



Summer 2023

## The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of Hospital-Acquired Pressure Injuries in a VA Medical Surgical Unit

Nekia Whitlow  
whitlona@mail.uc.edu

Follow this and additional works at: [https://digitalcommons.jsu.edu/etds\\_nursing](https://digitalcommons.jsu.edu/etds_nursing)



Part of the [Nursing Commons](#)

---

### Recommended Citation

Whitlow, Nekia, "The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of Hospital-Acquired Pressure Injuries in a VA Medical Surgical Unit" (2023). *Doctor of Nursing Practice Projects*. 114.

[https://digitalcommons.jsu.edu/etds\\_nursing/114](https://digitalcommons.jsu.edu/etds_nursing/114)

This Final DNP Paper is brought to you for free and open access by the Theses, Dissertations & Graduate Projects at JSU Digital Commons. It has been accepted for inclusion in Doctor of Nursing Practice Projects by an authorized administrator of JSU Digital Commons. For more information, please contact [digitalcommons@jsu.edu](mailto:digitalcommons@jsu.edu).

## DNP Manuscript Defense Approval

First Name: \*

Last Name: \*

Date: \*

- Choose your DNP program: \*
- Adult-Gerontology Acute Care Nurse Practitioner (Doctor of Nursing Practice)
  - Family Nurse Practitioner (Doctor of Nursing Practice)
  - Post-Master's DNP (Doctor of Nursing Practice)

Manuscript Title: \*

Date of Manuscript Approval: \*

Student Signature

Chair, DNP Manuscript Signature

DNP Clinical Coordinator Signature

DNP Program Coordinator Signature

Associate Dean of Health Professions and Wellness Signature

Dean of Health Professions and Wellness Signature

Dean of Graduate Studies Signature

**The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of  
Hospital-Acquired Pressure Injuries in a VA Medical Surgical Unit**

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

By

Nekia A. Whitlow

Jacksonville, Alabama

August 4, 2023

copyright 2023  
All Rights Reserved

## Abstract

**Background:** The clinical gap in service addressed in the DNP project was hospital-acquired pressure injuries. A hospital-acquired pressure injury (HAPI) is a local injury to the skin and underlying tissue during an inpatient hospital stay. The injury is caused by pressure, shear, or both (The Joint Commission (TJC), 2022). The development of a HAPI can result from other factors, such as advanced age, immobility, perfusion issues, nutritional status, illness severity, and chronic conditions (Rondinelli, Zuniga, Kipnis, et al., 2018). Immobile or sedated patients in the intensive care units are the most at risk because they have medical conditions that prevent them from repositioning or result in them spending most of their time in bed or a chair. These injuries can develop in hours or days. The development of a pressure injury while in the hospital negatively reflects the quality of care given by the staff. The healthcare staff must take appropriate measures to ensure patient safety. During a stakeholder's meeting at a southeastern region medical facility, a consensus was reached that HAPIs were an ongoing issue and needed implementation for an improvement plan. A committee meeting held at the project facility established that at the facility, the metric for HAPIs was at 4% and the national average was 3%.

**Purpose:** This project aimed to answer the question: In patients at risk for pressure injuries on a medical surgical unit at a Southeastern region facility, how effective will the implementation of an EBP pressure injury prevention bundle as compared to current practice help reduce the number of hospital-acquired pressure injuries in eight weeks?

**Methods:** A before and after intervention project occurred on a 30-bed medical-surgical unit at a Southeastern region facility for patients at risk for pressure injuries. The implementation of the evidence-based prevention bundle was initiated at admission and audited twice a week over eight weeks. Audits were done to ensure compliance. A prevention team was created consisting

of a unit champion, an implementation team (RN, LPN, NA), and WOCN. The Plan Do Study Act method was used to produce a change in the unit and the theoretical model used was Kurt Lewin's Change theory.

**Results:** At the end of the eight weeks, the identified patients remained free of pressure injuries. The results of this project revealed the accuracy and effectiveness of the pressure injury prevention strategies used in the bundle that was studied. Adhering to the bundle in its entirety proved to be successful as evidenced by practice improvements implemented with this method at numerous facilities nationwide (Ward, 2020). The project confirmed that when the patient is identified and the bundle ordered at admission, they should not develop a pressure injury. The pre-intervention percentage was 4% and the post-intervention was 0%.

**Conclusion:** The reviews have shown that the implementation of the prevention bundle has improved HAPIs in several studies. Each study showed a significant reduction in HAPIs postintervention. The strategies must be unit specific but there has been consistency in the interventions used that are most effective. However, teamwork is essential and should be considered before implementing this intervention. The intervention was successful at preventing pressure injuries for those at risk and could be implemented throughout the organization.

**Keywords:** pressure ulcers, prevention, hospital-acquired, inpatient, pressure injury bundle, bed sore

## Table of Contents

Abstract.....	3
Introduction.....	8
Background.....	8
Needs Analysis.....	9
Problem Statement.....	11
Aims and Objectives.....	12
Review of Literature.....	13
Theoretical Model.....	16
Methodology.....	17
Setting.....	17
Population.....	17
Inclusion/Exclusion.....	19
Recruitment.....	19
Consent.....	20
Design.....	20
Data Review Process.....	20
Risks and Benefits.....	21
Compensation.....	21
Timeline.....	21
Budget and Resources.....	22
Evaluation Plan.....	22
Statistical Considerations.....	22

Data Maintenance and Security.....	23
Results.....	23
Results of Data Analysis.....	23
Discussion.....	24
Implications.....	25
Limitations.....	26
Dissemination.....	26
Sustainability.....	27
Conclusions.....	27
References.....	29
Tables.....	32
Table 1 – Descriptive Analysis: Age.....	32
Table 2 – Descriptive Analysis: Gender.....	33
Table 3 – Descriptive Analysis: Mobility.....	34
Appendices.....	35
Appendix A – SWOT Analysis.....	35
Appendix B – DNP Project Intervention Protocol.....	36
Appendix C – Agency Letter of Support.....	37
Appendix D - DNP Project Participation Flyer.....	38
Appendix E - Theoretical Model.....	39
Appendix F- JSU IRB Approval Letter.....	40
Appendix G - Participant Consent Form.....	41
Appendix H – Teaching Material.....	43



Appendix I – Project Timeline.....45

Appendix J - CITI Training Certificate.....46

## **The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of Hospital-Acquired Pressure Injuries in a VA Medical Surgical Unit**

The Joint Commission (TJC) (2022) defines pressure injuries as “localized wounds to the skin as a result of prolonged pressure or pressure combined with friction to the same area for long periods”. Patients who are immobile or sedated in intensive care units are the most at risk. With the most recent pandemic, the need for preventive care increased tremendously. The impact of hospital-acquired pressure injuries can have life-changing effects. This is a consistent and problematic issue at the top hospitals across the country. Hospital-acquired pressure injuries result in pain, increased financial obligations for treatments, extended stays, and sometimes death. Pressure injuries are worrisome and impact the patient, family, and the healthcare system. Patient care and safety should be the number one priority for healthcare providers. There have been years of research and evidence implemented into practice to prevent the occurrence of pressure injuries. Keeping up with the new evidence can be difficult. It cost billions to treat pressure injuries in United States hospitals, prevention cost is much cheaper. After discovering a gap in practice at a local facility, the DNP student sought ways to rectify the problem. Studies from several databases revealed a prevention bundle that proved to reduce occurrences. The bundle introduced several strategies that when used in combination and collaboratively by all healthcare staff, prevented the development of hospital-acquired pressure injuries.

### **Background**

According to The Joint Commission (TJC) (2022), evidence-based research has shown that more than 2.5 million patients in United States hospitals suffer from pressure ulcers/injuries yearly, and 60,000 die from their complications. A single full-thickness pressure ulcer/injury can cost up to \$70,000, and the total costs for treatment of pressure ulcer/injury in the United States cost around \$11 billion (about \$34 per person in the US) a year (Ward, B., 2020). “The key to

pressure ulcers is consistently doing simple tasks and supervision. It is a management, training, and supervision issue.

Organizations' research and persistent effort to reduce the number of HAPIs will improve the current problem. The Joint Commission (TJC) (2022) noted in issue 25 of the Joint Commission Division of Healthcare Improvement article, that Pressure Injury Prevention International Clinical Practice Guidelines, published by the European Pressure Ulcer Advisory Panel (EPUAP), the National Pressure Injury Advisory Panel (NPIAP), and the Pan Pacific Pressure Injury Alliance (PPPIA) has proven to reduce hospital-acquired pressure injuries. The pressure injury prevention guide includes recommendations from evidence-based practice and strategies for the implementation of pressure injury prevention plans and treatments, suggestions on measuring and reporting data, and includes guidance for all clinical and individual settings as well as palliative and critical care (The Joint Commission (TJC), 2022). However, the contributing factors may differ from hospital to hospital or unit to unit, so each organization must develop a plan specific to the contributing factors for that hospital. There should be sustainable measures throughout healthcare to prevent injuries. It will take the dedication of staff front liners. However, preventing pressure ulcers is not solely the responsibility of nursing but the healthcare system. "Pressure injury prevention and treatment requires multi-disciplinary collaborations, good organizational culture, and operational practices that promote safety" (TJC, 2022). Before implementing the improvement plan, the student completed a SWOT analysis to evaluate what is being done well and what is lacking at the facility. (See Appendix A)

### **Needs Analysis**

Hospital-acquired pressure injuries (HAPIs) affect approximately 2.5 million patients annually (TJC, 2022). Research revealed national data from a study that used a retrospective record review in acute care hospitals over 4 years, using the Global Trigger Tool (a tool used to

monitor adverse event rates while working to improve patient safety), this review resulted in the prevalence of pressure injuries (category 2-4) being 1%. Older patients, 'satellite patients', and patients with acute admissions had more pressure injuries (Gunningberg, et.al, 2019). Most pressure injuries (91%) were determined to be preventable. The average length of hospital stay was extended by 15.8 days (about 2 and a half weeks) for patients who developed pressure injuries during hospitalization. The GTT provides a look into the views of different hospitals nationwide on hospital-acquired pressure injuries, informing healthcare providers on safety priorities to reduce patient harm (Gunningberg, et.al, 2019). Evidence-Based Practice has proven that repositioning patients at regular intervals is the standard of care for pressure injury prevention, yet compliance with routine repositioning schedules can be hard to achieve in busy environments.

In the State of Alabama, The Alabama Department of Public Health advisory committee held a meeting on October 21, 2014, to discuss the Alabama pressure ulcer initiative. (Alabama Public Health, 2014). The failure rate for the interventions was as follows: assessment within 1 day: 34%, Use of Pressure Reducing Surfaces: 20%, Daily Skin Inspection of at-risk: 50%, and Weekly documented assessment of healing: 55%. Locally, one area hospital is improving tremendously with a total hospital-acquired pressure injury prevalence percentage of 1.2%, which was below the national benchmark of 3.1%. (Brookwood Baptist Health, 2018). However, the problem still exists. The Interdisciplinary Pressure Injury Committee held a meeting on April 6, 2022, at a southeastern region medical facility to discuss the reporting metrics for HAPIs at the facility as compared to other facilities and national statistics. It was discussed that for Feb 2022, the facility was at 4%, other facilities in the organization were at 3%, and nationals were at 3%. The percentages represent the number of patients with a hospital

stay of 48 hours or longer and of that population, the number of patients with a hospital-acquired pressure injury (out of 263 patients, 10 patients had a hospital-acquired pressure injury).

### **Problem Statement**

More than 2.5 million people in the United States each year develop pressure injuries (Borojeny, et al., 2020). These wounds cause pain, infection risk, and an increase in healthcare costs for patients and organizations. CMS will not reimburse hospitals to care for patients who acquired the ulcer while inpatient. Prevention and decrease in injuries require a team effort to accomplish desired outcomes. Studies have shown that the Braden scale is a good predictor of HAPI risk. For changes to occur, the clinical staff must use the Braden and evaluate acuity, level scores, and comorbidity to improve the intervention process. Gaspar et al. (2022) concluded after a study that although the Braden scale is a good predictor, the low-risk result may cause a delay in the detection of patients with risks due to a low result of one subscale. It was recommended that each subscale be assessed to determine the true risk. Participation in a plan to prevent and improve the cases of hospital-acquired pressure injuries will decrease the number of mortalities, reduce extended hospital stays, and decrease the cost incurred by the patient and the hospitals. A model was implemented and evaluated using critical tools to assess risks and strategies for preventing and improving the cases. PICOT: In patients at risk for pressure injuries on a medical surgical unit at a southeastern region medical facility, how effective will the implementation of an EBP pressure injury prevention bundle compared to current practice help reduce the number of hospital-acquired pressure injuries in eight weeks? The DNP project approach identified patients at risk for pressure injuries by the Braden scale and diagnosis. An EBP pressure injury prevention bundle process was implemented, and the new process was audited for compliance with the intervention through documentation and the prevention team.

This design was chosen based on the current practice and ensuring that all strategies are in place and utilized for best practices and desired outcomes. After eight weeks, the DNP student evaluated whether those patients developed a pressure injury. There was ongoing education on the implemented bundle throughout the project. The documentation was taken from the electronic health record. The post-intervention data were retrieved from the tracking/reporting system, VHA Support Service Center (VSSC). The data used in the VSSC is taken from the EHR documentation. On admission, the skin assessment note, and the VA Nurses Outcome Database (VANOD), establish a Braden score. The Braden score is one of the tools used to assess pressure injury risks. The documentation of positioning for patients that require prevention strategies is also documented in the EHR. Pre-intervention data were accessed through the VSSC to retrieve data on patients that are at risk for HAPIs. This system holds data and provides a customized engine to narrow your data search. The student utilized the student login information provided by the facility and the nurse manager for education and staff development. This login gave the student access to the EHR to review the documentation of the prevention strategies per participant. The student used the same system to evaluate whether those patients developed a HAPI post-intervention.

### **Aims/ Objectives**

1. This project aimed to reduce the incidence of Hospital-acquired pressure injuries on the 5<sup>th</sup>-floor medical-surgical unit at the Southeastern region medical facility.
2. The project's second aim was to change the unit's culture through education and inclusion to ensure patient safety.
3. The third aim was to create sustainability in the unit post-intervention.

## Review of Literature

The literature review aimed to identify research articles on hospital-acquired pressure injuries and strategies to reduce occurrences. An integrative review was conducted to examine the literature of several databases including PubMed, CINAHL, Embase, and Cochrane Library. These databases were accessed through the Houston Cole Library at Jacksonville State University. Themes were identified and analyzed to determine the effect on the implementation of strategies to prevent HAIs. The use of verbal cues and alerts to improve compliance and nursing education on PI prevention were the facilitators. Barriers to a successful project were increased nursing workload or burden, lack of staff, and hemodynamic instability (Day et al., 2022). In 2008, the U.S. Centers for Medicare and Medicaid Services (CMS) announced that they would no longer pay for additional costs incurred for hospital-acquired pressure injuries. Pressure injury treatment is costly, but the development of pressure injuries can be prevented by using evidence-based nursing practice (The Joint Commission, 2022).

An Evidence-Based Practice pressure injury prevention bundle yields the desired results. This bundle was derived from several evidence-based scholarly journals and reviews. The research databases reviewed were CINAHL, Cochrane Complete, PubMed, Google Scholar, PsycINFO, and Academic Search Premier. Keywords used were prevention strategies, Pressure ulcer, pressure injury bundle, risks, hospital-acquired injuries, treatment, and interventions. Most of the articles were systematic reviews or random control trials. The DNP student selected articles that examined hospitalized adults at risk for pressure injuries and implemented prevention strategies to compare reduced HAIs. Articles published within five years were included in the research. The search engine CINAHL resulted in 436 articles, the student chose twenty-one of the available articles. A search in Pub MED using the keywords hospital and pressure injuries yielded 723 articles, and thirty-five articles were fit for the synthesis. Twenty-six articles resulted in

PsycINFO and three were used, Li, Z., et al., (2022), Yilmazer, T., & Tuzer, H. (2022), and Haavisto, E., et al., (2022).

The literature review provided a combination of evidence supporting a HAPI prevention bundle. The reviews identified related categories of interventions that are the most effective for preventing pressure injuries: (a) PI prevention bundles, (b) repositioning and the use of surface support, (c) mobilization, (d) nutrition assessment, (e) preventive skin care, and (f) access to expertise. (See Appendix B) According to a study by The Joint Commission (TJC) (2022), the International Guideline (Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline) is a guideline developed by the European Pressure Ulcer Advisory Panel (EPUAP), the National Pressure Injury Advisory Panel (NPIAP), and the Pan Pacific Pressure Injury Alliance (PPPIA). It presents evidence-based recommendations and considerations for pressure injury prevention strategies and treatment in all settings and population groups. Per the International Guideline, risk assessment is a vital component of clinical practice and the first step in identifying individuals at risk (The Joint Commission, 2022). The pressure injury prevention bundle that was used in the DNP project used the recommendations and strategies of the International Guideline for the implementation. The facility wrote a letter of support granting the student permission to implement the DNP project. (See Appendix C)

Nurses are at the forefront of pressure injury prevention requirements. However, it requires appropriate resources and support from other staff, patients, and providers. Understaffing, lack of resources, complex workload, and poor patient compliance causes issues with completing the strategies (Li, Z., et al., 2022). After confirming the risk, in-depth research suggests that taking best practices and performing them in combination are more likely to yield desired outcomes. The staff must be consistent in completing the task several times a day



without fail. The International Guideline supports that pressure injury prevention bundles improve compliance and patient outcomes (The Joint Commission, 2022).

A prospective interventional study was done with thirteen nurses and 104 patients in an intensive care unit for 24 hours. The study was completed in two stages; in stage 1 the nurses monitored the pressure injury incidence rate. A training program for the nurses about the care bundle was done for 3 months to educate them on the correct use of the bundle. In stage 2, after the implementation of the bundle, the nurses provided care according to the bundle. The incidence of stage 1 pressure injury was 15.11 (1000 patient days) in the pre-care bundle stage and 6.79 (1000 patient days) in the post-care bundle stage (Yilmazer, & Tuzer, 2022).

Haavisto, et. al. (2022), completed a study to describe the use of consistent practices in PU prevention based on international care guidelines and to assess the validity and reliability of the pressure ulcer prevention practice (PUPreP) instrument. The instrument consisted of forty-two items assessing participants' perceptions of the frequencies of pressure ulcer prevention practices with the following scale: never, sometimes, often, always. The results showed the use of pressure ulcer prevention practices was more frequently described as often. The most frequently used prevention practice was repositioning, and the least frequently used practice was nutrition. The study results suggest that nurses followed evidence-based pressure ulcer prevention practices at a moderate level (Haavisto, et. al., 2022).

The final review included the surface, skin inspection, keep moving, incontinence, and nutrition bundle at a hospital in Qatar, where 127 pressure injuries were identified in 2014. Signs, turning clocks, and PI incidence 'calendars' were used in the units as reminders. The incidence of HAPI dropped from 6.1/1000 patient days to 1.1/1000 patient days, an 83.5%

reduction. The interventions proved to be successful, reducing the incidence of PI by >80%. The outcomes were sustained over 4 years (Gupta, et al., 2020).

### **Theoretical Model**

The theory used to guide the DNP project was Kurt Lewin's Change theory.

Wojciechowski, et al. (2023), inform the reader that the Change Theory has three stages: unfreezing, change, and refreezing. When there is a change plan, the driving force is met with the restraining force. A state of balance is created by the two forces and Lewin's theory helps to change this state. The process entails implementing a new technique or strategy to change the old way of doing things that did not yield favorable outcomes (unfreezing). These methods are known as driving forces. The next stage involves changing the culture (Thoughts, beliefs, behaviors, and feelings) so those involved feel included and productive. Finally, consistently reiterating, monitoring, and enforcing a behavior so that it becomes second nature (habit) to create sustainability (refreezing). Criteria used to choose an approach for the research included articles developed within the last five years, a process that addressed noncompliance or nonproductive habits, and evidence-based practices that yielded desired outcomes. The DNP student began by posting flyers of the upcoming implementation throughout the unit. (See Appendix D). Next, the staff was educated on the intervention protocol, assigned roles for the team, and welcomed ideas and suggestions. There were reminders, weekly in-services, and audits to ensure compliance with the strategies. A weakness of this methodology was keeping employees indulged. Employees are not open to change because it may change their routines, add duties to their workload, or show a lack of productivity based on the strategies. This project was perfect for this model because it focused on change and sustainability. Once the attitudes of

the staff are changed and everyone buys into the purpose and need for improvement, success will follow. (See Appendix E)

### **Methodology**

The student used a quantitative project. In the research, Austin and Sutton (2014) stated that the University of Texas-Austin defined quantitative research as "the means for testing objective theories by examining the relationship among variables which can be measured so that numbered data can be analyzed using statistical procedures". An example of quantitative data is the pain scale of 0-10. "The hard numbers behind any good research project are quantitative data (National Geographic Society, 2023, para. 2). The researcher chose this type of project because quantitative research includes methodologies such as questionnaires, structured observations, or experiments. The study will observe occurrences affecting patients and help the researchers learn more about the sample population.

### **Setting**

The setting for the project was the 5<sup>th</sup> floor 30-bed medical-surgical unit at a southeastern region medical facility.

### **Population**

The population was veterans 95% male between the ages of 24-101 years of age. The Institutional Review Board approval was sought and granted (See Appendix F). The student used the Plan -do-study-act method. This method is a favored approach to evaluating change in quality improvement initiatives in healthcare. PDSA cycles enable learning and applying knowledge to gauge the success of the change. Many healthcare professionals experience burnout due to the constant evolution of processes and cultural changes. PDSA cycles aim to become knowledgeable about an intervention and evaluate its success to ensure improvement

and sustainability or change the intervention (Agency for Healthcare Research and Quality, 2020).

The plan included determining the aim of reducing the incidence of Hospital-acquired pressure injuries in the medical-surgical unit. The desired outcome was to create a sustainable process with the use of the pressure injury prevention bundle throughout the organization. The study took place over eight weeks. The “do” cycle consisted of educating the staff, implementing the project, auditing the electronic health record, and debriefing the team to see if adjustments were necessary. The student modified the plan due to the protocol of the nutrition consultation criteria of a Braden score of 13 or less. The nurses were not compliant with all the strategies of the bundle according to the electronic health record. Barriers existed for some patients. The patients that were confused or had behavior issues were uncooperative, so the strategies could not be conducted. The study cycle showed successful results. There were no pressure injuries developed during the implementation period. The consistency of skin assessments, protective supplies, and repositioning still produced the desired outcome. The “act” cycle concluded that the reduction and prevention of pressure injuries can be sustained with teamwork, supervision, and compliance. The culture of the organization will improve, and a policy change should be considered.

Researchers must have strong theories that function as the foundation for their research— this is called “methodology.” The DNP student selected the data from a system that provides a customized engine to narrow your data search, known as VA Support Service Center (VSSC). VSSC uses data from electronic health record documentation. The researcher searched by the Braden score.

**Inclusion/Exclusion**

The inclusion criteria consisted of patients with a full admission status and a Braden score of 18 or less. The exclusion criteria were patients with a Braden score greater than 18, pre-existing pressure ulcers, and patients with observation status on admission.

The evidence-based intervention for at-risk patients was monitored through the electronic health record (EHR), unit champions, and education. The stakeholders and the student monitored each strategy for compliance. For example, on admission, what percentage of the patients received a nutrition consult, turned every two hours, etc.? Did anyone develop a pressure injury at the end of the period of the chosen population? The student used keywords such as pressure injury, hospital-acquired, prevention, and bundle during the research. The student filtered the articles within the last five years. The DNP project required the facility's statistics that show a gap, the current practices, the documentation, the reporting and tracking system, and the pre-and post-numbers for hospital-acquired pressure injuries. The present action plan for Birmingham Veterans Medical Center includes audits on the units of patients with Braden scores of 18 or less, pulling a report to audit all documentation on pressure injuries (if there are any discrepancies, the patient will be reassessed), the use of tranquility diapers and bed pads to keep moisture from the patient's skin, and quarterly in-services to educate staff on skincare and prevention. The accuracy of the data was ensured by education, supervision, and documentation auditing through the EHR.

**Recruitment**

The recruitment process entailed reviewing the population on the 5<sup>th</sup> floor medical-surgical unit at Birmingham VA Medical Center. The student selected the patients that were

eligible according to the inclusion criteria. There was a recruitment letter provided to the participants. No compensation was provided.

### **Consent**

The signed consent was included in the in-patient admission process. All patients sign a consent for treatment. This project is considered usual patient care. The patient is not manipulated in any way different from the normal processes in the medical-surgical unit. (See Appendix G)

### **Design**

The intervention used a full evidence-based Pressure Injury Prevention Protocol endorsed by the NPUAP and Agency for Healthcare Research and Quality, a champion to monitor compliance, and measurement of the outcome by identifying the at-risk group and evaluating the number of pressure injuries developed among that group during a hospital stay. The patients were identified using the VSSC system based on the Braden score. There was supervised compliance with the protocol and evaluation of the skin condition of those patients after the time frame for the intervention or discharge date, whichever comes first. The sample size was 20 patients, and those patients were monitored for eight weeks. The Pressure Injury Prevention Protocol included skin assessment, Braden scale assessment, repositioning every 2 hours, moisture management, support surfaces, early mobilization, nutrition assessment, documentation, compliance supervision through a unit champion, and alerts via the Vocera paging system. In addition, the staff was educated in a complete bundle, and current practices and education were reinforced. (See Appendix H)

### **Data Review Process**

The data was reviewed via the Computerized patient reporting system (CPRS),

(Electronic health record used at the southeastern region medical facility). An audit was completed biweekly to assess the staff's compliance with project strategies. The VSSC was reviewed at the end of the project implementation. The reports pulled by the facility were the initial skin assessment (Braden score), the daily assessment, and the HAPI by unit and by the organization.

### **Risks and Benefits**

The benefit of my project will be a reduction in the incidence of hospital-acquired pressure injuries by changing the unit's protocol and culture. The benefit for participants is an opportunity for proper training and increased knowledge and skills to function at a higher level. The benefits are a change in culture and sustainability of the strategies that will ensure patient safety and nonmaleficence on the 5<sup>th</sup>-floor medical-surgical unit. The addition of supervised tasks may require an adjustment in time management, but patient safety is a priority.

There are no risks to participants. Confidentiality of information recorded was maintained using non-specific, non-identifying data. The raw data will be destroyed by shredding three months after the completion of the DNP Project.

### **Compensation**

There was no compensation for staff or patients participating in the project. The staff performed duties included in usual patient care. The patients had no responsibilities or duties in the study.

### **Timeline**

The final preceptor and site approval occurred on June 30, 2022. The assignments thereafter are as follows:

- The brainstorming project exercise was submitted on 05/29/2022.

- The draft problem statement was submitted on 05/29/2022.
- The Stakeholders Analysis Tool was submitted on 06/05/2022.
- The Needs Analysis/Gap Analysis was submitted on 07/06/2022.
- Stakeholders meeting was submitted on 07/02/2022.
- Evidence table was submitted on 07/17/2022.
- Draft Picot was submitted on 07/16/2022.
- Final Picot was submitted on 07/17/2022.
- Draft proposal was submitted on 07/21/2022.
- Project was implemented on 01/30/2023.
- Project ended on 03/31/2023.
- Manuscript submission 06/01/2023

(See Appendix I)

### **Budget and Resources**

The team members and participants of the quality improvement project incurred no expenses during the process. The resources used included the facility's EHR and the VSSC.

### **Evaluation Plan**

#### **Statistical Considerations**

Statistics is important when designing a project and evaluating the data. The sample size must be appropriate, and the statistical tests carefully considered for the data analysis. The statistical test that was used for this project was the paired t-test. This test is classified as a parametric test. The parametric test is normally distributed and is the preferred route (Najmi, Sadasivam, & Ray, 2021). The paired t-test differentiates two variables from the same



population. The paired t-test was applied to determine the difference in HAPI occurrences preintervention and post-intervention. When performing a statistical test, a p-value helps to determine the significance of your results about the null hypothesis. The null hypothesis assumes that whatever you are trying to prove did not happen, one variable does not affect the other. If the null hypothesis is true, then your results are insignificant in proving the idea and only by chance. The level of statistical significance is often expressed as a p-value between 0 and 1. The smaller the p-value, the more likely the null hypothesis is to be rejected. When the p-value is high, the evidence is strong for the null hypothesis, so you fail to reject it (Mcleod, 2019). A p-value of  $<.05$  indicated that there is less than a 5% chance that a statistically significant difference could be reported in error. This helps in patient care because the results determine what affects outcomes and how strong the evidence is. We can implement and improve care with the knowledge of what is helpful and what is not. According to the Statistics Kingdom, the paired t-test results indicated that the data was statistically significant.

### **Data Maintenance and Security**

The data will be collected from the electronic health record and kept on an encrypted file on a locked device in a locked drawer accessed only by the student. The participants' names will not be used in the study. The data will be kept for one year.

## **Results**

### **Results of Data Analysis**

Data analysis showed 0% of the at-risk patients on the 5th-floor medical-surgical unit developed a HAPI. 100% of all patients admitted received a skin assessment within the first 24 hours. January showed a total of 153 patients on the 5<sup>th</sup> floor with 52 patients having a Braden score of 18 or  $<$  (34%). February revealed 137 patients admitted to the 5<sup>th</sup> floor with 31 having a

Braden of 18 or < (23%). For the facility in February, there was a 1% HAPI rate. The national HAPI for VHA for January was 2.7% and for February 2.2%. For the strategies of the intervention, the results were as follows: February 71% of the patients on the 5<sup>th</sup> floor had a daily skin assessment, for mepilex dressings on admission (3%), for PT/OT within 24 hours (50%), nutrition (0%) (had to be excluded due to protocol), repositioning every 2 hours (6% or <) for the length of stay. Despite the low percentage of bundle documentation, the patients had no pressure injuries.

Descriptive information for a population falls under two categories: person-specific and context-specific information. The descriptive variable information that may impact the project outcomes will be person-specific information, including age and diagnosis variables (Sylvia & Terhaar, 2018). The variables used for the descriptive statistics were age, gender, and mobility (Tables 1, 2, and 3).

### **Discussion**

The project was successful in preventing hospital-acquired pressure injuries on the unit. The staff seemed to be on board from the beginning when the announcement of the implementation and the education on expectations was completed. However, the enthusiasm for more documentation wasn't apparent. During the education, staff expressed understanding of the tasks and the documentation but felt that the floor was just too busy, but they would try. The electronic health record revealed most patients lacked documentation. The DNP student created notes for the staff to save in their files to copy and paste to simplify the tasks. Some staff members found them very helpful and committed to using them indefinitely. On the days that the student audited the charts, a visit to the patient to verify prophylactic sacral and heel protectors was done. The protectors were in place but not noted. Emails were sent to the staff as

a reminder to document the placement of the protection devices. The Vocera reminders were not effective alone, but the unit champions were diligent in following up on the reminders and making sure patients were repositioned every two hours. Also, the wound care team made rounds during the week to make sure that the patients with low Braden scores had prophylactic measures in place. The use of the signs on the doors quickly identified which patients needed intervention. Nursing practice is evolving because there is an order set being recently used by physicians for pressure injury prevention.

### **Implications**

The implications for Clinical Practice were the incidence of pressure injuries that caused the region to be above the national standards, the increase in healthcare costs, and the increased length of stay. The implications for Healthcare Policy were the lack of supervision, staff, and unclear protocols. The success of this project will be used to spearhead a change in policy and procedures at the facility. Education was an important piece of the project. Compliance issues can develop from a lack of knowledge about the purpose of tasks and experiencing the results firsthand. Before the project was implemented, the student created a wound prevention station with evidenced-based information, statistics, tools, and pressure injury prevention equipment all accessible whenever needed for education. There was a discussion about the details of the improvement plan, expectations, and concerns. Midway through the project, a debriefing was done to get the perspective of team members on the progress of the implementation. Weekly, the student also discussed the findings and barriers that were discovered. This kept the staff engaged and ensured buy-in to the importance of their participation in preventing harm to the patients. The project brought awareness to the need for change in the culture of the unit and motivated them to help give attention to high-risk patients. The implications for quality and safety are the harm caused by HAPI. The patient's quality of life diminishes when they develop a pressure

injury. Depression due to body image as well as pain is a factor. The patient and staff were educated on the importance of rounding being essential to favorable results in safety. A HAPI is a safety issue and prevention is a team effort. The pressure injury prevention team worked with the nurses to assist in ensuring the patients were repositioned, skin and linen dry, prophylactic skin devices were in place, and patients received assistance with nutrition.

### **Limitations**

The project limitations included the data being secondary data. Secondary data can lack relevance or accuracy due to it being past data (Tripathy, 2013). The eligibility criteria of full admissions only placed limits on the project. On the medical-surgical unit, some patients are admitted with observation status. These patients are usually discharged within 24-48 hours. Other limitations include the inaccuracy of the data collected and understaffing. The unit frequently staffs float nurses due to staffing issues. These nurses are not familiar with any unit-based rules or practices. Education was provided to each float nurse to bring awareness to the project on the unit. Patients that are confused or have dementia with behavior precautions made it difficult to perform strategies or they refused. Another limitation of the project was the nutrition consult. It is an evidence-based practice that all patients with a Braden scale of 18 or less should have a nutrition consultation. It was revealed by the nutritionist that nutrition consultations are done only if the Braden score is 13 or less. The study also revealed that physical therapy and occupational therapy are not consistently ordered for every patient within 24 hours of admission. These findings were noted and considered in keeping the data as valid as possible. The limitations have been noted as recommendations and will be further discussed with management for future improvement plans.

### **Dissemination**

The student completed several presentations in preparation for dissemination. There was also a training requirement completed in the Fall of 2022 through the Collaborative Institutional Training Initiative (CITI) Program for conducting research. (See Appendix J) In the summer of 2023, the student will present at JSU DNP Dissemination Day on Thursday, July 13, 2023.

### **Sustainability**

Sustainability is to maintain the same progress after the project ends. It is expected that the success of the project and the buy-in of the stakeholders will create a sustained culture of prevention and safety. This will be accomplished in the unit and optimistically facility-wide by continuing the use of the unit champions, the auditing of charts, weekly or biweekly skin and preventive dressing checks, education, reiterating during staff huddles, and the leadership enforcing accountability. Recommendations were made for a nutrition consult protocol change, physical therapy and occupational therapy ordered within 24 hours of admission, and the addition of the preventive dressing note to the VA Nurses Outcome Database (VANOD) note.

### **Conclusion**

The reviews have shown that the implementation of the prevention bundle has improved the cases of HAPIs in several studies. Each study showed a significant reduction in HAPIs post-intervention. The strategies must be unit specific but there has been consistency in the interventions used that are most effective. However, teamwork is essential and should be considered before implementing this intervention.

The agency is an acute care medical center. The population was veterans, the majority elderly, acute, and critically ill. The sample was 20 patients. It was a consensus that the intervention was needed to improve HAPI occurrences. Stakeholders included the nurse, nurse

manager of staff development, wound care nurse, CNO, and Quality officer. The facilitators were the stakeholders and staff. The barriers included a lack of staff, nurse burnout, and lack of education. Resources included staff, EHR, an auditing system (VSSC), and expert advisors. The results showed that the intervention was successful in preventing pressure injuries for those at risk. This tool will hopefully be implemented organization-wide and sustained with proper support, knowledge, and compliance.

## References

- Agency for Healthcare Research and Quality (2020). *Plan-Do-Study-Act (PDSA) Directions and Examples*. <https://www.ahrq.gov/health-literacy/improve/precautions/tool2b.html>
- Alabama Public Health (2014, October 21). *Alabama Department of Public Health Division of Health Care Facilities Medical Directors' Advisory Committee*. Division of Health Care Facilities, Montgomery, Alabama, United States.  
<https://www.MicrosoftWordoct21.docminutes.doc> (alabamapublichealth.gov)
- Austin, Z., & Sutton, J. (2014). Qualitative research: Getting started. *The Canadian Journal of Hospital Pharmacy*, 67(6), 436–440. <https://doi.org/10.4212/cjhp.v67i6.1406>
- Borojeny, L.A., Albatineh, A.N., Dehkordi, H.A., & Gheshlagh, R. (2020).  
The incidence of pressure ulcers and its associations in different wards of the hospital: A systematic review and meta-analysis. *International Journal of Preventative Medicine*, 11, 171. [https://doi.org/10.4103/ijpvm.IJPVM\\_182\\_19](https://doi.org/10.4103/ijpvm.IJPVM_182_19)
- Brookwood Baptist Health (2018). *Princeton Baptist Medical Center's wound and ostomy care team outranks the national average for pressure injury prevalence*.  
[Hospitals & Emergency Room in Birmingham, AL | Brookwood Baptist Health](#)
- Everett Day, S., Koirala, B., & McIltrout, K. (2022). Repositioning Strategies to Prevent Pressure Injuries in the ICU: Integrative Review on Implementation Factors. *Advances in Skin & Wound Care*, 35(6), 344–351. <https://doi.org/10.1097/01.ASW.0000821772.03685.77>
- Gaspar, S., Peralta, M., Budri, A., Ferreira, C., & Gaspar de Matos, M. (2022). Pressure ulcer risk profiles of hospitalized patients based on the Braden Scale: A cluster analysis. *International Journal of Nursing Practice*, 28(6). <https://doi.org/10.1111/iwj.13147>

- Gunningberg, L., Sying, E., Hommel, A., Alenius, C., Wiger, P., & Baath, C. (2019). Tracking pressure injuries as adverse events: National use of the global trigger tool over 4 years. *Journal of Evaluation in Clinical Practice*, 25(1), 21-27.  
<https://doi.org/10.1111/jep.12996>
- Gupta, P., Shiju, S., Chacko, G., Thomas, M., Abas, A., Savarimuthu, I., Omari, E., Al-Balushi, S., Jessymol, P., Mathew, S., Quinto, M., McDonald, I., & Andrews, W. (2020). A quality improvement program to reduce hospital-acquired pressure injuries. *BMJ Open Quality*, 9(3), e000905. <https://doi.org/10.1136/bmjopen-2019-000905>
- Haavisto, E., Stolt, M., Puukka, P., Korhonen, T., & Kielo-Viljamaa, E. (2022). Consistent practices in pressure ulcer prevention based on international care guidelines: A cross-sectional study. *International Wound Journal*, 19(5), 1141–1157.  
<https://doi.org/10.1111/iwj.13710>.
- Li, Z., Marshall, A. P., Lin, F., Ding, Y., & Chaboyer, W. (2022). Registered nurses' approach to pressure injury prevention: A descriptive qualitative study. *Journal of Advanced Nursing*, 78(8), 2575–2585. <https://doi.org/10.1111/jan.15218>
- McLeod, Saul (2019). Simply Psychology. *What a p-value tells you about statistical significance*. [Understanding P-Values and Statistical Significance \(simplypsychology.org\)](https://www.simplypsychology.org/understanding-p-values-and-statistical-significance)
- Najmi, A., Sadasivam, B., & Ray, A. (2021). How to choose and interpret a statistical test? An update for budding researchers. *Journal of Family Medicine and Primary Care*, 10(8), 2763–2767. [https://doi.org/10.4103/jfmpe.jfmpe\\_433\\_21](https://doi.org/10.4103/jfmpe.jfmpe_433_21)
- National Geographic Society (2023). Education. *Quantitative Data*. National Geographic.  
<https://education.nationalgeographic.org/resource/quantitative-data/>



Rondinelli, J., Zuniga, S., Kipnis, P., Kavar, L. N., Liu, V., & Escobar, G. J. (2018). Hospital-acquired pressure injury: Risk-adjusted comparisons in an integrated healthcare delivery system. *Nursing Research*, 67(1), 16–25.

<https://doi.org/10.1097/NNR.0000000000000258>

Statistics Kingdom (2023, April). *Statistics Online*. <https://www.statskingdom.com/>

Sylvia, M., & Terhaar, M. (2018). *Clinical analytics and data management for the DNP* (2nd Edition). Springer Publishing Company, LLC.

The Joint Commission. (2022). *Quick Safety 25: Preventing Pressure Injuries* (Updated March 2022). <https://www.jointcommission.org/>

Tripathy J. P. (2013). Secondary Data Analysis: Ethical Issues and Challenges. *Iranian Journal of public health*, 42(12), 1478–1479.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4441947/>

Ward, B. (2020). Q&A: how to prevent hospital-acquired pressure ulcers/injuries. *Med Environ Update*, 30(11), 6-9.

Wojciechowski, E., Pearsall, T., Murphy, P., & French, E. (2023). The Online Journal of Issues in Nursing. A scholarly Journal of the American Nurse Association. A Case Review: Integrating Lewin's Theory with Lean's System Approach for Change.

<https://doi.org/10.3912/OIJN.Vol21No02Man04>.

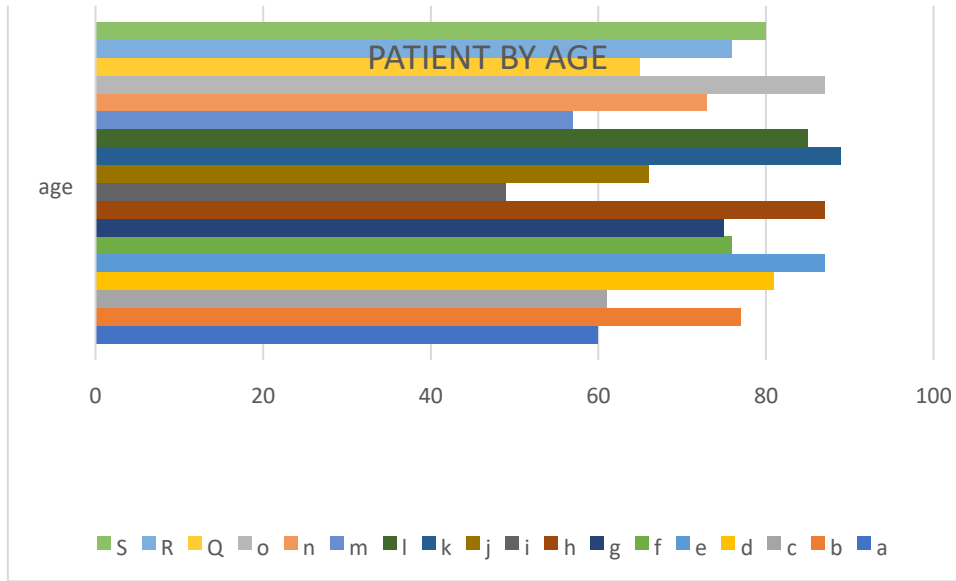
Yilmazer, T., & Tuzer, H. (2022). Effectiveness of a pressure injury prevention care bundle.

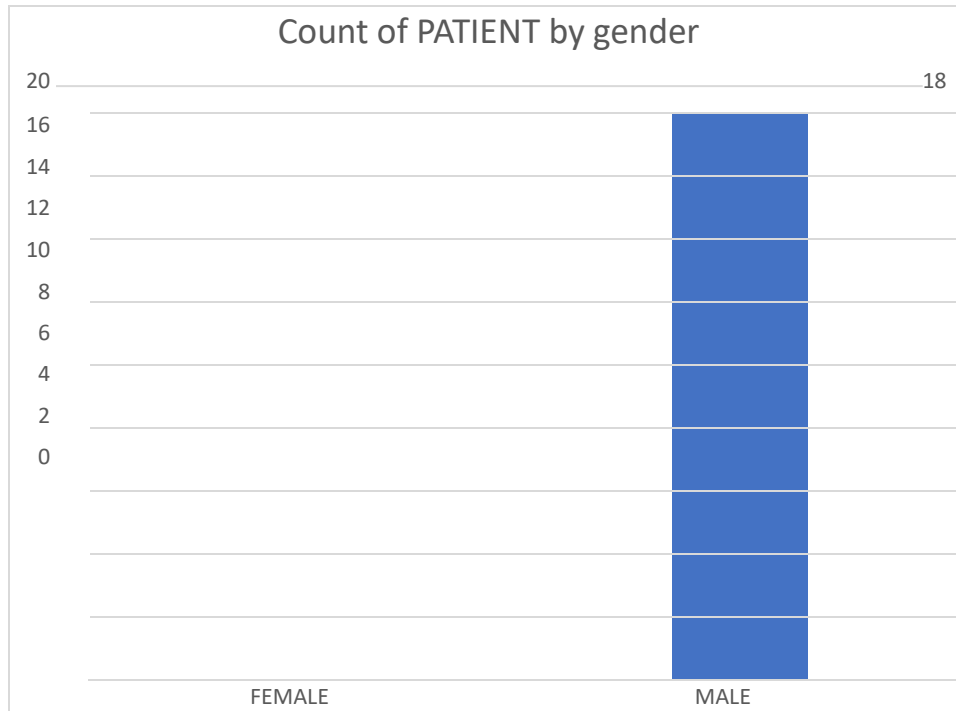
Prospective interventional study in intensive care units. *Journal of Wound, Ostomy &*

*Continence Nursing*, 49(3), 226–232. <https://doi.org/10.1097/WON.0000000000000875>

**Table 1**

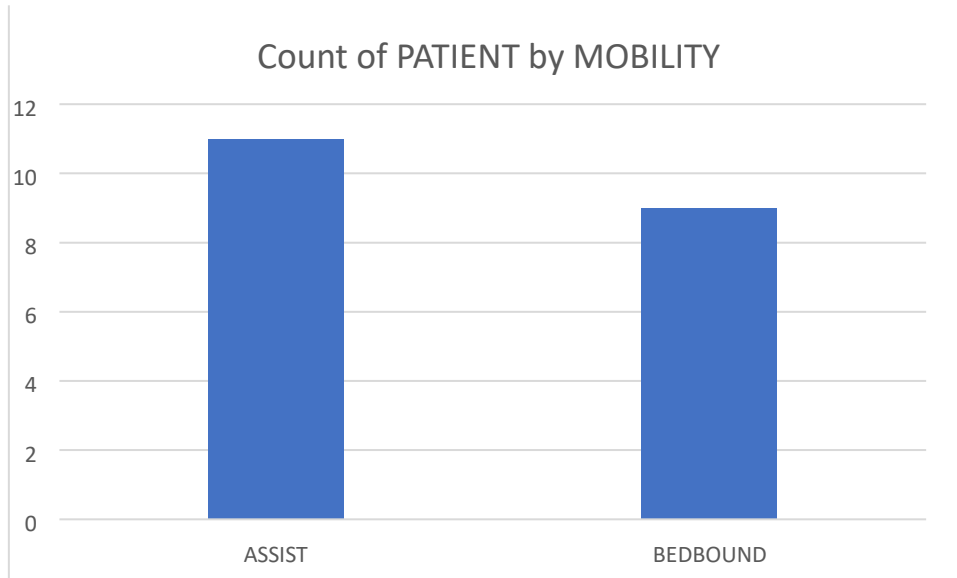
*Descriptive Analysis: Age*



**Table 2***Descriptive Analysis: Gender*

**Table 3**

*Descriptive Analysis: Mobility*



## Appendix A

### SWOT Analysis

**Strengths:** The trained staff in the unit, the nursing informatic tools, and the support from leadership.

**Weaknesses:** The attitudes of the staff and the culture of the unit. There is understaffing which equates to increased responsibilities, and an increased nurse-to-patient ratio, which causes a decrease in the quality of care given to the patients, nurse burnout, medical errors, missing documentation, and low morale.

**Opportunities:** Opportunities include teaching the staff about evidence-based practice. The opportunity to bring awareness to the staff and leadership of future policy adjustments.

Informing the staff of successful results helps with the buy-in of staff to ensure the desired outcomes.

**Threats:** Malpractice lawsuits for death related to complications from pressure injuries and the loss of reimbursements from the Center of Medicaid and Medicare Services and increased costs incurred by the facility.

## **Appendix B**

### **DNP Project Intervention Protocol**

#### **EVIDENCE-BASED PROTOCOL**

- SKIN ASSESSMENT AT ADMISSION (TWO NURSE VERIFICATION)
- IDENTIFY AT-RISK PATIENTS BY BRADEN SCORE
- PLACE A PIP CARD ON THE DOOR
- PLACE A MEPILEX ON THE PATIENT'S SACRUM AND HEEL PROTECTORS ON THE PATIENT'S HEEL
- NOTIFY THE MD OF THE NEED FOR A NUTRITION CONSULT
- NOTIFY THE MD OF THE NEED FOR A PT/OT CONSULT (This depends on the patient's diagnosis, i.e., Hip Arthroplasty)
- REPOSITION THE PATIENT EVERY 2 HOURS, SKIN MOISTURE CHECK, AND SUPPORT SURFACES
- UNIT CHAMPION TO ENSURE COMPLIANCE
- FOLLOW UP ON VOCERA REMINDERS FOR UNIT CHAMPIONS AND NURSES (SPECIFIC ROOM NUMBERS FOR IDENTIFIED AT-RISK PATIENTS)
- DOCUMENTATION IN THE ELECTRONIC HEALTH RECORD

## Appendix C

### Agency Letter of Support



**DEPARTMENT OF VETERANS AFFAIRS**  
Medical Center  
700 South 19th Street  
Birmingham, AL 35233

In Reply Refer To: 521/118

To whom it may concern:

This letter confirms my approval for Jacksonville State University graduate nursing student Nekia Whitlow. Ms. Whitlow has received our approval to focus on hospital-acquired pressure injury measures over the coming year, pending IRB approval.

Sincerely,

A handwritten signature in black ink, appearing to read "Cynthia Cleveland".

Cynthia Cleveland, RN, DNP, NE-BC  
Associate Director for Patient Care Service

**Appendix D**

DNP Project Participation Recruitment Flyer

Presenting:  
Nekia Whitlow  
And the  
PIPS

(PRESSURE INJURY PREVENTION STAFF)

The Best Performance at VA

Project Implementation, Professional development, and education on

5Main.

**NEXT WEEK, DON'T MISS IT**



## Appendix E

### Theoretical Model

The theory used to guide this project was Kurt Lewin's Change theory. This theory has three stages: unfreezing, change, and refreezing. The process entails implementing a new technique or strategy to change the old way of doing things that did not yield favorable outcomes (unfreezing). These methods are known as driving forces. The next stage involves changing the culture (Thoughts, beliefs, behaviors, and feelings) so those involved feel included and productive. Finally, consistently reiterating, monitoring, and enforcing a behavior so that it becomes second nature (habit) to create sustainability(refreezing). Criteria used to choose an approach for the research included articles developed within the last five years, a process that addressed noncompliance or nonproductive habits, and evidence-based practices that yielded desired outcomes. The DNP student began by posting flyers of the upcoming implementation throughout the unit. Next, the staff was educated on the intervention protocol, assigned roles for the team, and welcomed ideas and suggestions. There were reminders, weekly in-services, and audits to ensure compliance with the strategies. A weakness of this methodology was keeping employees indulged. Employees are not open to change because it may change their routines, add duties to their workload, or show a lack of productivity based on the strategies. This project was perfect for this model because it focused on change and sustainability. Once the attitudes of the staff are changed and everyone buys into the purpose and need for improvement, success will follow.

## Appendix F

### JSU IRB Approval Letter



#### **Institutional Review Board for the Protection of Human Subjects in Research**

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

**December 5, 2022**

Nekia Whitlow  
700 Pelham Rd. North  
Jacksonville, AL 36265

Dear Nekia:

Your project "The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of Hospital-Acquired Pressure Injuries on a VA Medical Surgical Unit" 12052022-01 has been granted exemption by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB). If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

Best wishes for a successful research project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lynn Garner', written over a horizontal line.

Lynn Garner  
Associate Human Protections Administrator, Institutional Review Board

## Appendix G

### Consent Form

#### Participant Consent Form

Title of the DNP Project: The Implementation of the Pressure Injury Prevention Protocol to Reduce the Incidence of Hospital-Acquired Pressure Injuries in a VA Medical Surgical Unit

Principal Investigator (PI): Nekia Whitlow, RN

Contact Information: [nwhitlow@stu.jsu.edu](mailto:nwhitlow@stu.jsu.edu)

This consent form is part of an informed consent process for a DNP student project, and it will provide information that will help you decide whether you wish to volunteer for this project. It will help you to understand what the study is about and what will happen during the project.

If you have questions at any time during the project, you should feel free to ask them and should expect to be given answers that you understand clearly. After all your questions have been answered, you may give consent to participate. You are not giving up any of your legal rights by volunteering for this DNP project.

Why is this project being done? This project aims to address the reduction in hospital-acquired pressure injuries in a medical-surgical unit at BVAMC.

What will you be asked to do if you take part in this research project? The PI will implement an evidence-based pressure injury prevention bundle.

What are the risks or discomforts you might experience if you take part in this project? No expected harm can occur from participating in this study. This project has no influence or involvement from upper management, and participation is voluntary. Upper management will be

excused from participation and not be provided with any information regarding survey results or nurse participation in this project. Participation in this project is of no cost to you.

## Appendix H

### Teaching Material

- The Braden Scale is a standardized tool to assess pressure ulcer risk that is reported for all hospitalized patients in the United States per requirements of the Center for Medicare and Medicaid Services (Sundaram, Lim, Tholey et. Al, 2017).
- The Braden Scale is made up of six subscales (sensory perception, moisture, activity, mobility, nutrition, friction/shear) scored from 1 to 4 (1 for a low level of functioning and 4 for the highest level or no impairment).
- Patients are categorized according to the Braden Scale at hospital admission as low (>18), moderate (16-18), or high risk (<16) for pressure ulcers. Scores of 18 or less generally indicate at-risk status. This scale may need to be adjusted on an individual basis on your unit or according to your hospital guidelines.
- The accuracy of the Braden Scale depends on the person completing it. Evidence has shown significant variability among staff even when evaluating the same patient. It is crucial that training on how to use the scale is provided to ensure consistency (AHRQ.gov, n.d.).

Agency for Healthcare Research and Quality. *Preventing Pressure Ulcers in Hospitals.*

<https://www.ahrq.gov>

Sundaram, V., Lim, J., Tholey, D. M., Iriana, S., Kim, I., Manne, V., Nissen, N. N., Klein, A. S., Tran, T. T., Ayoub, W. S., & Schlansky, B. (2017). The Braden Scale, A standard tool for assessing pressure ulcer risk, predicts early outcomes after liver transplantation. *Liver transplantation: official publication of the American Association for the Study of Liver*

*Diseases and the International Liver Transplantation Society*, 23(9), 1153–1160.

<https://doi.org/10.1002/lt.24789>

- According to The Joint Commission, evidence-based research has shown that each year more than 2.5 million people in the United States develop pressure injuries, and 60,000 die from their complications.
- The cost of a single full-thickness pressure injury can amount to \$70,000, and the total cost for treatment of a pressure injury in the United States is around \$11 billion a year (Ward, B., 2020).
- Hospital-acquired pressure injuries result in pain, increased financial obligations for treatments, extended hospital stays, and in some cases, death. The United States Centers for Medicare and Medicaid Services (CMS), as of 2008, will not reimburse hospitals for the additional cost incurred for pressure injuries acquired while inpatient.
- The #1 most common malpractice claim in the U.S.; many cases settle for more than \$1 million.
- The International Guideline, Prevention, and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline was developed by The European Pressure Ulcer Advisory Panel (EPUAP), The National Pressure Injury Advisory Panel (NPIAP), and The Pan Pacific Pressure Injury Alliance (PPPIA).
- The guideline presents evidence-based recommendations for pressure injury prevention strategies and treatment in all settings and population groups. Nurses are at the forefront of pressure injury prevention requirements; however, the process requires appropriate resources and support from the organization, colleagues, and patient cooperation.

## Appendix I

### Project Timeline

Task	May	June	July	August	September	October	November	December
Obtained Preceptor			x					
Met with Stakeholders			x					
Received Approval of Problem by Stakeholders			x					
Receive IRB Approval			x					

Task	January	February	March	April	May	June	July	August
Implementation of project	x							
End of project			x					
Disseminate Findings to Agency							x	
Present at JSU Dissemination Day							x	
Graduation								x

**Appendix J****CITI Training Certificate**

		Completion Date 28-Aug-2022 Expiration Date 27-Aug-2025 Record ID 50851298
This is to certify that:		
<b>Nekia Whitlow</b>		
Has completed the following CITI Program course:		
<b>Social and Behavioral Responsible Conduct of Research</b> (Curriculum Group)		
<b>Social and Behavioral Responsible Conduct of Research</b> (Course Learner Group)		
<b>1 - RCR</b> (Stage)		
Under requirements set by:		
<b>Jacksonville State University</b>		
		
Verify at <a href="http://www.citiprogram.org/verify/?w92e34b5c-cd06-423f-acdf-328aa0a74c62-50851298">www.citiprogram.org/verify/?w92e34b5c-cd06-423f-acdf-328aa0a74c62-50851298</a>		