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# The Role of Focused Educational Intervention for Nurses to Improve Discharge Readiness: A Quality Improvement Project

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# The Role of Focused Educational Intervention for Nurses to Improve Discharge Readiness: A Quality Improvement Project

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## Abstract

Delayed discharges is a healthcare issue worldwide. This project explored the role of educational interventions in enhancing the efficiency of discharge processes in healthcare settings. The primary objective was to improve discharge times, incorporate assessment procedures for discharge preparedness, apply the Discharge Readiness Assessment Questionnaire and increase nurses' knowledge on discharge process while increasing discharges by noon in an orthopedic floor. The theoretical background suggests that prolonged or delayed discharges negatively impact patient health outcomes, including increased costs, overcrowding, hospital falls, and patient mortality. Most healthcare settings overlook the importance of educating on efficient discharge processes. The methodology involved a pre- and post-assessment of clinical knowledge, safety needs, durable medical equipment's (DME) needs, and rehabilitation or nursing home discharge knowledge among 20 participants from the selected hospital. Results from a paired *t*-test show a significant increase in nurses' knowledge post-assessment, highlighting the importance of educational interventions. However, the findings are limited to the specific hospital setting due to the small sample size. The project suggests that knowledge intervention is an evidence-based best practice for improving patient flow outcomes in healthcare. Further studies in diverse settings with larger sample sizes are recommended. Healthcare facilities are advised to implement programs assessing nurses' preparedness in patient flow and to collaborate with training institutions to enhance these processes.


*Keywords:* Discharge planning, orthopedic care, nurse education, patient outcomes, discharge time, and early discharge

## Table of Contents

Abstract ..... 2
Section One: Introduction ..... 5
Purpose and PICO Question ..... 6
Problem Statement ..... 7
Problem Identification ..... 8
Background ..... 9
Scope of the Problem ..... 9
Consequences of the Problem ..... 11
Proposed Solution ..... 12
Summary ..... 13
Section Two: Literature Review ..... 13
Literature Search Strategy ..... 13
Overview of Discharge Planning ..... 14
The Prevalence of Discharge Delays ..... 16
Causes and Factors Influencing Discharge Times ..... 17
Impact of Delayed Discharge ..... 19
Patient Experience Relative to Discharge Planning ..... 20
Practices in Discharge Planning ..... 22
Literature Appraisal ..... 23
Inclusion and Exclusion Criteria ..... 24
Definition of Terms ..... 25
Summary ..... 25
Section Three: Methodology ..... 25
Primary DNP Project Goal ..... 25
SMART Objectives ..... 26
Theoretical Framework/Conceptual Underpinning ..... 26
Setting and Participants ..... 30
Procedures ..... 30
Participant Recruitment ..... 31
Data Collection ..... 31
Data Analysis ..... 31
Protection of Human Subjects ..... 32
Data Management ..... 32
Section Four: Results ..... 32
Results ..... 32
Pretest and Posttest Information ..... 32
Sample Demographic Data and Information ..... 33
Knowledge of Safety Needs ..... 35
Knowledge of DME's Needs ..... 37
Knowledge of Rehab/SNF/Nursing Home Discharge ..... 37
Limitations ..... 41
T Score ..... 41
Section Five: Discussion ..... 43
Implementation Discussion ..... 43
Influencing Factors ..... 45

Project Monitoring ..... 46
Project Maintenance ..... 47
Project Limitations ..... 48
Areas for Future Research ..... 49
Recommendations Based on the Findings ..... 50
Interpretation of the Results ..... 51
Changes in Patient Care Setting ..... 51
Transferability of the Results ..... 52
Cost Effectiveness ..... 52
Recommendations Based on Interpretation of Results ..... 52
Plans for Dissemination ..... 53
Implications for Advanced Nursing Practice ..... 53
Nursing Education ..... 54
Clinical Practice ..... 54
Nursing Administration ..... 55
Leadership ..... 55
Conclusion ..... 55
References ..... 57
Appendix ..... 62
Appendix A: Discharge Readiness Assessment Questionnaire ..... 62
Appendix B: Letter of Support ..... 68
Appendix C: Informational Letter ..... 69

## Section One: Introduction

Discharging patients from hospitals depends on a wide array of patient circumstances and needs. Discharge planning that is targeted at older patients faces multiple challenges. Elderly patients mostly have a range of needs determined by their health, and any care required to support them should be provided (Emes et al., 2019, p. 117). The length of stay is used as a measure of hospital efficiency. Reducing the stay period improves operational and allocative efficiency (Emes et al., 2019, p. 119). Several measures have been proven to shorten the length of stay, including detailed and structured discharge planning and comprehensive geriatric evaluation. Specifically, in patients with complex needs, proper communication is a major enabler of their discharge process. Neglecting patients' priorities and needs during discharge might cause more problems. A crucial challenge is that the choice to discharge is based on clinical approaches and criteria that ignore the patients' requirements (Mehraeen et al., 2022, p. 2). The hospital discharge planning and readiness can be enhanced if interventions are aimed at enhancing family inclusion and education, properly communicating between personnel and family, and offering continuous support and interdisciplinary communication.

Delayed discharge occurs when a patient still remains in a care facility even after being documented as fit to leave. The case happens because of poor decision-making and ineffective information-sharing structures (Coffey et al., 2019, p. 2). Some hospitals also do not have appropriate discharge destinations. Therefore, patients will face challenges when trying to access care, support, or accommodations away from the hospital. Delayed discharges are associated with increased exposure to iatrogenic injuries, slowed patient flow at facilities, and limited resources (Coffey et al., 2019, p. 2). To some extent, patients feel that they do not get the right information for their discharge. This problem affects their readiness for discharge. Even when

receiving home care and delivery of durable medical equipment (DME), challenges will arise because proper processes were not followed. These cases raise readmission rates. Therefore, in most cases, assessing patients' readiness for discharge allows the care team to develop a better plan (Mehraeen et al., 2022, p. 2). In addition, with the right knowledge and skills about discharge, nurses can avoid delays at hospital facilities. On another note, nurses and patients lack a similar understanding of readiness to discharge. In most cases, patients' evaluations of their readiness to discharge are subjective, while those of nurses are objective. Therefore, there is a need to ensure that everything works in tandem properly to increase patients' readiness for discharge, especially by improving the awareness of nurses regarding the whole process to avoid delays.

**Purpose and PICO Question**

The main purpose of undertaking this project was to identify whether a focused educational intervention for nurses would improve the discharge time for patients working on an orthopedic floor. In this case, the aim was to determine if this intervention could help release patients safely by noon during the day of their planned discharge. The rationale for the project was that multiple barriers had been noted on the orthopedic floor that led to discharge delays, including inadequate pain management; leaving with unstable vital signs, lacking follow-up and education for Foley catheter, JP drain, or central lines; and being unable to fill pain medications form their preferred pharmacy. Nurses had also shown gaps in knowledge on discharge readiness when discharging an orthopedic patient while missing supplies for dressing changes, missing distribution of durable medical equipment (DME) including walker and bedside commode, and missing coordination of home health care services and follow-up appointments.

Untimely discharges were associated with many issues, including hospital-acquired events such as catheter-associated urinary tract infections (CAUTI), central line-associated bloodstream infections (CLABSI), deep vein thrombosis (DVT), atelectasis, postoperative fever, rising costs of care, and generating overall distress. To develop a suitable and reliable solution, the project sought to respond to the following PICO question: "Will a focused educational intervention for early discharge planning for nurses improve discharge times of patients admitted to an orthopedic floor?"

**P** – Nurses from an orthopedic floor

**I** – Focused educational intervention for early discharge planning for nurses

**C** – Having focused educational intervention for nurses compared to previous knowledge

**O** – Improved discharge times.

**Problem Statement**

Discharge planning has emerged as a process and not a one-time occurrence. The individual and team planning discharge should advise, create the process effectively, prepare, and train all other professionals engaged in the release procedure (Hayajneh et al., 2020, p. 1314). Moreover, the discharge planners are required to plan, control, and communicate appropriately with patients, families, and associated physicians while monitoring the release process of patients. However, several aspects affect the discharge process, which have been noted on the orthopedic floor at the studied hospital. They include nurses' unawareness of the whole process, insufficient knowledge about the necessity of evaluating the patients' needs, failure to check pain control status, and ineffective assessment of medications (Hayajneh et al., 2020, p. 1314). This project was a unique undertaking considering that the issue of delayed discharge has not been addressed for a while through nurse focused education. The project also

engaged a multidisciplinary team made up of several stakeholders including agency, approval body (IRB), nurses, physicians, and departmental heads. It was also based on the requirements of evidence-based practice in healthcare. Therefore, the lack of knowledge makes nurses disconnected from the whole discharge process, which results in a delayed or untimely release of patients.

**Problem Identification**

Delayed discharge on the orthopedic floor has created many problems over time. The issue emanates from nurses' ineffectiveness early discharge process implementation due to lack of awareness of what should be performed. The complexity of discharge planning highly relies on the needs of the patients (Hayajneh et al., 2020, p. 1314). The untimely discharge process has been an acknowledged problem that prevents achieving optimal performance in acute care environments (Micallef et al., 2022, p. 103). Reducing release delays has faced multiple issues since the problem is not always simple to notice. Considering that the matter is explored through divergent national approaches, it lacks clarity. Delayed discharge is a system-oriented problem that demands coordination between divergent groups in a hospital setting. Detailed understanding should permit leaders and policymakers to make proper decisions in addressing the issue (Rojas-García et al., 2018, p. 42). A variety of problems have been identified on the orthopedic floor that contribute to discharge delays, including lack of nurses' awareness of patients' needs on discharge, inappropriate and untimely assessment of medical devices needed at home, and untimely coordination of transportation, home health care services, long-term care facilities/rehabilitation centers placement. Therefore, the problem should be resolved to improve patient satisfaction and hospital opportunity to work at its full capacity.

## Background

Untimely discharge is a critical problem affecting the healthcare system. In effect, the efficiency of hospital procedures and the discharge planning process have continued to draw the researchers' attention since they need to understand the issue to provide solutions that enhance the quality-of-care delivery (Micallef et al., 2022, p. 103). The focus should be on creating a proper and effective flow of patients through the acute care settings. The delays have become more frequent for clients enrolled for orthopedic procedures. Many studies have divulged a distinction between weekday and weekend care (Modas et al., 2019, p. 3). Nurses need to be thoroughly engaged in the whole discharge planning and execution process. They should be knowledgeable about the process to consider the details and procedures for preparation. Hence, an all-inclusive model is a need to ensure that all practitioners are involved.

## Scope of the Problem

The problem of delayed discharge is experienced in many nations and regions worldwide. The United Kingdom healthcare system is marked by delayed discharges, which have primarily led to rising mortality rates owing to the fact that there exist hospital-acquired infections and deterioration of patient conditions (Micallef et al., 2022, p. 104). In the United Kingdom, untimely discharges have varied depending on the location of the investigation, the type of participants, and the methodology applied (Micallef et al., 2022, p. 104). Delayed releases have also been prevalent in Canada, the U.S., and England, especially due to improper communication and lack of engagement of nurses and multidisciplinary teams (Bai et al., 2019, p. 1). Such details are important considering that the countries are deemed to be providing high-quality care and having updated healthcare systems. Delayed discharges have also been prevalent in the U.S., especially in the orthopedic department, due to inadequate awareness among nurses regarding

how to approach divergent matters before release. Nurses are not knowledgeable about the details needed when discharging patients, including the activities that they need to engage in and having family member at the bedside. Nurses have missed early identification of the patient's needs before discharge including medical devices needed at home, home health care arrangements for physical/occupational therapy at home, follow-up appointment with the surgeon and other specialists, identification of preferred pharmacy, transportation arrangements, stable vital signs, and pain controlled with pain medication regimen. It is imperative that nurses identify and approach these matters throughout the discharge process, starting on admission to expedite patient readiness and prevent delays on the day of discharge. Specific programs have been formulated to address the issue, including information sharing and exchange (Cadel et al., 2021, p. 4). The goal of the educational intervention was to share the information obtained while working as an admission, discharge, and transfer (ADT) nurse, assess, and address the gaps found on nursing awareness on discharge readiness. Nurses have been corrected individually when any weakness have been identified while discharging their patients, especially when there is no ADT nurse working on the orthopedic floor. However, although there has been notable progress in addressing the matter while applying a discharge checklist for the nurses to follow while discharging a patient, the implementation has failed due to nurses' gaps on education on the discharge process as a continuity from admission to the day of discharge. Also, the solutions have not been entirely effective due to nurses not being exposed to the same difficulties and lack of overall understanding of the orthopedic patient's needs at home, doctors' discharge instructions, and missing steps that can facilitate timely and safely discharges. Therefore, there is a need to resolve the issue of delayed discharges through a multifaceted approach, such as nurses' knowledge assessment and education.

**Consequences of the Problem**

Serious issues can arise in case discharge delay is not addressed. Prolonged stays at the hospital lead to adverse patient outcomes, such as operational decline, pressure ulcers, and hospital-acquired infections. Hospital congestion and reduced accessibility to constrained acute care facilities and resources may also arise (Bai et al., 2019, p. 2). Due to the delayed discharges and prolonged waits for their next facilities, patients' degree of care as well as activation mostly falls or halts altogether. There is evidence that shows that the issue has negative impacts on patient safety, the quality of care rendered, and healthcare costs (Bai et al., 2019, p. 2). In fact, apart from the big costs for hospitals and healthcare systems, the untimely discharges can lead to out-of-pocket expenses for patients and households. Indeed, such negative impacts are widely known to have compromise on quality of life. Medication errors, patient falls, increased mortalities, and mental distress can emanate from untimely releases from the hospital (Cadel et al., 2021, p. 1). The cost of healthcare delivery also rises due to delayed discharges, such as in Canada, resulting in $250,000 daily for the patients on beds at care units that they would not require (Cadel et al., 2021, p. 2). Therefore, adverse impacts exist if delayed discharges are not addressed.

**Knowledge Gaps**

Several studies have addressed delayed discharges in association with the risk factors and indicators of patients that have faced the issue. Nevertheless, minimal research has been conducted on managing programs that help resolve the problem of untimely releases (Cadel et al., 2021, p. 1). Literature has also acknowledged that individuals under the threat of experiencing untimely discharges are the elderly suffering from mental health problems across small care units (Jerath et al., 2020, p. E1440). This means that delayed discharges across

orthopedic departments have been an issue. In addition, scholars and practitioners are confused about the definition and causes of delayed discharges. Limited evidence exists regarding nurses' role in enforcing effective discharge procedures. Addressing such a gap necessitates comprehending the role of nurses by training them on the details and practices needed at the juncture of a patient's release. Moreover, there is the lack of a common understanding of the concept of delayed discharges. There is the need to analyze the baseline for this concept as indicated by Micallef et al. (2022, p. 104). It is also important to comprehend what readiness for discharge means in literature. There is still minimal evidence regarding the role of nurses in enhancing effective discharge process. It is not clear that they ought to disburse their duties in the release processes.

**Proposed Solution**

The proposed solution encompasses engaging nurses in the whole discharge process. The plan is to establish a focused educational program to improve patients' preparedness for release at the earliest time on the orthopedic floor. The solution is built on the idea that nurses have a frontline role in the discharge process as patients begin preparations (Saunders et al., 2022, p. 80). Nurses need to be directed by guidelines and protocols drafted and enforced by the physician and team. There also should be discharge medication planning (Coffey et al., 2019, p. 5). Nurses operating in orthopedic units require quality knowledge as well as skills to get ready for their patients' discharge process, especially owing to the novel surgical techniques, rapid recovery processes, and the alleviation of average length of stay at the orthopedic department (Saunders et al., 2022, p. 80). Hence, the intervention assessed knowledge utilizing the pretest and posttest Discharge Readiness Assessment questionnaire, as represented on Appendix A, and imparting knowledge and skills to nurses via a voiceover PowerPoint presentation as a focused

education to help them understand what and how to undertake the discharge process. The intervention included a voiceover PowerPoint presentation that educated nurses from the orthopedic floor of the hospital on practical situations where difficulties have been experienced by nurses that have caused delay discharges.

### Summary

There is a need to engage nurses properly in the discharge process. The failure to utilize the suggestion would only increase their disconnection from the whole process. Untimely discharges are associated with many issues, including hospital-acquired events such as catheter-associated urinary tract infections (CAUTI), central line-associated bloodstream infections (CLABSI), deep vein thrombosis (DVT), atelectasis, postoperative fever, rising costs of care, and general distress. In this regard, the proposed remedy is a focused educational intervention for nurses to enhance discharge readiness on the orthopedic floor.

## Section Two: Literature Review

Discharge time is critical in healthcare, as it contributes to patient safety, outcomes, and experience. The element also affects the quality of care and the associated costs. The topic has been investigated by different studies focusing on various angles. This section summarizes previous study findings.

### Literature Search Strategy

The study reviewed the literature on educational interventions and discharge planning of patients in orthopedic units. The healthcare databases searched include MEDLINE, CINAHL, PubMed, Google Scholar, and Cochrane Library. The search used keywords to locate relevant materials. The terms included discharge planning, orthopedic care, nurse education, patient outcomes, discharge time, and early discharge. The inclusion criteria encompassed publication

date, language, full-text articles, and the nature of the research. The review included selected quasi-experiments, meta analyses, systematic reviews, and case studies published in English within the last 5 years. However, it included publications by national and international organizations such as the Centers for Disease Control and Prevention, the American Orthopedic Association, the American Academy of Orthopedic Surgeons, and the American Nurse Association. Grey literature, including opinions, views, and expert discussions, were excluded. The search generated 28 articles. Following a detailed screening of quality based on the research design, data collection, samples, data analysis, recommendations, and conclusion, 11 full-text articles were selected. All selected articles were peer-reviewed or published by a renowned healthcare agency within or outside the United States of America.

**Overview of Discharge Planning**

Discharge planning is the process that helps patients find community resources after leaving a healthcare facility. The process, according to Hayajneh et al. (2020), entails identification, assessment, goal-setting, planning, execution, coordination, and evaluation. Traditionally, the planning focused on the external aspect, where the patient leaves a hospital (Micallef et al., 2022). However, with time, the scope of practice has expanded planning to include long-term objectives like ongoing care and short-term ones like anticipating patient requirements changes (Hayajneh et al., 2020). As a result, developing a blueprint for a patient's discharge from one level of care to the next is now its primary goal in healthcare. While some studies recommend a standardized approach to discharge planning, the strategy should be patient-centered.

Planning for discharge lays the groundwork for patients to transition from hospitals to their homes with positive adjustments. Discharge planning is termed as a procedure rather than a

one-time occurrence in the literature. The process should start when the patient is admitted and continue until they are assigned to the next level of care (Hayajneh et al., 2020). The knowledge, inspiration, and abilities required for the patient to practice self-management at home should be provided (Reig-Garcia et al., 2022). Discharge planning should equip people with the necessary community resources and assistance to care for themselves and their families.

An effective and timely patient discharge can avert many adverse effects. However, the process should be customized to address individual needs. It is important for healthcare professionals to pay attention to the patient's interpretation of the information and to listen to them during the discharge process (Krook et al., 2020). In addition, the caregiver must communicate with the patient in a manner they can comprehend, which will aid their recovery (Micallef et al., 2022). An effective patient discharge procedure ensures a cohesive care chain. The transition necessitates creating and maintaining connections between the hospital and the patient.

Many organizational, personal, and sociocultural elements influence discharge planning. As such, the planner must consider any circumstances impacting patients during this transition. First, physiologic aspects include the evaluation of patients' functional and physical capacities and their medication and nutritional condition (Micallef et al., 2022). Second, psychological issues include evaluating patients' attitudes about illnesses and learning capacity. Lastly, social issues like the length of care required, the kinds of services offered, and the family member providing the care must be evaluated by discharge planners (Hayajneh et al., 2020). Discharge planning should be holistic and humanistic, considering personal needs, demands, and preferences.

A nursing discharge plan focuses on the patient's and family's biological, psychological, and social circumstances. The strategy should concisely and systematically outline all the procedures followed throughout the hospital stay. An effective nursing discharge planning makes it easier for information to be accurately sent and care provided continuously across various care settings (Krook et al., 2020). It also helps to prevent mistakes and enhances the early identification of risky circumstances. Furthermore, if scheduled before the day of release, the nursing discharge plan may support a decrease in the duration of hospital stays and the incidence of readmissions (Reig-Garcia et al., 2022). Involving the patients and their families in the discharge process smoothens the transition and reduces the likelihood of readmission.

A discharge planner offers guidance, establishes procedures within a medical facility, trains and readies all employees, and aids discharge planning. While monitoring the discharge planning process, the discharge planner makes arrangements, arranges, and keeps in touch with patients, families, and other healthcare professionals (Hayajneh et al., 2020). The demands of the patient determine how complicated is discharge planning. Discharge planning should be used when the patient does not need outside hospital referral. Care planning, however, requires evaluation, planning, and efficient coordination among multidisciplinary teams (Reig-Garcia et al., 2022). The outcomes indicate that collaboration and partnership in a clinical setting can improve discharge planning.

**The Prevalence of Discharge Delays**

Discharge delay, referred to as alternative level of care in Canada, is prevalent in most clinical settings worldwide. Bai et al. (2019) examined ALC in three hospitals in Canada. They define ALC as a patient who stays in a hospital bed and does not need the resources and services offered in that environment. The findings showed that 255 individuals (6%) out of 4311 were

given an alternate level of care (ALC) while they were in the hospital (Bai et al., 2019). The ALC designation lasted a median of 13 days. Twenty-four percent of all admitted general internal medicine inpatient days comprised ALC days, totaling 9339 days (Bai et al., 2019). Discharge delay is also evident in the United States. Compared to 2019 levels, patients' average duration of stay in hospitals grew by almost 19% in 2021. The rise is even more noticeable for patients being sent to post-acute care providers, nearly 24% between 2019 and 2021 (Micallef et al., 2022). The trend indicates that delayed discharge increases unnecessary hospital stays.

The literature often describes the need for more patient and caregiver engagement in the decision-making process about transfers to other institutions as a primary contributor to the rising numbers. According to Everall et al. (2019), when caregivers were not included in the decision-making process, they felt obligated to speak up for the patient's requirements at the hospital and ensure they were admitted to the right institution. Additionally, patients spoke about how the discharge planning process left them feeling powerless and that they had no control over anything, including the length of the delay and the location of their release (Sounder et al., 2022). Patients believed that their declining health and loss of freedom were factors in the choice to move into a residential or nursing home (Everall et al., 2019). The lack of active participation by the patients increased the delay.

**Causes and Factors Influencing Discharge Times**

Discharge times are a multifactorial phenomenon. Bai et al. (2019) noted that disagreements between the patient and their family on discharge plans, the availability of community services, the lack of social supports, and functional reliance necessitating more help or alternative living arrangements, such as placement in a nursing home, are common causes of delayed discharge. An inefficient discharge process may also result from organizational factors,

such as a lack of time, the pressing need to attend to other patients, shift work that compels medical staff to discharge patients before accurately assessing their health problems, staff members' inadequate familiarity with the patient, and the high rate of patient turnover in emergency departments (Krook et al., 2020). While some factors are system-based, others are caused by individuals.

The literature shows that individual factors also influence discharge times. According to Cadel et al. (2021), most patients who face a delayed release are older, female, and physically or mentally handicapped. Additionally, patients with mental, neurological, or multimorbid diseases experience more discharge delays than others. Long wait lists for long-term care facilities, rehabilitation, or other post-acute care such as home care are system level causative factors, leading to delayed hospital discharges. Other facilities reflect several cultural and religious perspectives, limited or nonexistent hospital services on weekends, and organizational delays like assessment and administrative delays (Cadel et al., 2021). The internal planning process and execution determine the discharge effectiveness.

Human resources and knowledge of discharge planning are other causes of delayed times. Rehabilitation centers, acute care hospitals, long-term care institutions, and post-acute care providers are all struggling with severe clinical and non-clinical staff shortages. The shortage is causing bottlenecks that delay the prompt transfer of patients who can leave the facility (Stansbury et al., 2021). Some nurses view discharge planning as time-consuming, considering the tight schedules and increasing demands. According to Hayajneh et al. (2020), nurses felt that only licensed liaison nurses should carry out the discharge planning process. As such, the use of discharge liaison nurses impacted the nurses' opinions on discharge planning. Due to shortages, most facilities still need a discharge liaison nurse.

**Impact of Delayed Discharge**

Delayed discharges have detrimental effects on patient safety, treatment quality, costs, and system use. Extended hospital stays heighten the likelihood of unfavorable consequences such as rapid functional deterioration, confusion, pressure ulcers, and falls (Bai et al., 2019). Since delayed release contributes to hospital congestion and decreased accessibility to limited acute care services, it poses risks to patient safety. The outcome exacerbates the negative effects of bed spacing and boarding in emergency departments. Also, delayed release led to improper utilization of hospital facilities like beds for treatment that would serve needy patients (Everall et al., 2019). Unneeded and extended hospital stays add to the stress and stigmatization of patients and their families

The literature links hospital expenses and complication rates, particularly nosocomial infections, to delayed discharge. Patients' degree of attention and activity often declines as they wait for their next destination (Reig-Garcia et al., 2022). Several problems are attributed to delays in discharge from the hospital. They include poor patient and family experiences, hospital-related adverse events like medication errors or infection exposure, problems with emergency service backlogs, canceled surgeries, and delays in medically necessary care (Cadel et al., 2021). The errors and delayed services increase the chances of medical complications. Conversely, the longer the patients stay in crowded wards, the higher the probability of suffering from hospital-acquired infections. Some studies discussed patients who experienced a physical and mental decline during their postponed hospital departure. The outcome was often due to the absence of social and physical programs and services inside the hospital (Everall et al., 2019). Patients specifically expressed worry about mobility declines brought on by a decline in

activation and physical activity. In another study, they reported a decline in physical strength due to diminished activation.

Delayed discharges may also have a significant financial effect on patients, families, healthcare providers, and the healthcare system due to a mix of patient- and system-level causes. Cadel et al. (2021) explained that the daily cost of delayed discharges is between £200–565 ($C320–$C900) per patient. Furthermore, it was established that patients with discharge delays cost the National Health Service (NHS) £820 million annually. Similarly, a Canadian investigation claimed that three hospitals in Ottawa, Ontario, spend over $250,000 a day (total) on patients occupying beds at a level of care they no longer need (Cadel et al., 2021). With the current increasing trend in medical expenses, there is a need to eliminate unnecessary expenses. Training nurses to execute discharges promptly could be a viable and long-term solution.

Delayed hospital discharges may also result in out-of-pocket expenses for patients and families and significant expenditures for hospitals and healthcare systems. Increased out-of-pocket expenses may exacerbate anxiety in patients and their families and lead to negative experiences and lower quality of life (Cadel et al., 2021). Rojas-Garcia et al. (2017) find similar trends. They state that Excess bed days may result in treatment delays, cancellations of elective surgeries, and consequences for future treatments, particularly for older patients. These outcomes account for as much as 30.7% of overall expenses. (Rojas-Garcia et al., 2017). The findings reveal the need to fasten the discharge process.

**Patient Experience Relative to Discharge Planning**

Patients have varying experiences and perceptions regarding discharge planning. Saunders et al. (2022) examined their experiences with the discharge procedure, including the information they received, the time they had to get ready on the day of release, and the assistance

they received from their families. During the discharge procedure, participants reported receiving written material confirmed by nurses, physiotherapists, and pharmacists. They also claimed that having access to this information aided in their recuperation. On the day of discharge, several people thought the procedure was “rushed” since everyone arrived at once to present information, and no one was in control (Saunders et al., 2022). Given the short notice period, the patient thought they should have had more time to be ready on the release day.

Ineffective communication contributes to delayed discharge. Patients and caregivers reported feeling misinformed about the outcomes of medical examinations and diagnoses and needing more comprehension of hospital and placement procedures (Reig-Garcia et al., 2022). In a study involving 15 caregivers in Ontario, Canada, there were comparable results about doubt and bewilderment concerning hospital and transitional procedures. They found the length of the delay, the eventual location where their family member (the patient) would be put, and the placement method as the primary aspects of caregiver uncertainty (Saunders et al., 2022). Lack of clear information delayed the process since nurses had to inquire. The experience could have been more satisfying to patients.

The attitudes and behaviors of hospital personnel have a direct impact on the emotions of the patients. By selectively enforcing institutional regulations for certain patients but not others, hospital personnel have been shown to exert influence over their patients (Saunders et al., 2022). Patients noted that some regulations were applied just to them. The institution or caregiver prioritized some patients over others, forcing them to wait longer than expected before being discharged. Some cited the hospital's physical layout as unsuitable for them as they were waiting to be discharged (Coffey et al., 2019). The experiences weaken the relationship between the patient and the facility.

**Practices in Discharge Planning**

Hospitals develop their discharge plans and protocols based on various factors. Studies have examined mechanisms employed by various healthcare organizations to discharge patients. According to Stanbury et al. (2021), effective nurse-physician rounding and quality improvement (QI) techniques may reduce the number of patients discharged from hospitals too soon, enhance patient care, and increase the number of hospital beds available. Lean Six Sigma is a quality improvement technique that focuses on process improvement via waste elimination and variation reduction (Stanbury et al., 2021). Healthcare organizations have used the quality improvement (QI) technique to improve the efficacy and efficiency of clinical and administrative procedures.

Lack of standardization is a common observation in many facilities. Stanbury et al. (2021) stated that healthcare providers do not have standardized procedures or constant role modeling. However, they strive to learn about service-based requirements and develop partnerships between nurses and physicians. The assessment by Rojas-García et al. (2018) revealed that healthcare organizations suffered more delays when there was no set protocol for determining when to issue discharge orders and no unified discourse about the importance of early discharge. Lack of standardization creates disorder. Nurses have to consult physicians to understand the discharge plan and the needs of each patient.

An organized, discharge-focused rounding process reduces patient waiting time during discharge. Stanbury et al. (2021) confirmed the hypothesis through experimental research. An observation showed that every faculty physician performed rounds independently, often based on numbered room order, and without following a standard rounding methodology. Discharge orders were sent mid-afternoon because patients at the bottom of the patient list and ready for release were not rounded upon until after protracted teaching rounds. Some patients were

discharged after 5 p.m. (Stanbury et al., 2021). In the end, patients had to wait long to be discharged from the unit due to the lack of a unified protocol. However, discharges increased from 15% to 40% after implementing a framework that centers on uniformity, lucid communication, and teamwork between nurses and doctors.

More studies are needed on strategies to enhance discharge times. Coffey et al. (2019) identified education, collaboration, and rehabilitation. Concerning education, the review shows that hospital readmission rates decrease following the provision of medication and nutritional guidance together with telephone follow-ups. Nonetheless, research that included screening and education for patients with chronic obstructive pulmonary disease (COPD) did not increase readmission rates. It was linked to reduced emergency readmission rates for patients on certain drugs like diuretics and those with four or more chronic diseases (Coffey et al., 2019). It concluded that patient education is the most popular therapeutic intervention.

**Literature Appraisal**

The literature identified the causes of delayed discharges, such as inadequate discharge planning, improper organizational control, and transfer of care. Previous studies also acknowledged adverse effects of delayed discharge, including bed obstruction, emergency room congestion, increased medical costs, and risks of contracting hospital-acquired infections. Furthermore, the investigation acknowledged that general uncertainty, hospital staff influence, the physical environment, and a lack of participation in the decision-making process all contribute to ineffective discharge planning. Delay in discharge is thus a significant problem with grave consequences. However, there is minimal literature on nursing education as an intervention to improve discharge times for patients admitted to an orthopedic floor. Few studies

that investigate the impact of training focus on patients. The gap and limitations of the previous findings warranty the research to improve quality of care in orthopedic.

The literature matrix would be the most suitable solution to the issue of discharge readiness. Education as well as training of medical assistants would be critical toward enhancing quality care. In this regard, the following articles address the issue of discharge delays.

**Inclusion and Exclusion Criteria**

All the selected sources rely on inclusion and exclusion criteria. The chosen sources had to have the identified research subjects. Moreover, the detected literature materials needed to be recent peer-reviewed articles aged 5 years and below. The rationale for this criterion is to utilize up-to-date information about the phenomenon. Furthermore, the resources were required to be in English for easier comprehension, full-text articles, and the nature of the research. The excluded sources were articles older than 5 years old, not in the English language, grey literature, expert opinions, expert discussions, and not bearing the search words.

All 28 included studies in the literature review were scientific. Moreover, they were organized into logical and coherent subsections that provide relevant details related to the research topic. All the articles were also published in scholarly journals. The articles were up-to-date and provided reliable and suitable data that helped draw inferences for this study's purpose. The articles consisted of the most relevant subjects that this project required including discharge process, discharge planning, role of nurses, nurse education, and delayed discharges. They were also published within 5 years of this DNP process.

### Definition of Terms

- Discharge delays – Events that occur when a patient has been medically approved to be released from a unit or hospital but remains for non-clinical purposes (Cadel et al., 2021, p. 1).
- Discharge planning – The process of enhancing the transition of a patient from one level of care to the other (Nasiri et al., 2022, p. 1).

### Summary

The studies revealed that delayed discharge is a critical issue influencing different healthcare systems globally. Proper discharge planning is appropriate to ensure no untimely releases of patients. Both institutional and community challenges have been linked with untimely discharges. Adverse impacts, including increased costs and emotional issues, emanate from delayed discharges. Therefore, a comprehensive study should be conducted on how focused education for nurses can improve discharge readiness.

## Section Three: Methodology

The methodology is vital in conducting quality improvement. The rationale for the step is that quality improvement emphasizes utilizing selected measures to comprehend the variation within a system and then alleviate the unwarranted variation. Through methodology, such can be improved using different interactive measures for change. The following section gives the primary goal of the DNP project, SMART objectives, theoretical framework, settings and participants, procedures, results, implications, and a timeline for executing the project.

### Primary DNP Project Goal

This project aimed to utilize focused educational intervention for nurses to improve the discharge readiness of patients on the orthopedic floor. The focus was to identify if the

intervention would assist the patients in being released securely by noon on the day of planned release.

**SMART Objectives**

The project sought to accomplish the following SMART objectives:

- To use Discharge Readiness Assessment Questionnaire (pretest and posttest) and voiceover PowerPoint presentation to assist registered nurses from an orthopedic floor to engage in focused education to help them improve discharge preparedness by December 2023
- To establish assessment procedures, including pre- and posttest questionnaire approaches and to evaluate the progress on discharge preparedness of registered nurses on the orthopedic floor by December 2023
- To improve the knowledge and skills of registered nurses on the orthopedic floor to at least 50% on discharge planning and preparedness by December 2023
- To improve discharge times by noon to at least 30% by December 2023

**Theoretical Framework/Conceptual Underpinning**

In the last three decades, many initiatives have been developed to improve discharge planning process in healthcare. However, they have not succeeded in reducing the high rates of adverse events and medical errors because of delayed discharge. Adopting the normalization process theory can be instrumental in supporting evaluation of processes and interventions in orthopedic wards to solve the problem. Normalization process theory refers to an implementation theory that focuses on both individual and group action instead of their beliefs and intentions (Huddlestone et al., 2020). This view implies that it channels all organizational energies to aspects of collective and individual behavior. As mentioned above, the problem of delayed

discharge stems from deficits in collaboration and communication. Other barriers that prevent timely discharge planning include high workloads, lack of properly trained staff, variable schedules in the ward, ineffective communication for proper information exchange, unclear routines, unstructured information, and unclear roles (Nordmark et al., 2016). Also, an upsurge in the elderly population and number of individuals with chronic illnesses elevates pressure on the healthcare system (Nordmark et al., 2016). These social and demographic changes require good planning, timely change of patient-related information, and coordination during discharge planning to curtail any chances of failure. Because the time available for discharge preparation has been greatly reduced in hospitals, it is essential to use the normalization process theory to implement a wide range of initiatives that can solve the problem. Various initiatives touted to improve DP include personnel training, role specification for those involved in discharge planning such as employing a discharge planner, creating specific discharge models, and screening tools, reconciling medication, and developing a standardized discharge letter (Nordmark et al., 2016). The use of theoretical frameworks such as normalization process theory can be instrumental in supporting the evaluation of complex interventions such as the solutions outlined above to reduce mortality rate, unplanned readmissions, costs, and delayed discharges which constitute intervening variables in this project.

Normalization process theory is well summarized as a middle-range sociological theory that conceptualizes, embeds, implements, and integrates innovation within healthcare settings. It offers a set of sociological tools for understanding and delineating the social process via which modified or new ways of enacting, thinking, and organizing work are fully operationalized in healthcare intervention (May et al., 2018). It emphasizes the interactions between contexts (technical and organizational systems), objects (procedures and practices in an organization), and

actors (people and groups such as employees) while also enabling understanding and examination of translation gap between practice, policy, and evidence (Huddlestone et al., 2018). In particular, the work of stakeholders need support in embedding and normalizing innovation within the organization's routine practice. Therefore, in this case, normalization process theory can assist in uncovering and evaluating the factors behind the discharge delay and barriers to effective discharge planning or enablers for routine inclusion of complex healthcare innovations such as ICT into discharge process.

On the same note, the normalization process theory can account for the way material practices can be embedded in discharge planning in orthopedic floors by banking on four generative mechanisms, namely, cognitive participation, coherence, reflexive monitoring, and collective action by diverting focus to the actual work that nurses and medical personnel perform on orthopedic wards. Normalization Process can guide on the way work needs continuous investments in plans of action that progress in time and space such as the protocol for moving the patient from bed in wards to waiting area and exit during discharge as well as the maximum amount of time stipulated for discharge education. Importantly, normalization process theory would foster coherence or the sense-making of collective and individual tasks during discharge (Nordmark et al., 2016). The most significant requirement to solve the menace related to discharge planning as already mentioned is fathoming that a practice is unique from others while seeking the aims and expected benefits of proper discharge planning. For instance, it is integral that in discharge planning, nurses and doctors understand the cost of delayed discharge on positive outcomes, patient satisfaction, and professional performance regarding the likelihood of involvement in medical error and mistake. Normalization process theory requires cognitive participation defined by the relational work of employees' performance for building and

sustenance of the community around an intervention (May et al., 2018). Hence, it is closely linked to the conventions and norms within the social matrices in which actors work, such as the orthopedic ward in this study. In addition, normalization process theory offers reflexive monitoring to enhance work appraisal that assesses and understands the way new practices affect individuals within the staff and all other employees around the practice area (Nordmark et al., 2016). Reflexive monitoring as a tool in normalization process theory is necessary in understanding the way implementation of new discharge planning activities such as using electronic health records for collaboration can affect the ability of medical personnel involved in the process to collaborate, reduce waiting times, or excel in their unique roles. Therefore, in this project, normalization process theory functioned as a self-organizing mechanism to remove complexities within an adaptive social system (orthopedic wards).

Lastly, normalization process theory is valuable for this project towards comprehending the context into which an intervention (proper discharge planning) can promote evidence-based care for patients in orthopedic ward. For instance, the pressures of time, limited number of personnel, and the complexity of the collaboration process are key factors that underpin understanding the problem addressed in the project. According to Nordmark et al. (2016), adoption of normalization process theory framework in exploring the integration and embedding of discharge planning for a decade revealed that the staff had a view of the act processes (coherence) and the evaluation process needed (reflexive monitoring). Therefore, normalization process theory is the most relevant model to understanding and mapping scope of the intervention to address the problem.

**Setting and Participants**

The project was conducted on the orthopedic floor from a hospital located in South Florida. The main focus was on nurses on the floor to impart knowledge and skills about discharge. The sample size was 20 nurses working on the orthopedic floor of this selected hospital. The sample size was sufficient because it represents the majority of nurses working in the department. Training consultants were also involved alongside the Board of Trustees, the CEO, presidents, vice presidents, Director of Nursing, and floor manager that were given copies of the project timelines and procedures.

**Procedures**

The project entailed a pre/post-intervention design, where any changes were identified before and after implementing the program. The method was appropriate since it helped determine trends in the outcome rate that was before the intervention (Axelrod & Hayward, 2007, p. 68). Moreover, in this design form, the outcome rate was compared before and after the intervention. The implementation process included identifying gaps on discharge readiness among different levels of nursing experience. This process was followed by educating nurses from the orthopedic floor via a voiceover PowerPoint education. Nurses first completed a pretest Discharge Readiness Assessment questionnaire that consisted in general and specific questions based on previously identified nursing difficulties that had contributed to delay discharges. Then, nurses were educated on the answers to the questions and weakness identified on the pretest survey. Finally, nurses completed the posttest questionnaire to evaluate the educational intervention.

Data comparison of discharges by noon were made taking as reference yearly data collected by the facility and Qualtrics' report scores from pre- and post-intervention evaluations. Any improvements indicated the positivity of the intervention.

**Participant Recruitment**

Recruitment took place at hospital. Potential participants were reached via e-mail. The director of nursing provided e-mails of all full-time and part-time nurses as well as all per diem, float, and contract nurses that were likely to care for patients in the orthopedic floor. The participants were invited through their emails to participate voluntarily in the project. Online and remote recruitment, educational intervention, pre- and post-testing, and data analysis were done electronically. This quality improvement project was approved to be conducted at this particular hospital, as shown in the Letter of Support included in Appendix 2.

**Data Collection**

A survey in Qualtrics was used to collect the data. Data were inserted into a survey document in the form of a spreadsheet to showcase the changes in discharges over different periods. The survey consisted on practical questions from different gaps in knowledge in nurses about the discharge process. This data was recorded before and after implementing the intervention to determine the differences.

**Data Analysis**

Data analysis was done quantitatively by determining the means and standard deviation of the data. Statistical data was analyzed in this regard. The means helped provide the yardstick for all the observations that would be made regarding the change in the number of discharges at different intervals. This gave an overview of the improvements made over time when the focused education for nurses was implemented throughout the study.

### Protection of Human Subjects

The participants were sent to their email an informational letter, included in Appendix C, inviting them to participate in the project. Participation was voluntary; there were no foreseeable risks or benefits for participating in the study. There was no cost or payment to participate. Participant were able to access a link to Qualtrics that directed them to the anonymous pretest and posttest. They were also assured of the freedom to withdraw during the study process. The researcher also sought IRB approval from the university before implementation. It was only upon obtaining the approval that the study progressed. The de-identification process involved permanent deletion of all the raw collected data upon completion of this research project.

### Data Management

The collected data was stored in a database on the researcher's computer. In addition, it was protected with a password that only the researcher or any other party upon approval could access. The data was disposed of at the end of the project through permanent deletion. The researcher could only access all the private information through a password.

## Section Four: Results

### Results

The survey on nurses' knowledge of the discharge process was conducted at the local hospital. The study aimed to answer the PICO question, "Will a focused educational intervention for early discharge planning for nurses improve discharge times of patients admitted to an orthopedic floor?" The summary of the results is provided below.

### Pretest and Posttest Information

The two have a mean of 1.5, standard deviation of 0.5, and variance of 0.25. It means the concentration of data around the mean and with a limited variability. Also, the smaller SD and

variance suggest the closeness of values to the mean in the database, hence tightly clustered set of values. The implication is that the focused educational intervention has moderate improvement on discharge time.

**Sample Demographic Data and Information**

The study employed descriptive statistics to assess the demographic details of the participants. The initial response attracted 40 nurses. Twenty nurses had yet to take the knowledge assessment tool or participate in the education or training session, and 20 had taken the knowledge assessment tool before and participated in training activities. Of those who volunteered to respond to the questionnaires, 17 were females, representing 85% of the sample, and three were males, representing 15% of the sample. The distribution across different age groups was varied, as summarized in the table below.

**Table 1**

*Demographic Data*

| **Age Category** | **Number** | **Percentage** |
|---|---|---|
| 20-30 | 8 | 40 |
| 30-40 | 11 | 55 |
| 40-50 | 1 | 5 |
| Over 50 | 0 | 0 |
| **Total** | **20** | **100** |

Nine participants had less than 3 years of professional experience in nursing. They represented 45% of the study group. Five respondents had an experience of 3 to 6 years, while

six had experience of 6 to 10 years. Hispanics dominated the study because of the geographical location of the medical center. Out of 20 participants, five individuals identified as whites, three as African Americans, 11 as Hispanics, and one as Asian.

**Clinical Knowledge**

The survey gathered the views of nurses on their general knowledge of discharge. Gonçalves-Bradley et al. (2022) hold that patient discharge is a process that should start when the patient is admitted. A total of 97.50% agreed that admission was the starting point for discharge planning. However, the remaining 2.50% disagreed.

The second item focused on patient follow-up. Abbasinia et al. (2020) asserted that nurses should advocate for patient well-being. The respondents were required to select the step(s) they would take when a patient was discharged with peripherally inserted central catheter (PICC) lines, drains, Foley catheters, or feeding tubes. The selection options were “to verify with the doctor,” “HHC order or care confirmation,” and “proper home follow-ups.” Other options included “proper follow-up appointment with care providers,” “education added to the AVS,” “education to a patient and/or family members,” “patients’ supplies,” “none of the above,” or “all of the above.” The vast majority (36 participants) selected “all of the above,” as indicated below.

The study created a scenario to ask nurses whether or not they would discharge the patient without requesting an active discharge order from the dictionary. In this case, the patient had requested discharge the previous day. However, the request was declined because the patient was not responding favorably to pain management medication. The facility initiated several interventions, including physical therapies. The situation improved after 24 hours, and the physician decided that the patient was stable for discharge. Four respondents, representing 10.00%, reported that they would not request an active order, while 90% felt it would be

necessary for the physician to issue a discharge order before they could proceed to release the patient. Gonçalves-Bradley et al. (2019) insisted on a collaborative discharge initiative.

Regarding conditional discharge, nurses should ensure that all the demands are met before releasing a patient (Nsiah et al., 2019). Per the survey, 38 respondents (95%) held that conditional discharge required the caregiving team to resolve underlying issues, such as confirming HHC, removing HV or JP drain, PT/OT recommendations, consultation with the specialist, delivering DME to bedside, and arranging transportation. Two participants (5%) held a contrary opinion. The percentage of those supporting "wait for PT/OT at home approval before the patient is discharged" was 40%. On the contrary, 60% felt it was not a must. However, nursing education helped streamline the process at the facility.

Discharge planning may involve helping the patient get home safely. As part of an advocacy role, nurses should intervene to ensure patient safety and comfort (Nsiah et al., 2019). Thirty-five respondents (87.5%) would instruct the patient that they had to have somebody to pick them up on the discharge day, or the hospital would facilitate their transition if they had someone at home to ensure assistance. Five participants (12.5%) thought this information was not mandatory. Six respondents (15%) noted that the patient had to wait for the pharmacy to deliver medications at the bedside before the discharge. Thirty-four respondents (85%) thought otherwise. According to them, the patient had to wait for medication delivery from the pharmacy. Waiting for prescribed drugs may foster delays. The caregivers should plan early on how the patient will pick up the medication.

**Knowledge of Safety Needs**

All the participants noted that they would check vital signs, including body temperature, blood pressure, and respiratory rates before discharge. A second item examined the nurse's

response in a challenging scenario where the physician had cleared a patient for discharge. Upon review, the nurses noticed a blood pressure of 169/72, a respiration rate of 18, a heart rate of 88, and a 98% oxygen level. Thirty-five participants (89.74%) said they would recheck their blood pressure and notify the doctor of any abnormalities. Three participants (7.69%) would discharge the patient after printing the discharge instructions package. One of the respondents (2.56%) suggested that they would notify the doctor. However, none of the participants suggested administering blood pressure medication or applying a nasal cannula with oxygen at 2 L/min. Standardizing the procedures through nurse education can help avoid such variations.

When working on patient discharge documents and noticing the patient had O2 Sat 92-95% on the nasal cannula for the past two days, 21.3% of the participants would examine a patient's home oxygen needs. Also, 15.98% would verify HHC and oxygen delivery. Another 0.59% would discharge the patient without any interventions, and 14.79% would review notes on respiration. Additionally, 14.2% would call the discharge planner to follow up on the status of oxygen delivery to the bedside, while 18.34% would notify the doctor. A further 14.79% would notify the social worker that the patient needs oxygen after discharge.

The results on knowledge about supplies given to patients before discharge indicate the following: gauze and tape (28.21%), bedside commode (19.23%), a specific size of brace or Miami J collar (1.28%), and a walker (41.03%). A total of 10.26% would recommend all the items mentioned. Regarding the patient with an orthopedic spine, 5.26% would give gauze, tape, and a brace, and 2.63% would give a walker. Also, 86.84% would give gauze, tape, a brace, and a walker.

**Knowledge of DME's Needs**

Concerning the best person to contact to follow up on HHC and DME arrangements and confirmation, 23.08% of the participants recommended a social worker, 74.36% chose a discharge planner, and 2.56% chose a nurse practitioner. None of the participants selected a charge nurse or an attending surgeon. The results indicate that the ideal person's contact to follow up on rehab/SNF placement and transportation arrangements as a social worker and a discharge planner at 92.31% and 7.69% respectively. A nurse practitioner, a charge nurse, or a surgeon were not selected by the participants.

The standards of care require practitioners to consider all factors in the medication process (Abbasinia et al., 2020). Therefore, patient history may influence healthcare decisions. A total of 92.31% of the participants would assess whether the patient received any walker within the last 5 years due to insurance coverage before giving a walker to a patient. The remaining 7.69% asserted that it was not mandatory to examine past encounters. Additionally, 97.44% believed that patients discharged home with IV antibiotics required confirmation of the HHC agency, medication delivery confirmation, and the last dose of IV antibiotic administered in the hospital based on team recommendations. Only one respondent held a contrary idea.

**Knowledge of Rehab/SNF/Nursing Home Discharge**

The participants had a significant understanding of guiding patients transitioning from a hospital to another facility. A total of 89.19% of the respondents noted that they would inform the patient of services and assistance available in a rehabilitation center. The guidance would help the hospital avoid additional demands, for example, a walker. However, 8.11% would call the doctor and request a walker, while 2.7% would order one for the patient.

Respondents had varying views on what should be included in the discharge package. According to the participants, a typical discharge package for rehabilitation must include a face sheet (26.36%), a patient's bracelet (0.78%), a patient's identification copy (1.55%), a discharge instruction folder (27.13%), a MAR report of the 24 hours (16.28%), a patient transfer form signed by a managing director and a primary nurse (6.98%), and a paper prescription of all controlled medications (20.93%). The score on SNF discharge varied. A total of 20.48% of the participants asserted it had to include a face sheet, 1.81% included a copy of the patient's ID, 19.88% stated a discharge instruction folder, 19.28% chose a MAR report of the 24 hours, 18.07% selected a patient transfer form signed by the managing director and the primary nurse, and 20.48% chose a paper prescription of all controlled medications, including Percocet, Oxycodone, Lyrica, and Temazepam. Lastly, 97.3% of the participants stated they would notify the social worker of the patient's oxygen needs before making transportation arrangements. The decision indicates an increased understanding of the discharge planning process.

**Table 2**

*Knowledge of Rehab/SNF/Nursing Home Discharge*

*Pre-Assessment*

| | **Min** | **Max** | **Mean** | **Standard Deviation** | **Variance** | **Responses** | **Sum** |
|---|---|---|---|---|---|---|---|
| Clinical Knowledge | 3.00 | 10.00 | 7.95 | 2.27 | 5.15 | 20 | 159 |
| Knowledge of Safety Needs | 0.00 | 9.00 | 6.05 | 2.33 | 5.45 | 20 | 121 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Knowledge of DME's Needs | 0.00 | 10.00 | 7.75 | 2.91 | 8.49 | 20 | 155 |
| Knowledge on Rehab/ SNF/ Nursing Home Discharge | 0.00 | 10.00 | 6.90 | 3.75 | 14.09 | 20 | 138 |
| Overall Score | 8.00 | 38.00 | 28.65 | 9.12 | 83.13 | 20 | 573 |

**Table 3**

*Post Assessment*

| | **Min** | **Max** | **Mean** | **Standard Deviation** | **Variance** | **Responses** | **Sum** |
|---|---|---|---|---|---|---|---|
| **Clinical Knowledge** | 0.00 | 10.00 | 9.10 | 2.22 | 4.94 | 20 | 191 |
| **Knowledge of Safety Needs** | 0.00 | 10.00 | 8.86 | 2.49 | 6.22 | 20 | 186 |
| **Knowledge of DME's Needs** | 0.00 | 10.00 | 8.95 | 2.50 | 6.24 | 20 | 188 |
| **Knowledge on Rehab/ SNF/ Nursing** | 0.00 | 10.00 | 9.05 | 2.08 | 4.33 | 20 | 190 |
| **Overall Score** | 0.00 | 40.00 | 35.95 | 8.39 | 70.33 | 20 | 755 |

The facility reported a 6.62% of improvement on number of discharges by 12 p.m., according to data collected between January 2022 and December 2022 compared to January 2023 and December 2023 periods.

**Table 4**

*Yearly Discharge Improvement*

| Period | Total of Discharges | % Discharges Before 12pm |
|---|---|---|
| January 2022 to December 2022 | 83 | 16.60 % |
| January 2023 to December 2023 | 134 | 23.22% |

## Limitations

The limitations stem from demographic data, geographical location, and sample size. The dominance of female nurses and Hispanics in the study limits generalization of the results. A count of 40 represents a low rate of response. The size may fail to represent the entire population at the medical center. Being a single-facility survey is a major weakness. The outcome may not apply to other facilities since different strategies may be applied in discharging patients. The data collected about discharges by 12 p.m. is collected annually, so there is no accurate data of number of discharges improvement pre- and post-intervention.

## T Score

Kolmogorov Simonov test was conducted to examine if the pre- and post-intervention scores followed a normal distribution. The results of the analysis revealed that the pre-intervention Kolmogorov value was (pre $p = 0.891$). The post-intervention Kolmogorov value was (post $p = 0.821$). From the Kolmogorov-Smirnov Table of critical values, the critical value at a 5% level of significance and 20 degrees of freedom is 0.19. Comparing the calculated values with the critical value, we establish that the null hypothesis is rejected for both pre-intervention and post-intervention data as both values are greater than the critical value. The conclusion is that both data follow normal distribution. Given that both the pre- and post-intervention data

were found to follow a normal distribution, the most important assumption of *t*-test was fulfilled. Therefore, a paired sample *t*-test was performed to examine if a significant difference in the post-intervention overall scores and the pre-intervention score exists. An analysis in Qualtrics revealed that post-intervention scores ($M$ = 35.95, $SD$ = 8.39) tends to have significantly much higher values for overall score than pre-intervention scores ($M$ = 28.65, $SD$ = 9.12), ($t$ =-4.16983, $p$ = **0.000377**). The results are contained in the table below.

**Table 5**

| Hide statistical test results | |
|---|---|
| T-Test | |
| T | -4.16983 |
| P-Value | **0.000377** |
| Effect Size (Cohen's d) | 1.36 |
| Difference Between Averages (POST-INTERVENTION SCORES - PRE-INTERVENTION SCORES) | 7.30 |
| Confidence Interval of Difference | 4.61 to 13.6 |

**Table 6**

| Hide *ranked* T-Test results | |
|---|---|
| Ranked T-Test | |
| T | **-4.17** |
| P-Value | < **0.00001** |
| Effect Size (Cohen's d) | 1.67 |

In both the ranked and unranked t-tests, the t-value is significant; hence, the null hypothesis that there is no difference in the pre-intervention and post intervention scores is rejected. Having rejected the null hypothesis, the alternative that the two scores differ is assumed to be true. The conclusion is that the post-intervention scores tended to have significantly much higher values for overall score than pre-intervention scores.

## Section Five: Discussion

### Implementation Discussion

The majority of the participants, composed of nursing staff of the hospital, were excited about the exercise, expressing enthusiasm to learn about strategic ways of applying evidence-based interventions in managing patient flow process. The evidence clearly indicates that there is a knowledge gap existing among nursing practitioners.

In most cases, medical practitioners disregard the need for identifying needs of the patients. That is, the practitioners rarely embark on nurse-patient interaction or engagement mechanisms to assess reasons that lead to delayed discharge processes. For instance, patients may need complicated home-based coping mechanisms such as wheelchairs or provision of oxygen for effective treatment process. In such a case, a significant amount of time may be taken to allocate the requirements ordered by the doctor in charge of discharging process, while also assessing the patients' personal needs. Equipping nursing practitioners with clinical practice knowledge is therefore essential in preparing them to effectively handle discharge processes. Strategically, they can initiate the discharge assessment processes before the official discharge is assigned, through collaboration and coordination with the physician and the patient. The strategy also essentially prepares the patients mentally, as they are likely to collaborate in providing all the necessities for the discharge process.

Further, collaboration is a fundamental requirement for enhanced patient flow process. That is, nurses are mandated to collaborate with doctors in charge of the orthopedic treatment process to identify all the discharge requirements, while also assessing patients' personal needs earlier to avoid cases of delays. In some cases, patients may be unwilling to comply with medical procedures recommended with the practitioners in charge of orthopedic treatment process such as conducting regular exercises after the completion of the surgery process. As a result, the discharge process may be delayed over accidental cases that suddenly arise. That is, patients may suddenly develop complications on their discharge date, which necessitates further readmission. Thus, equipping nurses with adequate knowledge on best practices for following up, and guiding patients to reduce the discharge time.

Additionally, nurses should emphasize educating patients on the essence of observing recommended discharge requirements earlier, while advocating the significance of home-based treatment to assist patients in maintaining a positive health outcome. The aim of the project was to increase the number of discharge process conducted by noon by 30%, which can be realized with collaboration and coordination. Nevertheless, some cases of delays are associated with patients' inability to clear bills. In such cases, it is essential that medical practitioners initiate the follow-up process while the patient is still under treatment. Particularly, orthopedic floor treatment processes incurs a lot of costs that can potentially cause delays during the clearing processes. As a result, the patient may be subjected to hospital detention at the healthcare facility even after the final discharge is relayed. Yates et al. (2017) confirmed that a significant number of patients are "detained" in the hospitals over their inability to meet billing payments. the orthopedic department is one of the departments that incurs high hospital bills.

**Influencing Factors**

The success of the project was attributed by the unwavering support from the faculty of nursing and the healthcare administrative personnel at the hospital. The learning institution is equipped with adequate resources useful in facilitating the quality of the research. Some of the resources include a well-equipped library with informative study materials on evidence-based practices of discharge process. Yet, the faculty is supportive in providing scholarly guidance and tips for improving the outcome of the project. That is, the project adhered to the minimum requirements of dissertation guidelines, which involve conducting in-depth research through literature reviewing of similarly related studies and the incorporation of statistical analysis for enhanced validation of project outcomes. Most importantly, ethical issues were incorporated in the research by deliberately incorporating cultural considerations in the identification of the

participants in the study. The nursing participants were randomly selected without considering their racial or ethnic backgrounds. Besides, the questions were tactically set without invoking clues that may cause harm to the participants based on their cultural orientation.

**Project Monitoring**

Project monitoring is a fundamental research practice strategy for ensuring that the objectives are met as per the scope guidelines. The main elements or criteria used in the monitoring process include scope, resources, money and time. Particularly, adherence to a timeline was achieved by consistently following up on the IRB approval, pretesting, post-testing and assessment of PowerPoint readiness. Within November, the final defense of the project was realized effectively as per the schedule timeline of the project. Yet, cost dimensions were well monitored by dividing the tasks into achievable milestones, with their respective cost allocations. Conventional project management strategies were applied in monitoring the cost and time, using Microsoft Excel tool for efficient comparison, while ensuring that scope of the project was maintained.

Most importantly, third-party reviewers were consulted in ensuring the statistical guidelines or principles were met. For instance, the application of *t*-score testing is essential in assessing the significant difference between the nurses' level of knowledge before and after the evaluation period. The questions were also carefully designed to cover the main aspects of the project including nurses' clinical knowledge, knowledge of safety practices, and knowledge regarding durable medical equipment (DME) and nursing home care practices. An evaluator was involved to confirm the viability of the questions used in the forms. The questions were mainly assessed by a nursing educator, knowledgeable in nursing interventions and best practice guidelines for improving the patients' health outcomes. The questionnaires design was time

intensive as it involved drafting, confirmation with the assistance of an educator. Yet, the integrity of the assessment was maintained by analyzing the data without changing or adjusting the content of the results. Bias was avoided by ensuring that quality data was collected as part of research best practices. Generally, the project involved implementation of quality research monitoring practices ensuring that the study scope did not deviate from the initial objectives, while also incorporating third-party evaluators to examine the viability of the questionnaires used in the research.

**Project Maintenance**

Project maintenance is equally significant in the implementation process. That is, effecting change takes significant time. Even though the current staff are equipped with knowledge regarding discharge and patient flow process, it is important to instill proper mechanisms for maintaining the success of the implementation process. In that regard, key stakeholders must be involved in the decision-making process by introducing interventions that will facilitate incessant monitoring of the process. Particularly, the healthcare administrator must incorporate staff training as a core program for enhanced patient management care (Mlambo et al, 2021). Moreover, collaboration with the education faculty is required in fostering the knowledge to the upcoming nurses. That is, learning institutions must instill the knowledge of discharge flow processes to students graduating with nursing practice. Learners should be prepared at an early stage on matters regarding best practice guidelines of discharge processes. New recruits must also be oriented and vigorously trained on patient flow processes. Hence, human resource departments should create programs that extensively cover collaboration between medical practitioners, patients, and nurses.

Moreover, assigning a nurse peer to take charge of the discharge process is essential in monitoring and supervising the patient flow. Supervision is a core management factor in healthcare procedures; thus, the healthcare administration should consider onboarding a role that facilitates efficient discharge, while also assigning peer nurses to manage processes within confined units at the healthcare sector. Yet, it is needed to recognize the efforts made by nursing practitioners through introduction of points that are awarded for every successful implementation of the discharge process. The points are accumulated and awarded at specific periods, as a strategy of encouraging the team to emphatically comply with discharge flow best practices procedures. The strategy effectively motivates the staff to implement the project outcomes. Another strategy entails applying the communication matrix to continuously convey the project implications to the nursing practitioners through emails, WhatsApp, and regular videoconferencing.

**Project Limitations**

Although the project was successfully implemented based on empirical research practice principles, there are issues that critically limit the outcomes validity. The main limitation noted in the research is a small sample size that does not provide sufficient evidence to justify the course of the project outcomes implications. Although a clear relationship or pattern is realized in the research, there is no sufficient evidence to justify implementation of the project outcomes to healthcare facilities due to the small sample size. Efficient statistical tests are better conducted using large datasets; considering the empirical research is a reflection of the entire nursing population in the U.S. There is the possibility of reporting type II errors in the statistical hypothesis. Out of the total 5.2 million registered nurses in the U.S., the project only focuses on 20. Hence, it is an underrepresentation of the entire population.

Another limitation is the location where participants were identified for the project. For instance, the nurse participants in the study are all hospital staff. Hence, the research implications are only limited to the particular hospital. The results need to improve by incorporating nursing staff from other facilities that are randomly distributed across the country for enhanced research outcome. Moreover, there is possibility of bias reporting by the participants in fear of the implications of the research outcomes. That is, the participants may develop fear of unknown, and hence, they would only provide responses that are positive. Another limitation is incorrect responses that are based on meeting deadlines rather than answering the questions as required. There is the possibility that respondents are likely to fill in the questionnaire to meet the deadline.

**Areas for Future Research**

Areas for future research include effective strategies for examining patients' capacity to meet healthcare discharge requirements such as clearing bill or developing a framework that efficiently facilitates payment processing. Most cases of hospital detention are as a result of patients' inability to meet payment requirements. Additionally, there is need to assess how effective collaboration can be achieved between the patients' family and the healthcare institutions in facilitating efficient patient flow. That is, the treatment process is not entirely based on relationship between nurses, doctors, and patients, but family as a unit plays a significant role in enhancing the wellness of patients. In that case, coordination of strategic measures should be instilled to involve the family unit in the discharge process without interrupting the operational activities of the healthcare institution.

Yet, there is a need for developing a standard framework or policies that should be followed to improve the process of discharge. Currently, there is no standardized protocol, which

can be utilized in all healthcare institutions. That is, healthcare facilities create their respective documentations or guidelines. As a result, there are possible cases of interruptions or confusion resulting from misplaced priorities in the discharge process. Wasted time is likely to be experienced when there is no strategic standard procedure to be utilized when complying with the process flow.

Moreover, there is a need to assess how the discharge process can be handled in periods of pandemic. The case of COVID-19 provides a coherent guideline on the need for incorporating emergency preparedness in design. Most healthcare facilities were not prepared in handling the surging number of admissions. Yet, there was no clear procedures to be applied in meeting safety practices. Hence, there is a need for incorporating further research on emergency-based practices and how it can be applied in the discharge process in cases where there is an influx of patients. For instance, implementing a liberal policy that embraces fast discharging of patients while also considering the late review clinic for enhanced health outcomes. Generally, future research should embark on addressing the challenges noted during emergency period.

**Recommendations Based on the Findings**

The recommendations call for incorporating educational intervention to instill knowledge among nursing practitioners on safety practices, DME, and home-based practices. Healthcare facilities must onboard educational programs to train new recruits on discharge flow processes. Yet, collaboration is required for enhanced engagement between nurses and doctors in meeting discharge requirements, while also incorporating patients' needs assessment as an effective strategy for compliance (Vatn & Dahl, 2022). The healthcare administration should also define a role that is dedicated to meeting efficient discharge flow process.

## Interpretation of the Results

The results indicate that most nurses lack the necessary knowledge required in meeting discharge processes. Hence, there is need for implementing a change process tailored towards continually improving nursing knowledge on patient flow. The discharge time will be reduced if nurses are educated on DME, safety, and home care interventions. A collaborative framework needs to be instilled to facilitate coordination between leadership, administration, and nursing practitioners to identify and solve challenges encountered in the course of admission.

Yet, the rate of patient complications during the discharge process can be significantly reduced. Some of the complications likely to arise include falls, hospital-acquired infections, adverse drugs events due to incompliance to medical dosage prescription requirements, and complications that arise as a result of poor procedural patient flow process.

## Changes in Patient Care Setting

The healthcare administration must embrace a continual assessment of nurses' preparedness and knowledge. Lewin's theory of change can be applied when introducing the program. Upon implementation of the process, there is a need for monitoring the procedures. Yet, a third-party educator can be outsourced to assist in educating the nurses on scholarly best practice guidelines for improved health outcome. The project outcome also calls for the need for introducing change in leadership or administrative functionalities. The change entails creating conducive working environment that facilitates efficient discharge process. That means investing in technologies or automated systems that are useful in keeping track of the flow process. Automation assists in collaboration and coordination and maintenance of the flow processes based on ability to assign roles.

**Transferability of the Results**

The research outcome cannot be transferred to another hospital considering that the sample size was limited to the facility. The results are therefore biased and linked to operational processes of the healthcare facility. Further, all the participants are affiliated to one healthcare setting. In this case, further research is required to confirm the validity of the research outcome. Alternatively, the study can be repeated by increasing the sample size while also incorporating several healthcare settings to have a clear representation of the entire nursing practice. Nevertheless, the results provide an insight on potential significance of equipping nurses with knowledge on safety practices and clinical guidelines for improving efficiency on patient flow process.

**Cost Effectiveness**

The project outcome is essential in reducing the cost of patient admission. Increased admission time is directly proportional to cost, due to charges per day associated with the use of hospital resources. Most healthcare facilities bill every service offered. Hence, the earlier the discharge is realized, the lower the cost of patient treatment charges. Reduced cost is a significant clinical guideline practice emphasized for improving patients' health outcome. Cost effectiveness is also incorporated on administrative end by reducing the budget for procuring materials and resources required for managing patient flow. Healthcare organizations save on resources that can further be channeled on other operational expenses that improve service provision.

**Recommendations Based on Interpretation of Results**

The recommended practice is to empower nursing staff with patient flow processes that reduce possible complications during discharge, while also advocating for emphasizing patient

awareness on matters regarding earlier discharges to reduce cost and improve their wellness. Additionally, it is important to involve scholarly stakeholders and experts in the medical field to root for knowledge acquisition as a key concern in improving patients' wellness. Most importantly, the educational content should be focused on clinical procedural flows, home-based care practices, and safety mechanisms of reducing procedural complications that could be actuated during the discharge process.

**Plans for Dissemination**

The outcomes of the project will be disseminated by publishing the results in a scholarly article where fellow learners, stakeholders in the healthcare sector, and educational facilities can easily access. Reputable journal domains will be identified for publishing. Nevertheless, a formal request must be sent to the administration to seek approval for the submission. Yet, nursing conventions provides an opportunity to present the outcomes of the research to potential stakeholders, including NAON Annual Congress poster presentation.

**Implications for Advanced Nursing Practice**

The project outcome raises a significant issue associated with increasing nursing knowledge. That is, nurses must continuously seek to improve their knowledge by taking part in training programs. Yet, advanced nurses are challenged to mentor other upcoming nurses by publishing content that are evidenced based (Boehning & Punsalan, 2023). Furthermore, there is a need for incorporating collaborative framework where advanced nursing practitioners in the healthcare facilities collaborate with nursing educators in continuously providing content that are evidence based in research. APRNs are also mandated to advice the public on better treatment methods that reduce cost and maintain patient's wellness. Yet, they are expected to keep up with innovations, emerging developments, and new research trends in medicine.

### *Nursing Education*

Nursing institutions should continuously incorporate updated educational content. All nursing learning institutions needs to instill competency-based practices to improve their knowledge in line with advanced practice provider (APP) recommendations. APRNs are expected to spearhead the learning and engagement process and mentor junior nurses by contributing to curriculum review, addition and removal of educational content based on the relevance in nursing practice. Moreover, advanced nurses serve as role models to upcoming nursing staff. Hence, they are expected to be knowledgeable on evidence-based practices for improving patients' health outcomes. The outcomes of the project pave way for coordination in nursing professional practice. Particularly, the educational stakeholders should affirm the outcome as an evidence-based practice in learning curriculum. That is, modules that address discharge flow process should incorporate knowledge-based interventions as an evidence-based practice of quality management.

### *Clinical Practice*

The main guidelines in nursing practice advocate for implementing strategies that improve the quality of nursing practice, while reducing the cost of care. The project outcome was aligned with the nursing practice implications. Particularly, improving the knowledge of practitioners directly enhances the quality of patient's health who directly benefit from evidence-based procedures applied in diagnostic procedures. The project outcome will help in reducing medical errors that may arise due to poor procedural measures. Yet, it instilled the notion of protecting the interest of patients. Nurses are thus expected to understand the needs of patients by incorporating interactions as part of the learning processes.

### *Nursing Administration*

The nursing administration plays a vital role in providing the necessary resources useful in improving patients' wellness. It is the role of the administration to strategize on procuring a sustainable number of beds in units depending on the traffic of inpatients admitted. For this case, it is essential that the admin collaborates with the nursing team to assess occupancy rate of inpatient units. Thus, reducing the discharge time can essentially help the management to minimize the cost incurred in administrative expenses. The research outcome is essential in planning and budgeting the resources for enhancing patient flow process. Increasing the efficiency of discharging means that the administration can channel resources to other prioritized needs.

### *Leadership*

Leadership is another significant factor in successful implementation of patient flow process. When appropriate leadership is installed in place, the working environment becomes conducive and educational, leading to quality relationship between nurses and patients and hence, streamlined delivery of processes. For instance, discharge process education should be included as part of the training of new hired nurses to the hospital. Dedicated leadership will advocate, implement, and supervise measures that increases patients flow rate, without compromising the quality of health outcome.

## Conclusion

The project focuses on involving focused education for nurses to help improve patients' discharge preparedness on an orthopedic floor. The focus was on enhancing the nurses' knowledge and skills to be able to prepare their patients for release early enough to facilitate discharges before noon. Nurses have shown significant disconnection from the discharge

process, leading to delayed discharges. Training was performed through PowerPoint presentation and pretest/posttest via a Discharge Readiness Assessment questionnaire. The implementation process of the training entailed determination of gaps in discharge readiness among different levels of nursing experience. The process was accompanied by training nurses from the orthopedic floor while implementing an educational voiceover PowerPoint presentation after assessing their gas on the discharge readiness. The Discharge Readiness Assessment questionnaire entailed general and specific questions on previously determined nursing challenges that have led to the delayed discharges. In addition to early discharges, it becomes evident that the length of stay would also be improved after implementation of this project. In this case, the alleviation of the length of stay is typically determined to improve operational and allocative efficiency and maximize efficiency of utilization of hospital resources.

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# Appendix

## Appendix A: Discharge Readiness Assessment Questionnaire

**Pretest/Posttest**

**Discharge Readiness Assessment Questionnaire**

The Role of Focused Educational Intervention for Nurses to Improve Discharge Readiness

**Introduction:**

This questionary is an essential part of a quality improvement project aiming to increase Orthopedic nurses' knowledge on discharge readiness to improve discharge times.

Please, answer to the best of your knowledge. Your response will help to understand the gaps in knowledge and room for improvement. The questions are structured to assess your understanding of the discharge process while assessing readiness regarding vital signs, pain management, durable medical equipment needs, intravenous antibiotics/ oxygen needs protocols on discharge, home health care coordination, and readiness to transfer to long/short term care facilities or Rehabilitation centers.

- **Please do not write your name or other personal information on this questionnaire.**
- **Your answers are anonymous and will be kept confidential.**
- **Your participation is voluntary and will not have any bearing on your position.**

**Demographic:**

Gender: Female _____ Male _____ Other _____ Wish not to disclose _____

Age: 20-30 yrs. _____ 30-40 yrs. _____ 40-50 yrs. _____ >50 yrs. _____

How long have you been a nurse? _____

Ethnicity: White _____ Black _____ Hispanic _____ Asian _____ Other _____

Position: RN _____ APRN _____ Other _____

**QUESTIONNAIRE**

**Clinical Knowledge**

1- Discharge planning starts on admission. True or False?
__ True
__ False

2- All patients discharged with PICC, drains, Foley catheter, or new PEG/ feeding tubes require upon discharge:
__ Verify with the doctor that patient is leaving with it (PICC, Foley, drain)
__ HHC order/confirmation for care and proper follow up at home.
__ Proper f/u appointment with PCP, Urologist, GI, ID, or surgeon.
__ Education added to the AVS
__ Education provided to patient and/or family members.
__ Supplies provided to patient.
__ None of the above.
__ All of the above.

3- Your patient has an order for discharge from yesterday that was discontinued due to pain not well managed with pain medication. Today, your patient's pain is under control, walked with physical therapy, and the doctor decides patient is good to go today. You discharge the patient without asking the doctor for an active discharge order. True or False?
__ True
__ False

4- Conditional discharge orders require the conditional to be solved before patient leaves the hospital (Including HHC confirmation, PT/OT eval/recommendations, HV/JP drain removal, DME delivery to bedside, specialist consultation/recommendations, transportation arrangements, etc.) True or False?
__ True

__ False

5- I must to wait for PT/OT at home to be approved before the patient is discharged. True or False?
__ True
__ False

6- On admission, I must instruct the patient that the day of discharge he/she must have somebody to pick him/her up early in the morning or the hospital offers to pay for an Uber if patient has somebody at home to assist the patient. True or False?
__ True
__ False

7- The patient always has to wait for Walgreens pharmacy to deliver medications at bedside before discharge home. True or False?
__ True
__ False

**Knowledge of Safety Needs**

1- What vital signs you want to repeat before discharging your patient?
a) 128/85
b) 161/95
c) 147/76
d) 139/89

2- Your patient is being discharged, but when you review the last set of vital signs you notice BP 169/72, RR 18, HR 88, PO2 98% room air. What would be your next step?
a) Print the AVS and discharge the patient.
b) Notify the doctor and give BP medication.
c) Recheck BP and notify the doctor if BP continues within abnormal limits.
d) Apply nasal cannula with oxygen at 2L/min.

3- You are working on your patient's discharge home papers and noticed your patient has been the last 2 days O2 Sat 92-95% on nasal cannula. What you need to do to discharge this patient safely? Select all that apply.
__ Assess patient's history of oxygen needs at home.
__ Notify the doctor.
__ Verify HHC and oxygen delivery to bedside are ordered.
__ Discharge the patient.
__ Review respiratory note with the results of the 6 - minute walk test.
__ Notify the Social Worker that patient needs oxygen after discharge.
__ Call discharge planner to f/u on the status of oxygen delivery to bedside.

4- What supplies you must give to an Ortho Joint patient before discharge?
__ Gauze
__ Tape
__ Brace / Miami J collar (specific size)
__ Walker
__ Bedside Commode

5- What supplies you must give to an Ortho Spine patient before discharge?
__ Gauze
__ Tape
__ Brace / Miami J collar (specific size)
__ Walker
__ Bedside Commode

**Knowledge of DME's Needs**

1- For f/u on HHC and DME arrangements/confirmation, the best person to ask is: (Select only 1 answer)
__ Social Worker

__ Discharge Planner
__ Attending/Surgeon
__ Nurse Practitioner
__ Charge Nurse

2- For f/u on Rehab/ SNF placement and transportation arrangements, the best person to ask is: (Select only 1 answer)
__ Social Worker

__ Discharge Planner
__ Attending/Surgeon
__ Nurse Practitioner
__ Charge Nurse

3- Before giving a walker to a patient, I must assess if the patient received any walker within the last 5 years due to insurance coverage. True or False?
__ True
__ False

4- Patients discharged home with IV antibiotics require confirmation of the HHC agency, confirmation of the delivery of the medication, and last dose of IV antibiotic in the hospital depending on team recommendations. True or False?
__ True

__ False

**Knowledge on Rehab/ SNF/ Nursing Home Discharge**

1- Your patient is leaving to JMH Rehab at 3pm asks if you can give him a walker. What would you do?
   a) Instruct the patient that he/she is going to a Rehab Center where they have all the DMEs needed. Rehab staff will provide the patient with proper discharge instructions and DMEs as needed before going home.
   b) Call the doctor and request an order for a walker.
   c) Give a walker to the patient and charge it.
   d) Give the walker from the patient's room to the patient and let him/her to take it to the Rehab.

2- What a discharge package for a patient discharged to JMH Rehab requires? Select all that apply.
   __ Face sheet
   __ Patient's bracelet
   __ A copy of patient's ID
   __ Discharge instructions package
   __ MAR report of the last 24 hours.
   __ Paper prescription of all controlled medications, including Percocet, Oxycodone, Lyrica, Temazepam, Alprazolam, etc.
   __ Patient transfer form (signed by MD and primary nurse)
   __ COVID 19 Transfer Assessment Form.
   __ COVID 19 Results

3- What a discharge package for a patient discharged to all Rehab Centers except to JMH Rehab requires? Select all that apply.
   __ Face sheet
   __ Patient's bracelet
   __ A copy of patient's ID
   __ Discharge instructions package
   __ MAR report of the last 24 hours.
   __ Paper prescription of all controlled medications, including Percocet, Oxycodone, Lyrica, Temazepam, Alprazolam, etc.
   __ Patient transfer form (signed by MD and primary nurse)
   __ COVID 19 Transfer Assessment Form.
   __ COVID 19 Results

4- What a discharge package for a patient discharged to SNF requires? (All Rehab centers except Jackson's Rehab) Select all that apply.
   __ Face sheet

__ Patient's bracelet
__ A copy of patient's ID
__ Discharge instructions package
__ MAR report of the last 24 hours.
__ Paper prescription of all controlled medications, including Percocet, Oxycodone, Lyrica, Temazepam, Alprazolam, etc.
__ Patient transfer form (signed by MD and primary nurse)
__ COVID 19 Transfer Assessment Form.
__ COVID 19 Results

5- Your patient is being discharged to a Rehab center but requires oxygen at all times. You notify the Social Worker before transport arrangements are made to guarantee the ambulance is prepared with oxygen supplies for safe transportation. True or False?
__ True
__ False

6- Before the patient is discharged to Rehab/SNF, I have to give one folder of discharge instructions to the patient and one to the transporter for the facility. True or False?
__ True
__ False

**Appendix B: Letter of Support**

Florida International University

Nicole Wertheim College of Nursing and Health Sciences

Dear Dr. Dana Sherman,

I am pleased to write this letter in support of this Doctor of Nursing Practice quality improvement project. This letter affirms that the hospital will be the study site for a quality improvement project titled The Role of Focused Educational Intervention for Nurses to Improve Discharge Readiness, intended to assess nurses' discharge readiness with the goal to improve safe discharges by noon in an Orthopedic floor. The study will be led by Dr. Dana Sherman, faculty at Florida International University, in collaboration with Yanelis Garcia Beceiro, Doctor of Nursing Practice student.

The hospital agrees with this project's methodology to administer a pre and posttest Discharge Readiness Assessment Tool as practical questions to nurses from the Orthopedic floor. Nurses will be sent an email with an invite to voluntarily participate in the project. The assessment tool will be presented via an electronic link leading the participants to complete an anonymous pretest survey to assess their knowledge. Identified gaps from the pretest will be addressed via a targeted voiceover PowerPoint presentation educational intervention that will be implemented. Then, 4-5 days after the intervention, a posttest survey will be sent to reinforce knowledge on discharge readiness and to evaluate learning from the teaching on the pretest.

This letter confirms the willingness of the hospital to participate in this Doctor of nursing Practice quality improvement project and acknowledges the study will not commence until the study protocol is approved by Florida International University's Institutional Review Board (IRB).

Sincerely,

Cathy Rosenberg MSN, ACNP-BC

Associate Vice President Neurological Surgery and Orthopedics

Clinical Instructor, Department of Neurological Surgery.

**Appendix C: Informational Letter**

**INFORMATIONAL LETTER**

**The Role of Focused Educational Intervention for Nurses to Improve Discharge Readiness: A Quality Improvement Project.**

Hello, my name is Yanelis Garcia Beceiro ARNP, MSN, DNP student. You have been chosen at random to be in a research study about improving discharge readiness among nurses from an Orthopedic floor. The purpose of the study is to establish whether a focused educational intervention for nurses would improve or not safe and timely discharges of Orthopedic patients by noon, while using a Discharge Readiness Assessment Questionary.

You are eligible to take part of this project because you are a Registered Nurse at the hospital, and you provide, or may provide care to Orthopedic patients. I am contacting you with the permission of your Nursing Director and the Nursing and Evidence Based Council at the hospital.

If you decide to participate in this project, you will complete a pretest questionnaire, which is expected to take approximately 10- 20 minutes. Then, you will be asked to view an approximately 20-30 minutes long educational PowerPoint presentation. After watching the video, you will be asked to complete the posttest questionnaire, which is expected to take approximately 10-20 minutes to complete.

The study is anonymous. There are no foreseeable risks or benefits to you for participating in this study. There is no cost or payment to you. You can choose to be in the study or not. If you are willing to participate, please check on the link provided (link on Qualtrics questionnaire).

If you have questions for one of the researchers conducting this study, you may contact the primary investigator Dana Sherman, DNP, ARNP, ANP-BC at (305) 348-2247, FNP-BC or Yanelis Garcia Beceiro ARNP, MSN, DNP student at (786) 816- 1233.

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu or by mail at 11200 SW 8th Street, AH3-522, Miami, Florida 33199.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop.

Sincerely,

Yanelis Garcia Beceiro ARNP, MSN, DNP student