurse gathered knowledge from nonnursing backgrounds because unique patient characteristics affected nursing care delivery output. Therefore, the nurse's ability to decipher patient-exhibited symptoms assisted in decoding and solving the situation. In guiding the nurse in the knowledge acquisition to complete the task, Orlando (1961) stated, "She may gain the needed knowledge in consultation with other professional people or from the literature" (p. 3).

Knowledge of the patient's behavior helped the nurse to individualize the patient's care. The understanding required by the CPC nurse to decode that an increased heart rate was medically or behaviorally triggered was distinct, as well as the knowledge to provide the right nursing treatment. BSR provided the avenue for exploration to determine the cause of the exhibited activity for the formulation of a proper resolution as illustrated in Figure 1. If the

increased heart rate in the scenario mentioned above was from overwhelmed stress and anxiety, the therapeutic interactions of the BSR process clarified through exploration until the patient acknowledged the cause. The nurse created the necessary intervention from the understanding of the specific need and resources for the patient. By so doing, the nurse “contributes simultaneously to the mental and physical health of her patient” (Orlando, 1961, p. 9).



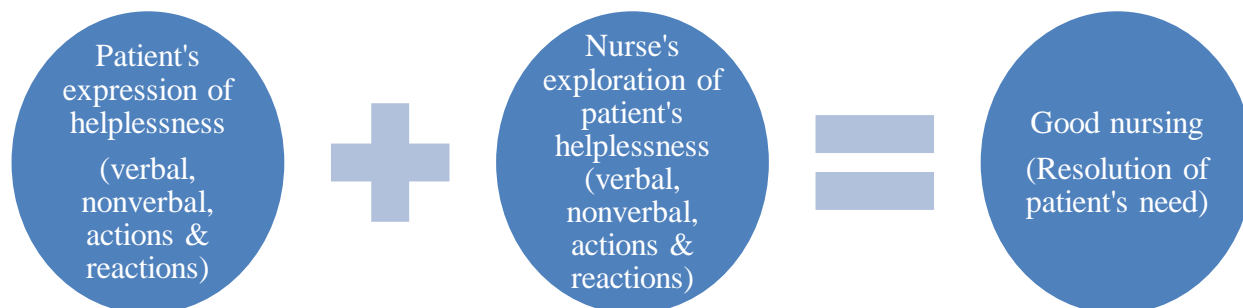
*Figure 1.* Diagrammatic explanation of nursing exploration of the patient’s behavior. From the “The dynamic nurse-patient relationship: Function, process, and principles,” by I. J, Orlando, 1961. New York, NY: G.P. Putnam’s Sons.

The theory’s framework was that “The purpose of nursing is to supply the help a patient requires for his needs to be met” (Orlando, 1961, p. 8). Therefore, it remained the nurse’s responsibility to identify the patient’s problem and provide a satisfying solution (see Figure 1). Orlando argued that the nurse’s ability to satisfy the patient indicated adequate nursing care and optimized nursing care delivery. Thus, the nurse went the extra mile to understand how the interaction affected the patient. Orlando (1961) listed the following as causes for a patient’s distress: “(1) physical limitations, (2) adverse reactions to the setting, and (3) experiences which prevent the patient from communicating his needs” (p. 11).

The fundamentals of the BSR process provided a logical explanation for the need to support verbal and nonverbal expressions of the patient's feelings. The concepts for the bedside handoff demonstrated the need for patients to be active participants in their care. Orlando's (1961) framework supported these bedside handoff concepts and proved that the ideas were not fabricated. Also, it substantiated the value of patient communication and how critically it contributed to addressing a gap in practice. Barczak (2014) explained that the selected theory underpinned the study and assisted in explaining the relationship between concepts. Therefore, establishing Orlando's concepts with associated empirical evidence through the analysis of the medication administration error data, in this case, was relevant to nursing practice at the hospital. The study provided answers to the uncertainties in nursing medication administration for cardiac patients. Also, it enhanced the understanding and clarification of nursing practices for the group.

The third function of the theory defined the nurse's feedback to the patient in response to observed, reported, recorded, and previous actions taken. Thus, the information upon which the nurse responded to the patient was based on other reports and inputs. The reported patient data was clarified and verified by the oncoming nurse before assuming the responsibility of the patient's care. Also, the patient gained the opportunity to explain information in real-time to receive the appropriate care. Bedside handoff did not only provide the opportunity for the patient to hear and confirm such reports but also empowered and committed the patient to their words. The framework of Orlando's theory prevented the focus of nursing practice on goal achievement but rather satisfying the patient's need. According to Orlando (1961), good nursing was when the immediate needs of the patient were met to relieve helplessness as shown in Figure 2. The theorist explained and linked excellent nursing care directly to actions that satisfied the patient

and alleviated the disorder. The nurse efficiently assessed the patient's needs and collaborated with others to resolve the need.



*Figure 2.* Diagrammatical presentation for Orlando's good nursing practice process. From the "The dynamic nurse-patient relationship: Function, process, and principles," by I. J, Orlando, 1961. New York, NY: G.P. Putnam's Sons.

The duty of the nurse to the patient to safely administer medication was only fulfilled when the medication history and allergies had been clarified and verified to fulfill the rights of safe administration. Orlando's (1961) theory and approach to nursing care delivery focused on the patient's involvement in the care process and visualized the patient as an essential and integral member of the team. Orlando believed that every patient behavior triggered a nurse perception or thought, followed by a response. Therefore, the model proposed a structure that explained the nurse-patient relationship that made the nursing profession and practices meaningful. However, the nurse's perception, thoughts, and feelings did not accurately represent the patient's behavior. Orlando's concepts mandated nurses to utilize exploration to reveal the true meaning of the patient's expressed response. The careful interaction with the patient to understand the true meaning of the expression was critical to the optimum solution. The bedside

handoff provided a roadmap for nurses to listen carefully, observe, collaborate with others, and interact on a personal level with the patient to enhance the patient experience.

Orlando's theory applied to this project because it explained the relationship between the nurse and the patient. Orlando's approach defined good nursing as the ability to decipher the patient's cry for help and relieved the distress. Also, for a nurse to effectively care and advocate for a patient, there must be a healthy relationship and collaboration. The healthcare environment relied strongly on the exchange of essential patient information (Potter & Bockenbauer, 2000). The proper patient management required an understanding of the patient's current medical needs as well as the ability to anticipate future needs (Novick, Morrow, & Mays, 2008). Therefore, emphasizing the patient's involvement in the information exchange process had a higher chance of accuracy.

The bedside handoff supported Orlando's theory to understand the patient's specific medical information necessary to administer medications safely. Also, it encouraged the appropriate expression of any discrepancies in medication administration and history that the nurse had through the bedside handoff interactions to improve safety. The bedside handoff provided a standardized report system. The continuous evolution of healthcare delivery presented challenges for safe handoff. Therefore, the use of a standardized report system for critical patient information exchange was prioritized.

Furthermore, a breakdown in nursing communication that eliminated the opportunity to identify the patient's preferences individually through the exploration of their treatment goals and achievement affected treatment outcomes significantly (Lupieri, Creatti, & Palese, 2016). The researchers endorsed BSR as it erased any doubt about whether the oncoming nurse had the necessary information to manage the patient's care. Also, it decreased patient anxiety and set a

positive tone for future interactions (Lupieri et al., 2016). It was fair that patients and their families were motivated through the bedside handoff process to encourage participation in clinical decision-making concerning their care. A poor handoff put the patient at risk for many mishaps, including medication administration errors (Hilligoss & Cohen, 2011).

### **Operational Definitions**

**Bedside shift report.** Bedside report or handoff was any patient handoff that happened at the bedside of the patient (Fitzpatrick & Small, 2017).

**Cardiac care nurse.** A cardiac care nurse referred to a nurse who had been trained to attend to patients with heart disease (United States Department of Labor, 2018).

**Evidence-based practice.** Evidence-based practice was a problem-solving technique that eliminated biases and incorporated expertise, knowledge, and proof at every level of clinical decision-making (Fulton, 2018).

**Nurse.** A nurse was a professional trained to care for patients (Christman, 1998).

**Registered nurse.** A registered nurse was a person trained to provide support to patients and their families, educate them about their health, and coordinate their care (Bureau of Labor Statistics, 2018).

**Traditional nurse report.** Traditional nurse handoff was any patient handoff that happened outside the bedside of the patient (Fitzpatrick & Small, 2017).

### **Scope and Limitations**

The scope of the project described the necessary work that needed completion to materialize project goals. The study analyzed data for the BSR handoff checklist to evaluate the accomplishment of its objectives for the hospital. Patient safety was a high priority hospital-wide



and decreasing medication administration errors using BSR efficiently promoted safe patient care.

- **Phase I.** Obtained permission from the organization's Institutional Review Board (IRB) for project approval to proceed (see Appendix B).
- **Phase II.** Matched the resources available to those needed to carry out the study and to identify the necessary materials required for successful task completion. Based on the type of study, a computer with SPSS software, Microsoft Word, and Excel were the essential programs. Also, there was a need to build a healthy relationship with the various critical stakeholders for a reliable support system and to ease any challenges that accompanied data harvest.
- **Phase III.** The use of effective communication to reach out to all critical stakeholders in the various stages of the project for maximum support. Also, a prediction of eight hours a day for 12 weeks was allocated to the project to avoid time constraints, and the interference of work and family lives. There were no delays in data enrollment to prevent ramifications. The study proceeded as planned, and a risk plan assessment for revision was not pursued, neither was a three-month contingency plan schemed to complete the project.

The traditional methods for nurse signoff were characterized by inaccurate information exchange, the elimination of the patient from the care team, and eventually, patient and nurse dissatisfaction (Krause-Parello, Sarcone, Sann, & Boyd, 2013). The bedside report process added value to nursing care and created an engaged, committed relationship between patient and nurses. Also, the new method placed the patient in the center of his or her treatment, increased understanding, adherence, and compliance with the treatment regimen for a better treatment

outcome. The bedside report checklist was implemented in the hospital on April 1, 2019 through June 30, 2019. The preimplementation data collection covered the first three months before the checklist implementation, precisely from January to March 2019. As an evidence-based practice project to promote better care delivery, the evaluation of the process formed a foundation for many hospital-wide operations.

### **Chapter Summary**

Bedside shift report was the exchange of information between the outgoing nurse and the oncoming nurse at the patient's bedside with an opportunity for both nurses to verify patient information in real-time. Historically, nurses exchanged patient information via any readily available means without necessarily having the chance to check and clarify the information exchange in real-time. However, safety in healthcare organizations required a team effort, the coming together of stakeholders, with direction, and a measurable outcome. The bedside report intervention was deliberately designed and structured so that it connected to all those involved in patient care. The patient was structurally centered, and the success of the process depended on the time and the quality of resources invested in the encounter. The concept of bedside report had been popular for its dynamic patient engagement characteristics that potentially minimized the rate of sentinel events like medication administration errors. The research idea was not limited to refining nursing task and organizational performances but aimed to strengthen structures for effectiveness to increase productivity.

## **Chapter 2: Literature Review**

Healthcare improvement was not about expensive dependent technology or the beauty of the facility, but about the knowledge and expertise of personnel delivering patient care (McLaughlin & McLaughlin, 2015). Evidence-based quality practice improved healthcare delivery outcomes (Krause-Parello et al., 2013). The communication in clinical practice and rationale required transparency because the patient handoff involved critical information exchange, and the failure to understand the information ultimately affected treatment and potentially caused grievous irreversible harm to the patient. Therefore, a seamless sense of cohesiveness, ownership, and accountability between patients and caregivers necessitated a standardized connection. Poor handoff communication could not identify patients, verify medication history, allergies, and specific characteristics necessary for treatment.

As a reliable, effective, and patient-centered model for healthcare communications, the BSR handoff gained ground in many hospitals that sought to improve care delivery output (Maxson, Derby, Wroblewski, & Foss, 2012). A literature search for safe patient handoff in a hospital recommended an interactive communication format that allowed clarifications and verifications (The Joint Commission, 2012). A bedside system of patient handoff improved patient safety and strengthened the nurse-patient working relationship. Furthermore, the clarity in communication left no doubt about expectations and responsibilities for both the speaker and recipient (The Joint Commission, 2017).

### **Literature Search**

Literature searches to explore the subject bedside shift report utilized the following terms to broaden and narrow the quests: “bedside shift report” OR “end of shift report”, “bedside rounding report” OR “professional nurse handoff”, and “professional nursing report” OR “end of

shift report” OR “bedside shift report” OR “patient handoff”. The articles were retrieved from PubMed.gov, ProQuest, and Cumulative Index for Nursing and Allied Health Literature (CINAHL) databases. However, to decrease stress associated with the article search, and to produce a more manageable number of articles that had clinical relevance, the search was narrowed by selecting “humans” for the clinical queries. The highest level of evidence obtained for the search item “bedside report” as a topic was a systematic review. Selected articles were then evaluated for relevance to the inpatient hospital environment.

### **Literature Review**

A literature search to explore evidence and knowledge about effective communication methods for patient safety in the hospital environment proposed the BSR handoff process as an effective communication method that provided opportunities to clarify and understand critical patient information exchange, leaving no gaps and doubts in the information transfer. There was substantial evidence that medical errors were costly but very preventable. The lack of a standardized communication method to detect errors in the healthcare system caused the wrong prescription administration to a patient and complicated the person’s body functions (Da Silva & Krishnamurthy, 2016).

Da Silva and Krishnamurthy (2016) referred to the cycle leading to a medication error and the associated relationship among systems of events as a Swiss Cheese Model. For example, these researchers reported that for three months before the medication error was detected, a patient received Navane, an antipsychotic instead of Norvasc for blood pressure control. As a result, the patient sustained unnecessary physical and psychological damage with changes in personality and walking difficulties. These researchers emphasized that medication errors were preventable through effective communication but cost about 21 billion dollars and over seven

million adverse events in the United States (Da Silva & Krishnamurthy, 2016). Also, the researchers blamed the estimated 3.5 million primary care and a million emergency room visits per year on medication errors (Da Silva & Krishnamurthy, 2016).

Because of the various specialties present, the complexity of the healthcare system demanded a clear professional communication format to improve safe patient handling. Effective team communication with a chance for clarification eased understanding and collaboration for both the speaker and the receiver. Sassoli and Day (2017) reported that medication errors occurred at any point in the healthcare delivery system. A literature search on the topic from credible search engines like Medline, PubMed, and CINAHL databases emphasized that weak and ineffective communication increased the potential for mistakes, and engaged communication protected patients from adverse events. According to the researchers, the understanding of the patient's medication clarified the patient's specifics to the nurse before medication administration to minimize the risk of errors. Also, the authors encouraged nurses to rely on efficient communication methods and teamwork to improve patient safety and excellent nursing practice (Sassoli & Day, 2017).

Practicing BSR decreased errors in communication, promoted safety, and increased nurse satisfaction. Taylor (2015) endorsed the BSR handoff as a safety communication tool after recommendations from the Joint Commission and other credible clinical literature. Taylor's inclination to the BSR handoff was because of its standardization and the many patient benefits attributed to the process. The researcher implemented BSR as the method for communication in a hospital environment for a year. A postimplementation qualitative data analysis revealed a 71% satisfaction rate among nurses (12 out of 17 nurses), a 60% decrease in patient falls (five to three), and a remarkable reduction in medication errors at 15.63% (32 to 27) in the year (Taylor,

2015). Also, a research study found that BSR decreased the rate of medication errors. Craven (2016) published a significant decrease in medication error mean from 4.17 to 2.13 (48.92%) after a retrospective study analysis and comparisons across groups.

BSR handoff paved room for patient medication history authentication and also empowered patients to be active participants in clinical decision-making (Fitzpatrick & Small, 2017). Pourrat et al. (2013) published that the BSR was a useful communication tool in reconciling the patient's medication at the hospital. These researchers found that a chart review of 278 orthopedic patients on admission saved a combined total of 471 prescription discrepancies through the BSR medication reconciliation. Sixty-nine percent of the discrepancies were reported to be the result of incomplete patient information exchange, 34.2% reported a minimum of one variance, and about 18% of the identified medication errors had at least one potentially fatal outcome. These researchers cautioned health professionals to prioritize patient medication reconciliation early in the admission process for early error detection and prevention (Pourrat et al., 2013). Pourrat et al.'s findings were consistent with Da Silva and Krishnamurthy (2016), who noted at least one medication discrepancy on every 30 discharged medication list.

BSR handoff improved communication and increased patient and family participation. Also, BSR decreased fall rate, assisted in forming better relationships between patients, families, and health personnel, and saved time for patient care (Fitzpatrick & Small, 2017). A survey conducted among 84 nurses in a 504-bed community hospital to compare BSR against traditional nonstructural reports rated BSR higher in all measurements. BSR scored 3.78 for patient involvement, 3.85 for patient safety, and 3.45 for information shared against 2.64, 3.41, and 3.11 for nonstructural reports respectively on a five-point scale. Besides, BSR increased nurse accountability by 37% by increasing the score from 3.43 for traditional report systems to 3.8

with BSR as a new method for nurse handoff (Fitzpatrick & Small, 2017). The real-time information exchange supported by BSR demanded accountability from nurses in partnership with patients and family to improve safety, making Fitzpatrick and Small's discoveries undeviating from previous publications by McAllen et al. (2018).

BSR decreased falls and increased patient and nurse satisfaction (McAllen, Stephens, Swanson-Biearman, Kerr, & Whiteman, 2018). These researchers validated the assertion over a four-month study through the implementation of BSR in an inpatient care setting. The before and after BSR implementation survey comparison showed a 24% decrease in fall rate and a 67% increase in nurse job satisfaction rate in favor of BSR (McAllen et al., 2018). A similar study conducted by Slade, Pun, Murray, and Eggins (2018) claimed nurses who practiced the BSR handoff understood their patients' medical information and interacted appropriately during handoff compared to nurses who did not use the handoff in their practice. Slade et al. (2018) conducted a blind study with 26 nurses and hired handoff experts to judge desired behaviors. The experts' report indicated 100% of the BSR trained nurses greeted the patients, 85% provided explanations, and 100% kept eye contact and kept a positive expression compared to 39%, 15%, and 0% of the untrained nurses, respectively. Also, 100% of the trained nurses compared to 0% of the untrained nurses conveyed respect and showed sensitivity (Slade, Pun, Murray, & Eggins, 2018).

BSR decreased patient falls through teamwork, increased nurse accountability, and increased patient monitoring as it occurred at the bedside. According to Givens, Skully, and Bromley (2016) BSR provided improved end of shift communication among nurses to enhance patient safety. A weighed before and after implementation survey revealed a mean increase in nurse satisfaction rate from 5.7 to 8.3 based on a 10-point scale and a 57% increase in patient

participation. Researchers published that BSR was practical, efficient, and patient-centered as the process occurred at the bedside and provided an opportunity to verify the information for accuracy. Also, the handoff method increased patient involvement to improve the working relationship and satisfaction (Givens, Skully, & Bromley, 2016). Researchers reported positive outcomes from BSR handoff. For instance, Sherman, Sand-Jecklin, and Johnson (2013) reported a decrease in report time from 45 to 29 minutes, and whiteboard adherence compliance increased by 73% and a 10% decrease in medication errors in three months (Sherman, Sand-Jecklin, & Johnson, 2013).

BSR improved patient satisfaction and reliable information exchange. According to White-Trevino and Dearmon (2018), the BSR handoff engaged patients to participate in their care and also translated best practice to replace the traditional nonstructural handoffs at the hospital. These researchers reported reliability in the emergency room handoff process when BSR was used among 46 emergency room nurses. The monitored outcomes through observations and surveys reported 92% of reliable information exchange when the nurses' handoff at the bedside.

The high number of transfers that happened in the acute care setting required an effective and efficient handoff so that vital patient information was not missed. Researchers named BSR as a useful communicating tool for patient information transfer. For example, a Scottish hospital used BSR inpatient information transfers for two months as the single comprehensive reporting system for its surgical patients and reported 84% success with complete patient information exchange with the process (Ramsay, Maresca, Tully, & Campbell, 2018). Another controlled study in Germany published improvement in medical students' attitudes, awareness, and confidence after they received training about effective communication. The students admitted



that 70% of adverse events happened because of miscommunication, and 73% agreed that a standard communication checklist assisted efficiency.

BSR saved time and cost. BSR decreased nurse reporting time by 10 minutes and reflected a decrease in annual overtime payments ranging from \$95,680 to \$143,520 (Dorvil, 2018). The researcher emphasized that BSR consistently improved the patients' experience, nurse satisfaction, and reduced the financial burden for nurse overtime on the healthcare system. Unplanned nurse overtime caused a financial burden to a health organization; therefore, decreasing nurse overtime was a cost-saving intervention to health organizations (Dorvil, 2018). The lack of a standardized format for reporting created discrepancies and decreased quality in nurse handoff (Fitzpatrick & Small, 2017; Goff, Knee, Morello, Grow, & Bsat, 2014).

When nurses' handoff at the bedside, patients felt valued. Researchers reported that patients appreciated nurses who handoff at the bedside as compassionate healthcare professionals (Lupieri et al., 2016). The assertion was made after the observation of nurses in a postoperative environment completed the activities of the BSR: introduction, ability to engage, confidentiality, and control over the patient information handoff process. These researchers reported that BSR provided an opportunity in the postoperative environment for the nurses to show patients the value of their presence and instilled security. The BSR handoff gave the Australian nurses a new identity, as it was not the norm. Also, the patients reported having felt closer to their nurses and felt safer in the hospital environment (Lupieri et al., 2016). Another researcher published that BSR expressed respect, improved patient collaboration, and promoted a safe environment (Howard & Becker, 2016).

The bedside handoff process was a life-saving intervention. A literature search found that BSR practice permitted the outgoing nurse to provide life-saving information about the patient to

the oncoming nurse. The face-to-face interaction allowed opportunities for information verification and clarification of patient information to ensure accuracy and accountability, and also increased sensitivity to error detection (Sadule-Rios et al., 2017). The process enabled the nurses to exchange the patient's medical information, assessed the patient's condition in real-time, and prioritized intervention to prevent adverse events and unfavorable treatment outcomes (Eckbold & Dombroski, 2012). Many processes of the inpatient care delivery system provided an opportunity for a break in communication (Shitu et al., 2018). For example, a literature review between 2004 and 2017 pointed out a direct relationship between poor communication and severe medical errors in the healthcare setting. Adverse events like worsening patient conditions due to medication errors were because of poor communication between hospital personnel and patients (Shitu et al., 2018).

Miscommunication in care delivery caused patient injuries. Errors in caregiver communications accounted for 37% of severe patient injuries (Kern, 2016). The analysis of 7,149 cases of medical mistakes identified 57% of the errors reflected miscommunication among healthcare personnel, 55% indicated caregiver-patient lapses, and 12% was for both. The total cost for medical errors as captured by CRICO was about 1.7 billion dollars and a loss of several lives (CRICO Strategies Research, as cited in Kern, 2016). The BSR handoff was a valuable information exchange technique that bridged the gap to prevent patient care errors. Describing the various steps of medication preparation as transcribing, dispensing, administration, and monitoring, researchers reported that the ordering and administration phases were the riskiest and responsible for 82% and 40-50% risk events, respectively (Weant, Bailey, & Baker, 2014).

Accurate medication reconciliation through effective communication prevented medication errors (Johnson et al., 2015). Topic-relevant literature searched from 1996 to 2014

found changes that accompanied the transition of care posed a significant challenge to proper handoff. According to the researchers, shift change caused a change in caregiver responsibility. The setting and nurse responsibilities challenged essential communication necessary for safety protocols such as medication reconciliation. The researchers encouraged health personnel to develop the habit of reconciling patient medications using practical interviewing skills to clarify the medication list at every chance and to encourage pharmacists to support the process (Johnson et al., 2015). Errors from medication administration were common, endangered lives, and caused deaths but were usually misunderstood. For instance, a medication error occurred at any level of the medication administration, but both the public and health personnel minimized the real perception of medication error (Wittich et al., 2014).

### **Framework Discussion**

A psychiatric hospital adopted Ida Jean Orlando's dynamic nurse-patient relationship function, process, and principles theory to explore its mission. The purpose was to test the hospital's values and commitment to excellent nurse-patient interaction (Potter & Bockenbauer, 2000). The hospital preferred Orlando's theory because of its focus on decreasing patient distress through nurse engagement. The theory's framework provided an opportunity to explore patient-specific need through equal level communication and clarification.

A quasi-experimental study using two demographically similar units with 30 patients over 12 weeks showed patients on the experimental unit had a significant decrease in immediate distress levels compared to that of the control group per the Bockenbauer/Potter Scale of Immediate Distress (BPSID). The results symbolized that theory-based interventions were much more effective in addressing immediate patient needs or distress compared to no theory-supported intervention. The nurses in the experimental unit removed the patient's suffering

because they had an opportunity to validate the specific need to supply the appropriate solution. Also, the nurses reported confidence after executing their assigned tasks with the roadmap (Potter & Bockenbauer, 2000). The excellent nursing practice exhibited through Orlando's theory relieved the patients' distress and caused the hospital to adopt the method throughout the organization as the standard for nurse-patient interaction (Potter & Bockenbauer, 2000).

Orlando's theory equated good nursing to a positive outcome and bad nursing practice to adverse patient outcomes. Orlando (1961) wrote,

The nurse must take the initiative in helping the patient express the specific meaning of his behavior to ascertain his distress. Second, she must help the patient explore the distress to ascertain the help he requires for his immediate need for help to be met. (p. 26)

The nurse's ability to resolve the distress depended on the exploratory technique to identify correctly and address the patient's complaint. The three crucial elements of Orlando's conceptual framework were

- patient behavior,
- the nurse's response, and
- actions to remove the distress.

The patient's inability to meet a need subsequently resulted in self-distress (Orlando, 1961). The nurse's response was the reaction to the patient's expressed behavior. The action to remove the distress was the exploration technique to identify the suffering accurately and free the patient from it. Therefore, it was critical for the nurse to self-examine to eliminate perceptions, personal thoughts, and feelings in order not to confuse them or replace them for the patient's beliefs (Orlando, 1961). The self-exploration of opinions, ideas, and feelings prevented misjudgment and misinterpretations of the patient's behavior. The nurse must know his or her

thoughts and opinions were not facts. Therefore, a valid nonjudgmental exploration of the patient's condition was required to relieve distress.

Another healthcare organization adopted Orlando's theory to reduce the hospital's fall rate by using the concepts to understand patients' needs (Abraham, 2011). The theory's concept was a roadmap to patient interactions and increased patient engagement and nurse response. Abraham (2011) reported that the use of Orlando's concepts eased the patient's immediate distress as prioritized by order of physiological need, safety, security, self-esteem, and self-actualization per Maslow's hierarchy. Guided by the exploratory support of the theory, patients provided feedback to design an intervention grid to guide fall prevention. A teach-back demonstration of fall prevention yielded the retention of educational information that decreased the fall rate (Abraham, 2011).

### **Chapter Summary**

There were significant challenges to decreasing errors and achieving safety in hospitals. Research evidence identified effective communication through the BSR handoff to prevent errors to better healthcare delivery outcomes. Discussions between the nurse, the patient, and their determined family members at the bedside were critical to information validation and accuracy in reports. The process opened doors to the discovery of patients' unique medication characteristics that developed a practical, individualized approach to improve safety and save lives. Compared to other forms of nurse handoffs, bedside interactions and conversation empowered patients and encouraged active participation in real-time. The BSR handoff supported a fair process that promoted communication clarity, compassion, respect, and understanding. The study evaluation in a hospital setting showed its practicality, applicability, and encouraged standardization and the creation of patient-focused programs at the hospital.

### **Chapter 3: Research Method**

Medication errors cause millions of deaths every year. The US Department of Health and Human Services (DHHS) Inspector General attributed the deaths of about 180,000 Medicare patients in 2009 to incompetent care (as cited in Ofori-Atta, Binienda & Chalupka, 2015). An unexpected, preventable event that occurs as a person seeks healthcare was described as not excusable. Enhancing caregiver communication with patients empowered them with the right information to understand treatment options in guiding their healthcare decision-making. Nurses, as front-line caregivers, were indispensable in the treatment of patients, which makes the bedside the best place to start effective communication (Ofori-Atta et al., 2015).

Nursing handoffs had gone through several changes from face-to-face, written reports, and recordings away from the patient, and to the recommended bedside report that highlighted patient-centeredness. When critical patient information exchange happened away from the bedside, it left room for unexpected events to occur (Dorvil, 2018). The time taken to talk about the patient without the patient present increased the patient's risk for a preventable event and also alienated the patient from the care team. The project was designed carefully for the inpatient environment as an original study to support safe patient handling through effective communication.

#### **Project Design**

The literature search provided evidence and supported the BSR process of information exchange as safe techniques for patient handoff. The BSR improved safety in the inpatient environment through real-time information verification and clarification by the patient, the outgoing nurses, and the oncoming nurses. The purpose of the project was to measure the effect of a BSR checklist on medication administration errors. The project followed a quantitative

pretest–posttest descriptive design. A three-month pretest quantitative data mean value for medication errors for the CPC unit was compared to a three-month posttest mean to examine the statistical significance and subsequent impact of the checklist. The data of interest were de-identified before extraction and limited to the CPC unit. The second phase of the design was the plotting of information into a Microsoft Excel worksheet using the Statistical Package for the Social Sciences (SPSS) software analysis. Two groups “0” and “1” separated the two sets of data. Group “0” showed the before BSR checklist data, and group “1” showed the after checklist implementation data as illustrated in Table 1. All data were harvested from the MIDAS database.

Table 1

*Presentation of Data for Analysis*

Dates	Pre–Post BSR	Number of Monthly Reported Medication Errors
January 2019	0	
February 2019	0	
March 2019	0	
April 2019	1	
May 2019	1	
June 2019	1	

### **Instruments and Measurement Tools**

The measurement tool to test the quality and impact of the BSR checklist was the SPSS independent-samples  $t$  test. According to George and Mallery (2016), “the independent-samples  $t$  test, compares the means of two different samples” among standard variables that do not overlap (p. 212). The independent variable of the study was medication administration errors, and the BSR checklist was the dependent variable because it was expected to influence the results. The two groups for the study were medication errors that occurred in the absence of the BSR

checklist and those that occurred with the BSR checklist. SPSS for measurements of the means of the two data sets seemed appropriate because the two groups met the assumptions for the tool.

Cronk (2014) explained the independent-sample  $t$  test assumed the data should have only two separate nonrelated variables measured on a continuous scale. Also, outliers should not be significant, and all data should be ordinary and similar. The number of medication administration errors without the checklist and the group of values with the checklist qualified for the criteria, as mentioned above. The two groups of data did not co-occur, and the selection for one group had no interference with the other group. A generated output for the independent  $t$  test produced a normal distribution that represented the study to facilitate real-time implications (Manfei et al., 2017).

### **Statistical Data Analysis Plan**

An independent-sample  $t$  test provided the ability to examine and appreciate deviations, and at the same time, assessed statistical differences about the means of the data set (Cronk, 2014). Embedded in the SPSS independent-sample  $t$  test analysis was the Levene's test, which guided the interpretation of the program output. The Levene's test explained the output in two ways that depended on the  $p$  value obtained from the table output. If the  $p$  value turned out lower than the already picked alpha level of significance ( $\alpha = .05$ ), the bottom row of the table was indicated for the study interpretation to show that equal variance was not assumed. On the other hand, if the reverse occurred, the top row information interpreted the findings to assume equal variance. The mathematical representation of the analyses was as follows:  $t(df) = t$  value from SPSS,  $p < .05$  for a significant result or  $t(df) = t$  value from SPSS,  $p > .05$  for a no substantial effect. The  $p$  value, which represented the corresponding significance to the test statistics, the  $df$ ,



the degree of freedom, and  $t$ , the computed study statistics were obtained from the analysis output to make determining the differences between the means of the two groups possible.

### **Methodology and Appropriateness**

The project hospital used data extraction from the MIDAS storage program to track all medication errors at the study site. The MIDAS program stored data and monitored continuous improvement and made predictions possible at the hospital. Also, it provided the functionality for data accessibility in a structured format for harvest. The organization's IRB approval process for permission was requested through the IRBNET.org website. The formal procedure to obtain permission from the institution was followed to have access to the organization's MIDAS program database. A medication error event query to harvest the unit's data from January 1, 2019 through June 30, 2019, included all data for the study. The data was extracted with the help of one of the hospital's MIDAS data analysts assigned to the CPC unit. The information was deemed confidential according to the review organization immunity act, 41-9-1 to 41-9-7 NMSA (1978) and disclosed only to evaluate the study. The information was plotted into an Excel worksheet and exported into the SPSS program for the analysis. The data was de-identified before harvest, and therefore, protection and informed consent from individuals regarding data extraction were not necessary.

### **Feasibility**

The understanding of patient handoff began with caregiver awareness (Thaeter et al., 2018). The potential rapid decline among patients with heart disease in the event of a medication administration error made the study relevant and suitable for the setting. The hospital and the CPC unit continued to use bedside handoff to improve patient safety. The nursing department supported the bedside handoff and assumed responsibility for its sustenance throughout the

organization. The new method of nurse handoff was integrated into the new hire training class and formed a critical component of the hospital's onboarding curriculum design to create awareness and enforce the handoff expectation. Patients were introduced and informed early in the admission process for familiarity and support. The consistent practice of the bedside handoff was expected to improve safety and the quality of care delivery. The inclusion criteria for the study were medication errors that occurred from January 1, 2019 to June 30, 2019. The extraction of information for analysis was limited to the CPC unit of the hospital. The preintervention data collection was from January 1, 2019 to March 31, 2019, and the postintervention from April 1, 2019 to June 30, 2019. The analysis and interpretation of the SPSS tool were valuable in understanding the influence of the checklist on the handoff process and medication administration.

### **Appropriateness**

Evidence of 184 medication administration description errors published by Giardina et al. (2018) blamed poor communication and the lack of respect for patient preference as the primary contributory factors. The researchers recommended active patient engagement in clinical decision-making as the solution because the expression of the patient's views about the care could enhance caregiver understanding of goals for treatment. Upon project approval from the hospital's IRB, the implementation phase began with creating awareness among key stakeholders, such as the nursing leadership, department director, unit managers, physicians, pharmacists, nurses, and the entire staff. The developed project plan was repeated at morning hurdles for one month after the PowerPoint and poster board presentation in March. The poster board remained in the staff meeting area throughout the project. Project participants were limited to the CPC unit nurses. The preimplementation data was from January to March 2019 and

extracted from the hospital's MIDAS web-based storage. The postimplementation data was harvested after the three-month checklist intervention and included data from April to June 2019. The MIDAS application stored records of medication administration errors for the health organization and allowed the retrieval of de-identified unit-specific information about medication administration errors.

### **IRB Approval and Process**

Project approval from the Institutional Review Board (IRB) was necessary to implement the study (see Appendix B). The direction for application and the approval was followed at the hospital's IRBNET.org website and the application forms downloaded to complete but submitted online to satisfy the process. The application forms included proof of active registered nurse license, resume, and a letter addressed to the IRB chair (see Appendix C). The letter contained project intent details, a completed application, a copy of the proposal, and all required completed forms before the electronic submission to the IRB committee. The BSR checklist was noninvasive and no risk to the patients and nurses, and there were no revisions to clarify the risk to the target population.

The IRB team took about two months to provide feedback. The IRB approval granted access to the MIDAS software for data recovery from January 1, 2019 to June 30, 2019. The official introduction of the study to the CPC management and staff was after the receipt of the consent from the organizational IRB. The hospital did not keep records of the financial impact from medication administration errors, and therefore, financial benefit and comparison for the unit were not possible.

### **Inter-Professional Collaboration**

The idea of the study and the BSR checklist were socialized at unique PowerPoint and poster board presentation meetings, including unit huddles for a month before integration into the unit's workflow on April 1, 2019. The BSR checklist was available to all registered nurses who worked on the unit as bedside nurses. The study was received by the staff as an innovation to improve the bedside handoff process and was supported by both staff and management to improve medication administration safety. The continuous support from the unit's manager and the assistant manager for the project encouraged and sustained the staff enthusiasm toward the successful completion of the project. A mentor was chosen to satisfy the hospital's requirement for moral support and professional values.

The inter-professional collaboration was critical to decreasing medication errors because the nurses' work overlapped with that of other professionals, such as the pharmacist. Proper nurse accountability through accurate patient information verification provided a safe practice environment for the checklist implementation months to benefit nurse, patient, pharmacist, and physician, as evidenced by the decline in the number of reported medication errors. The hospital's statistician reviewed data and provided expert answers to questions that helped clarify the study results. The principal investigator of the study collaborated with the unit director, manager, nurses, and unit-level team members throughout the activities and monitoring of the study.

### **Practice Setting**

The project setting was a 38-bed cardiac step-down unit that formed part of a 453-bed nonprofit acute care hospital. The unit collaborated with cardiovascular surgeons, cardiologists, and hospitalist groups to manage acute and chronic cardiac diseases. The nurse-to-patient ratio

was one to five in the day and one to six at night. The ratio of nurse assignment was based on patient acuity. The CPC unit was dedicated to caring for people with heart disease such as heart failure, coronary artery disease, life-threatening abnormal heart rhythms, chest pain, and other acute and chronic heart-related conditions. The nurse used BSR as the standard for handoff and was trained to handle cardiac patient monitoring and rapid resuscitation techniques. The unit handled overflow patients from other units, and cardiac monitor service provision for such patients was dependent on the patient's unique condition. Nursing responsibilities were telemetry monitoring, medication administration, head-to-toe patient assessment, and proper documentation. The BSR system of handoff was introduced three years ago and incorporated into the unit's workflow and culture. An overview of the established handoff process, as developed by the organization, can be found below (see Table 2). The nursing responsibilities were to complete the electronic admission process, clarify medication history, allergies, and note the patient's preference and goals of care.

Table 2

*A Reproduction of the Nurse-to-Nurse Bedside Shift Report Guidelines at the Study Site*

#	Work Elements	Key Points	Est. Time	What to do if	
				Problem Occurs	Solution
1	Give patient Bedside Shift Report Letter	<ul style="list-style-type: none"> <li>• Ensure patient receives a Bedside Shift Report (BSR) brochure in Admission Packet</li> </ul>	2 sec	<ul style="list-style-type: none"> <li>• Bedside Shift Report letter is not in the packet</li> </ul>	<ul style="list-style-type: none"> <li>• Have Unit Secretary or SEC/Tech get a Bedside Shift Report Letter for the patient</li> </ul>
2	Educate Patient	<ul style="list-style-type: none"> <li>• Educate/inform patient upon admit about the BSR process and its importance</li> <li>• Notify patient that we would like them to participate in Bedside Shift Report. Determine who the patient wants present during Bedside Shift Report</li> <li>• Inform patient that it is difficult to get rest in the hospital. Notify the patient that if they are sleeping the nurses will come into the room during BSR in order to ensure patient safety and to quietly review all lines, drains, and airways are correct. Report will take place elsewhere as to not disturb the patient's sleep</li> </ul>	60 sec	<ul style="list-style-type: none"> <li>• Patient is not able to receive education</li> <li>• Family is not available to educate</li> <li>• Patient is undecided about whether or not to have family/visitor present during shift report</li> </ul>	<ul style="list-style-type: none"> <li>• Educate family when they are available</li> <li>• Until the patient determines their preferences, nurses will ask family/visitor to step out during shift report</li> </ul>
3	Communicate patient's preferences regarding shift report to the oncoming nurse	<ul style="list-style-type: none"> <li>• Communicate patient preference to patient's nurse</li> <li>• Educate patient regarding shift report times, daily between 0700–0730 and each evening between 1900–1930</li> </ul>		<ul style="list-style-type: none"> <li>• Unable to obtain patient preferences for family/visitor participation in bedside report</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate to the oncoming nurse you were unable to obtain patient preferences or family/visitor participation in bedside report</li> </ul>

## **Target Population**

The recipient of the BSR checklist was the registered nurses who worked on the CPC unit during the study from January 1 through June 30, 2019. The unit had a mixture of Bachelor of Nursing (BSN) and Associate Degree in Nursing (ADN) nurses, and all staff had at least two years of nursing experience before working on the CPC unit. Also, some of the nurses had achieved cardiovascular certifications by completing clinical knowledge and skills for the specialty after the registered nurse licensure from the American Nurses Credentialing Center (ANCC). The unit had a multicultural mix of Hispanics, Caucasians, Asians, and African Americans. The average age of nurses ranged from 23 to 62 years. The nurses worked in teams under the direction of a cardiologist and a hospitalist who provided specialty and chronic disease management around the clock, respectively. The nurses followed up on cardiac monitor alerts, analyzed patients' rhythms, and notified the appropriate provider for intervention.

## **Risks and Benefits**

There was no measurable or expected risk associated with the study. Some of the nurses initially perceived the checklist as a waste because they were comfortable with the BSR handoff and had not needed to modify the handoff process. However, bridging the knowledge gap through the PowerPoint and poster board presentations emphasized the efficiency of the BSR routine. The use of a checklist increased motivation, organization, saved time, and made processes more efficient and productive (Singer, 2014). Bedside nurses formed partnerships with patients and families, a critical foundation in the hospitalization process, and needed to understand the link between a trusting patient relationship and obtaining an accurate medication history from the patient. The utilization of nurses' perceptions, feelings, and thoughts to interpret an exhibited patient behavior removed the opportunity to explore for the cause of the patient's

act (Orlando, 1961). The study alerted the unit leadership about the level of error risk associated with poor handoff and acted as a guide for the design of safety improvement interventions.

### **Timeline**

The development and the successful implementation of the project followed a structured format that guided and organized the presentation of events (see Appendix D). The timeline highlighted goals, objectives, and safeguards, and provided a roadmap to accomplish tasks and restructure as needed to implement the study. The study implementation occurred on January 1, 2019, after the approval from the hospital's IRB board, which granted permission on December 5, 2018, to proceed with the study as an improvement project for the BSR handoff. Also, the permission included access to the hospital's web-based MIDAS records for data harvest, which occurred on July 11, 2019. The budget required minimal expenses because all necessary resources were available at the hospital and did not need the recruitment of active participants. The cost of the computer and statistical software for data analyses were not actualized.

### **Chapter Summary**

Nurses work at the frontline of healthcare delivery, gathering critical patient care information, and a lack of structure and consistency to effectively communicate risks patient safety. Poor communication affected the trusting foundation required for the nurse-patient relationship and influenced information veracity from the patient. It was only natural that patients who felt dignified and trusted through interactions divulged critical health information to the nurse. Nevertheless, such information affected the treatment plan and the patient's treatment outcomes. The nursing profession remained committed to optimum health outcomes and accurate information exchange using the BSR checklist, which assured communication efficiency among



nurses to decrease errors in medication administration to improve the safety in nursing care delivery.

## **Chapter 4: Results**

The purpose of the study was to determine the influence of the BSR checklist on medication errors at a hospital unit. The intent was to provide the nurses with a useful tool to hand off patients safely and integrate individualized patient preferences to the plan of care. Also, the medication administration checklist was to improve the nurse handoff process to reduce medication administration errors at the end of the checklist implementation. The standardized BSR checklist implementation at the CPC unit was to promote quality information exchange with opportunities for medication administration verification, clarification, and reconciliation to decrease patients' risk of medication administration errors. Also, the review of the literature suggested a decrease in medication administration errors through patient engagement and improvement in patient safety for quality care delivery outcomes.

### **Project Analysis**

The CPC hospital unit employed nurses with varying degrees of experience, and those nurses worked as an integral part of the interdisciplinary team to care for the 38-bed unit. The nurses worked mostly 12-hour shifts to provide 24-hour care in an equal amount of time for both the prechecklist and the postBSR checklist implementation periods. The nurses handed off patients from the outgoing nurse to the oncoming nurse every 12 hours. The handoff contained critical information to guide the care of the patient, including detailed medication administration records for the patient. The hospital's MIDAS web-based software program housed all medication errors to support a learning environment and provided useful information to educate staff and to guide safety interventions. The medication administration errors were willingly entered into the MIDAS program by the CPC staff. MIDAS allowed unit-specific de-identified data retrieval for quality improvement and education.

A six-month harvest of medication administration errors from January 1, 2019 through June 30, 2019, was extracted from the MIDAS database for the CPC specific unit. According to Table 3, the highest number of errors was recorded for January and February, when the BSR checklist had not been implemented. The lowest record was in March 2019.

Table 3

*Groups of Data for Analysis*

Dates	Pre-Post BSR	Number of Monthly Reported Medication Errors
January 2019	0	10
February 2019	0	10
March 2019	0	4
April 2019	1	6
May 2019	1	6
June 2019	1	8

The information was represented on an Excel spreadsheet and exported to a Statistical Package of Social Sciences (SPSS) worksheet for analysis. The alpha level of significance chosen was  $\alpha = 0.05$ . The duration of the study was six months total, comprising of three months without the BSR checklist, and three months with the checklist. The symbol “0” represented the months without the checklist, and “1” represented the months when the BSR checklist was implemented, as illustrated in Table 3. The mean (*M*) and the standard deviation (*SD*) values for the data group before the checklist implementation were 8.0 and 3.46 and for the checklist group 6.67 and 1.15, respectively (see Table 3).

The variables of the study satisfied the assumptions of the independent-samples *t* test analysis, and Table 4 showed the SPSS output for the two sets of groups. The study intended to find the effect of the BSR checklist on medication administration errors by comparing the means of the two different sets of data. An independent-samples *t* test was conducted to compare the

mean of medication administration errors reported for the three months without the BSR checklist and the three months with the BSR checklist. According to Table 4, Levene's test for equality of variances holds as the test significance corresponding to the  $p$  value resulted in .065 (see Table 5), a figure higher than the alpha level ( $\alpha$ ) of 0.05.

The statistical test significance  $p > \alpha$  from the Levene's test accepts the null hypothesis, and the assumption for equal variance implied that the top roll of Levene's test from Table 4 should be used for the result analysis. Table 5's output gave the significance (2-tailed),  $p = .561$ . Thus, 56.1% probability showed that the sample results for the populations are of equal means and no significant differences existed between the means of the two groups. According to Table 5, the value for the degree of freedom ( $df$ ) = 4, computed test statistics ( $t$ ) = -0.632, and the mean difference between the sample means = 1.33. The PICO (T) was "Among nurses on a Cardiac Progressive Care unit, what effect does a checklist have on medication errors, as compared to the medication errors on the unit with no checklist?" The null hypothesis ( $H_0$ ) stated that no difference exists in the means of the number of reported medication administration errors before and after the BSR checklist. There was no significant difference in the mean score for the checklist ( $M = 6.7$ ,  $SD = 1.2$ ) and no checklist ( $M = 8.0$ ,  $SD = 3.5$ ) conditions  $t(4) = -0.63$ ,  $p = .561$  (see Table 5). These results implied that the use of a checklist did not affect the number of medication administration errors.

Table 4

*Group Statistics of Monthly Reported Medication Errors*

	Pre-Post BSR	$n$	$M$	$SD$	$SE$
Monthly Reported Medication Related Errors	1 0	3	6.667	1.1547	0.6667
		3	8.000	3.4641	2.0000

Table 5

*An Independent Samples Test of Monthly Medication Errors*

		Levene's Test for Equality of Variances		t test for Equality of Means						
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	<i>M</i>	<i>SE</i>	95% Confidence Interval of the Difference	
									Lower	Upper
Monthly Reported Medication Related Errors	Equal variances assumed	6.400	.065	-.632	4	.561	-1.3333	2.1082	-7.1866	4.5199
	Equal variances not assumed			-.632	2.439	.581	-1.3333	2.1082	-9.0059	6.3392

**Limitations and Strengths**

The study focused on the CPC unit of the hospital and cannot be generalized as feedback from the hospital's patient handoff process because of the unit-specific cultural characteristics. The data collection covered only the period of the study, and the statistical significance to the unit pertains to that period as well. Reporting of medication errors encouraged attentiveness and increased safety, but people were inclined not to report when no observable signs of harm exist (Nwasor, Sule, & Mshelia, 2014). Also, the detailed process for entering an online report could have paved the way for excuses or caused delays to affect the number of entries for the six months. The strength of the study was that there was no interference of data from the other nursing units and data extraction from MIDAS focused on January 1, 2019 through June 30, 2019. Also, the checklist provided a piece of available information for patient handoff to save

time logging into the electronic database to retrieve the patient's medication administration records. The feedback from the study influenced intervention and a management plan to define, prioritize, and troubleshoot medication administration errors in the CPC unit. The project raised awareness and revamped the handoff process to become more efficient and safe for the patients.

### **Chapter Summary**

BSR promoted safety through effective communication, and the expectation was that the addition of the checklist would decrease medication administration errors. However, there was not enough credible evidence to safely conclude that the use of the BSR checklist influenced medication administration errors for the means of the two data groups, which did not differ significantly. The result was not statistically significant, but the BSR process may have improved nursing communication in care delivery to improve the BSR process, as evidenced by the decline in medication errors for the checklist implementation months. Accurate information exchange about medication administration through proper patient handoff can break down the barriers in care delivery and strengthens the nurse-patient relationship. Therefore, even though the analysis did not yield a significant influence, the nursing unit benefited clinically as previously elaborated.

## **Chapter 5: Discussion, Conclusions, and Recommendations**

The lack of knowledge and the awareness of the elements that cause errors in medication administration, such as inadequate and inaccurate information exchange during handoff, the lack of patient participation, and engagement, were identified. The purpose of this study was to use a checklist for the BSR handoff to improve medication administration errors to bring nurses and patients up to date with the patient's medication administration records in real-time. More so, to educate both the patient and the nurses about medication side effects and monitoring to increase safety in healthcare delivery outcomes.

### **Interpretation of Findings**

Even though the SPSS data analysis did not statistically show a difference between the means of the two groups of data, the results did not eliminate the possibility of clinical improvement. The monthly total number of medication errors from Table 3 indicated a decline in the number of reports entered for the checklist implementation months compared to the months without the checklist. The highest number of errors was reported in January and February when the project had not been introduced to the unit. However, after the creation of the study awareness in March, the number of reported errors dropped significantly. The data emphasized a link between staff education, support for effective handoff communication, and a decrease in medication administration errors for the study period.

Future research should focus on using the bedside handoff checklist longer than three months to determine its influence on medication administration errors. The explorations for this study could be used as a foundation for a larger-scale study to assess the influence of a bedside report checklist on medication administration errors throughout the organization. Also, the study

could be replicated to evaluate the BSR process on existing patient safety interventions such as patient falls and satisfaction rates.

### **Inferences About the Findings**

Research and practical interventions toward the improvement of patient safety are essential interventions necessary in bridging the gaps in healthcare delivery. The receipt of uncompromised nursing services through information accuracy should overcome risks and eliminate barriers to optimize patient health. The fact that the results of the study did not yield statistical significance did not eliminate clinical significance. The short time for the BSR checklist implementation of three months did not permit the appreciation of a decline in the number of reported medication administration errors.

A healthy partnership between nurses and patients should be initiated at the bedside to provide an opportunity for same level conversation and empower patients to be engaged in the handoff process. Orlando (1961) emphasized that patient involvement improves care delivery experience and satisfaction. Healthcare policies and funding for safe care delivery should focus on patient engagement and include participation in healthcare decision-making for shared responsibility to increase compliance and productive treatment outcomes. The verified patient information and preferences should be integrated into treatment plans and shared among providers to define goals of care. The focus on patient-centered healthcare delivery and effective communication techniques can potentially translate into better healthcare service delivery at an affordable cost to the patient and the health system (Howard & Becker, 2016).

### **Implications of Analysis for Leaders**

Healthcare service utilization has a significant impact on cost. Reducing hospital inpatient readmission rates was suggested as one of the potential strategies in cutting down



healthcare costs in the United States. Carey and Stefos (2016) reported that between 2003 and 2004, 20% of Medicare patients that were readmitted within 30 days of discharge cost about 17 million dollars. A checklist provides an effortless opportunity to accurately verify medication administration records for a busy acute inpatient environment. In an era of quality-based healthcare payment reimbursement models, creative quality improvement strategies, such as the use of a checklist to improve safety in medication administration, should be endorsed to safeguard costs. The healthcare reimbursement model shifts from fee-for-service to a value-based payment system calls for quality service but not quantity (Ritchie, Marbury, Verdon, Mazzolini, & Boyles, 2014).

According to Jimenez (2017), even though the integration of technology in medication administration increased patient and medication verification, the barcode system was not intended to replace human knowledge because some situations needed more than technology to administer medications safely. The researcher cited the risk of administering to the right patient the wrong medication as a result of a failure in technology and advised vigilance and mindfulness in using double patient identifiers in addition to barcodes to avoid fatal consequences associated with improper medication administration. Edwards and Axe (2015) published that the popular five rights of medication administration were not enough because the verification was not comprehensive and affected only one stage of the drug prescription process. However, the processes involved in the journey of a drug prescription required a multi-professional approach, which was more than the five rights to prevent medication errors.

The reliance on the nurses' memory to recall the patient medication administration information during the bedside handoff risked the compromise of critical patient care information and unsafe nursing care delivery. The more knowledge, through education and

practice experience for nurses, the better equipped to handle the complexities of today's healthcare issues. Nursing leadership should make it their mission to keep nurses engaged and supported as health organizations strive to achieve excellence in care delivery at a minimum cost. The study highlighted the importance of patient safety and the value of a standardized checklist during patient information exchange from one nurse to the other. The prospect of checking off the checklist and verifying the information in real-time promoted concise and precise handoff supporting ongoing patient education and awareness of administered medications. The BSR checklist empowers the oncoming nurse with confidence through knowledge to prioritize the patient's care plan and boost the patients' satisfaction and understanding of treatment medications.

### **EBP Findings and Relationship to DNP Essentials (I-VIII)**

The Institute of Medicine (IOM, 2012) cited poor information management practices as the major contributing cause to medication errors. The Center for Medicare and Medicaid collaborated with the healthcare Payment & Action Network to shift from volume-based reimbursement of the fee-for-service to value-based alternative payment models in 2016. The capitated form of payment allowed a predetermined amount of money for healthcare services regardless of the patient's condition, emphasizing quality care demand accountability in healthcare delivery. The IOM empowered the nursing profession to lead the change in health advancement through quality educational training, active partnership formation with members of the interdisciplinary team, and active participation in healthcare policy-making. The DNP essentials became relevant in the endeavor to improve quality in care delivery because of the support for knowledge translation and in bridging the gaps in nursing practice.

**Scientific underpinnings for practice (I).** Americans spend 2.6 trillion dollars on healthcare yearly (Cauchi, Hinkley, & Yondorf, 2012), and \$3.5 billion of that spending has been identified as the cost of medication errors for the inpatient health setting alone (Weant et al., 2014). The use of a bedside report checklist was considered a fresh approach to patient care because it provided the strategy to resolve most communication-related concerns for medication administration safety. The checklist supported an active, consistent nursing communication, and the study illustrated the translating and implementing of an evidenced-based intervention into practice.

**Organizational and systems leadership for quality improvement (II).** The bedside report process can potentially improve the overall treatment outcome through increased active participation from the patient and family (Whitty, Spinks, Bucknall, Tobiano, & Chaboyer, 2017). The value of the patient in the handoff process assisted in exploring patient care factors that compromised safety and inefficiencies in the transition of care processes. This study evaluated the bedside handoff process and assimilated the knowledge and use of the checklist as an intervention to enhance communication to improve nursing practice outcomes.

**Clinical scholarship and analytical methods for evidence-based practice (III).** The study emphasized the use of science-based concepts to evaluate the bedside handoff process and enhanced nursing practice in the hospital unit. It was a unique creation to address the complex issue and challenges facing patient and nurse communication in healthcare delivery. The study assured the accountability of quality care in nursing practice as the nurse and patient shared responsibility for safety. The IOM (2012) cited poor information management practices as the major contributing cause to medication errors. Shared accountability and increased patient involvement ensured the understanding of the meaningful use of patient information.

**Information systems/technology and patient care technology for the improvement and transformation of health care (IV).** Optimizing health entails translating and implementing best-known interventions such as health information technology into practice, but the IOM reported that the increased knowledge in health information technology failed to address safety in care delivery (Terhaar, Taylor, & Sylvia, 2016). At the center of this study was the use of technology to gather and analyze data to support patient-centered care. Technology assisted in the harvest of data from MIDAS as well as the SPSS tool comparison of the means of the study groups to benefit clinical understanding and decision-making.

**Health care policy for advocacy in health care (V).** The study demonstrated the professional empowerment to identify a policy within a healthcare organization that benefited from a change through quality educational training, active partnership formation with members of the interdisciplinary team, and policy advancement. The study improved the quality of the hospital's medication administration safety because it supported the translation of evidence-based knowledge into practice and committed to bridging the gap in the bedside handoff process.

**Inter-professional collaboration for improving patient and population health outcomes (VI).** This evidence-based quality improvement project demonstrated the preparedness of a Doctor of Nursing Practice (DNP) student to lead the interdisciplinary team of the hospital to change. The implementation of the medication administration checklist to the existing bedside handoff processes and monitoring improved patient safety and treatment outcomes in the healthcare setting. The accurate verification and reconciliation of the patient's medication record inevitably decreased provider prescription and pharmacy dispensary risks.

**Clinical prevention and population health for improving the nation's health (VII).** The proper care of the patient demands knowledge of relevant characteristics, such as allergies

that can potentially compromise medication administration safety. The study promoted consistency in the exchange of crucial patient information at the bedside and reduced the risk of medication administration mistakes to the patient because ineffective handoff communication could lead to incorrect administration of medications and cause severe patient injuries.

**Advanced nursing practice (VIII).** The goal of the study was to improve patient outcomes in the area of medication administration at the hospital. The decline in the number of monthly reported medication administration errors during the checklist implementation months showed quality nursing educational training dedicated to the highest leadership thinking, advanced clinical judgment, and research skills necessary to meet challenging trends in healthcare. The essential values of the DNP contributed to the evaluation of the hospital's existing handoff policy, monitoring, and guiding of this study for optimum healthcare safety in a hospital setting.

### **Recommendations**

Data analysis collected over the six months showed a relationship between medication administration errors and the BSR checklist but no significant difference between the means of the groups. Outside factors like the lack of education regarding the importance of accurate data entry and fear of victimization for reporting probably played a role in the results. However, continuous education explaining the organizational “no blame for reporting culture” and an established standardized specific medication error criteria for the unit will deepen staff understanding about what to monitor patients for and report.

Simplifying the MIDAS online reporting process and extending the responsibility to monitor patients based on the established criteria will cast a wider net to catch misses. The emphases should be placed on the need to report all medication errors without fear of

victimization backed by the organizational stance on sustaining a just culture to promote compliance. The study and data extraction was limited to the CPC unit. The lack of difference among the nurse and patient population characteristics probably caused the insignificant difference between the means of the two groups of data. Ineffective communication in healthcare delivery has been connected to sentinel events (The Joint Commission, 2012, 2017). Therefore, safety initiatives like the use of a checklist should be integrated into routines to increase patient safety through the reduction of medication administration, falls, and remove communication barriers.

### **Recommendations for Future Research**

Future research should be expanded to include all nursing units that practice the bedside handoff. The trend of the data collected for this study indicated a need for a prolonged period of the study. Also, there is a need to incorporate the same months but different year data analyses. Conducting the study over a larger population should allow data comparison and the reconciliation of results to identify unit-specific characteristics that could influence outcomes. A prolonged study period should increase the sample size for a better appreciation of statistical changes and significance. The same months' data analyses should assess special seasonal variations such as the influenza season that could impact unit workflow to determine efficiency.

### **Chapter Summary**

The use of a medication administration checklist provided a continuous evaluation of the designed BSR system in a health organization with an opportunity to refine the process. It provided an opportunity for the nurses at the patient's bedside to verify the patient's medication administration record, history, and response to medications in detail to promote safety and bridged communication gaps in real-time during handoff. The checklist prevented aspects of

memory recall of the patient's response or sensitivity to administered medications to monitor for quantifiable devastating treatment outcomes. A review of the research demonstrated that evidence-based practice implementation brought systemic change for better care delivery and patient experience. It created a learning environment to yield measurable gains in nursing care delivery. Allowing incidents that are preventable through effective nurse-patient bedside handoff is unacceptable when a proven solution such as using a checklist promises a remedy to lapses in medication administration.

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Appendix A: Bedside Report Medication Safety Checklist

**BSR Medication Administration Checklist**

**Introduction**

- Patient's Identification
- Oncoming nurse
- Outgoing nurse
- Admission's date
- Today's date

**Medication Information**

- Patient's allergies
- Lines Present for the shift
- Reactions
- Oral medications for the shift
- Any Reactions
- IV Medications for the shift
- Any Reactions
- SubQ Medications for the shift
- Any Reactions
- IM Medication for the shift
- Any Reactions
- Allergy list(s) updates?

***By signing this form, we acknowledge and agree to the above medication record.***

Patient's Signature	
Outgoing RN's Signature	
Oncoming RN's Signature	

## Appendix B: Organizational Review Board Approval Letter

December 6, 2018

Maud Nelson, RN, BSN, MHA, MSN

Dear Ms. Nelson:

On December 5, 2018 a member of the Presbyterian Healthcare Services (PHS) Institutional Review Board (IRB) reviewed the following submission:

Project Title: [1326789-1] Among nurses on a Cardiac Progressive Care Unit, how does bedside shift report compared to nontraditional report influence medication administration errors in three months.

Submission Type: New Project

Investigator: Maud Nelson, RN, BSN, MHA, MSN

Review Type: Administrative Review

Effective Date: December 5, 2018

Approval End Date:

Project Status: Not Research

Study Type/Category: Quality Improvement Project

Documents Reviewed:

- Cover letter, dated November 15, 2018
- Application for Student/Resident Study
- Proposal, dated November 13, 2018
- Data Collection Tool
- CV, Professional License, and Human Subjects Protection Training through the CITI Program for Maud Nelson
- Departmental Review and Coordination Form

The IRB has determined that this project is NOT RESEARCH. As this is a quality improvement project no additional follow up with the IRB is required.

Activities for your project may begin after the following:

- PI must have leaders of CPC unit buy-in to use the new bedside report system and in doing so acknowledge that the change is within the nursing standard of care.

One typo was found in the proposal in the section named, "Nature of Project," the P-Value should read <math>0.05</math>, instead of

- 1 -

Generated on 1/23/19

Thank you for your cooperation in providing us with the opportunity to review this project. You may contact the [REDACTED] if you have any questions. Written correspondence may be sent to the [REDACTED]

Sincerely,



[REDACTED]

## Appendix C: Cover Letter to Institutional IRB Chair

Maud M. A. Nelson

November 15th, 2018

The IRB Chair  
[REDACTED]

Dear Ms. [REDACTED]

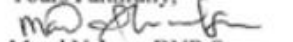
This letter is a written notification of my interest in conducting my scholarly project at the [REDACTED]. I am a doctoral nursing student at Abilene Christian University passionate about the bedside shift report and seek an opportunity to do a study to test the impact of the new handoff process on medication administration errors.

My research question is: Among nurses in a Cardiac Progressive Care Unit, how does a bedside shift report checklist compare to bedside shift report without a checklist decreases medication administration errors over three months? The population (P) defined is the inpatient Cardiac Progressive Care Unit (CPC) nurses. The intervention (I) is the bedside shift report checklist in comparison (C) with bedside shift report (BSR) without a checklist. The expected outcome (O) is a decrease in the unit's medication administration errors.

I need permission to extract the CPC unit's medication administration error data from the Midas web-based application. The data desired is three months of medication administration error immediately before implementing the BSR checklist and three months after the successful execution of the BSR checklist. The dates for the data harvest depends on the approval to start the study but I hope to start from March 2019 to October 2019. The new handoff process seems to be rooted well in place and working well. Therefore, tapping the nurses' knowledge and engaging them is key to the change process to benefit safety. At the end of the analysis, the interpretation would be submitted to the Hospital's statistician for review before completing the report. I would much appreciate any information that requires none identifying patient or nurse characteristic.

Your informed review and approval of my request are appreciated. If you have questions and concerns, please contact me at [REDACTED]. I look forward to your feedback and support.

Yours Faithfully,



Maud Nelson, DNP-S  
Abilene Christian University  
School of Nursing

## Appendix D: Project Timeline and Task List

June-July 2018	Perform literature search, analyze relevance to the topic, create chart to organize
July 2018	Perform literature search for appropriate framework to support choice POI
July 2018	Perform a literature search for the appropriate assessment tool
July 2018	Review independent <i>t</i> test analysis with relevance to research topic and methodology
June-September 2019	Write up of chapters 1-3 proposal
August-September 2018	PowerPoint presentation with the creation of speaker's notes
August 2018	Phone meeting with chair to review the proposal, obtain chair's recommendation and APA guidelines
September 2018	Video meeting with committee member over project
October-December 2018	Continuous Review and edit of chapters 1-3
January-June 2019	Project implementation
July 2019	Data Collection and analysis
July-August 2019	Write up of Chapters 4-5. Continuous editing of proposal
August-October 2019	Revision