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## Assessing Nurses' Knowledge of the Prevention of Pressure Injuries

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

## **Doctor of Nursing Practice**



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College of Graduate and Professional Studies

Assessing Nurses' Knowledge of the Prevention of Pressure Injuries

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

by

Olive Kaine Tariah

May 2024

## **Dedication**

I solely dedicate this project to the Almighty God the author and finisher of my faith and the God of Impossibilities. And to my precious mother, thank you for nurturing me and helping me always believe in myself. You taught us to always put God first in all our life endeavors, because He alone can fight all our battles in life, God has been faithful to us. My God, what you cannot do does not exist, thank you Lord.

## **Acknowledgments**

My thanks go first to God, my strength, for his grace and mercy sustained me through this beautiful journey, for his glory. I thank my ever-loving, caring, and precious daughter, who is my rock and supported me prayerfully. During difficult times, she always reminded me that those who wait upon the Lord shall renew their strength, they shall mount up wings like eagle, they shall run and not be weary, and they shall walk and not faint (Isaiah 40:31). I am profoundly grateful to my dear husband for his unrelentless support, encouragement, and prayers, always reminding me to put my trust in God. I am very grateful to my project chair Dr. Cheryl Green for her words of wisdom, prayers, dedication, and encouragement, which helped me to press on to this great achievement. Dr. Marcia Sotelo, thank you immensely for sharing your expertise with me in this journey; despite your busy schedule, you were always supportive in every way possible. I thank Dr. Julie Lane for putting together this wonderful team; I am grateful and appreciative. Thank you all.

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## Abstract

Pressure injuries are rated as the third most costly health problem, with deaths of about 60,000 in the United States due to complications annually and with a high mortality rate from complications. Incidences of pressure injury differ in various clinical settings, although the incidence rate ranges from 4% to 38% in hospitalization and mortality. Secondary complications among older individuals are approximately 68%. Pressure ulcers are injuries caused by unrelieved pressure, shear, friction, or a combination of all these to the skin or underlying tissues. Pressure ulcers develop from a prolonged tissue compression between a bony prominence and an external surface. They cause patients pain and discomfort and can lead to decreased quality of life, delayed healing, and prolonged hospital stays. People with medical conditions that limit their ability to change positions or those who spend most of their time in bed or chair are mostly at risk of pressure ulcers. The purpose of this project was to determine if evidence-based educational sessions provided to nurses would help to improve their consistent utilization of evidence-based assessment tools to perform comprehensive skin assessment, leading to a reduction in the incidences of pressure injury. Also, nurses should be encouraged to consistently use evidence-based assessment tools, such as the Braden Scale, to help reduce incidences of pressure injuries. The researcher used the pressure injury preventive bundle to provide education to medical-surgical nurses to help increase awareness in preventing pressure injuries using the bundle. The researcher also evaluated nurses' self-efficacy in their use of evidence-based assessment tools to prevent pressure injuries in at-risk patients in healthcare

clinical settings. Participants' post education knowledge assessment, practice, and attitude levels significantly improved after they received the education and training.

*Keywords:* pressure injuries, Braden Scale, nurse's knowledge, skin assessment, nursing education



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## Chapter 1: Introduction

### Background

Pressure injuries are sometimes called pressure ulcers or decubitus ulcers. It is defined as an injury of the skin over the bony prominences or underlying tissues due to the combination of pressure and shear. Pressure injury (PI) incidences continue to rise in all healthcare settings. After cardiovascular disease and cancer, the third-ranked most costly disease has been PIs (Afzali et al., 2020). One of the biggest health challenges in the healthcare industry has been the high incidences of PIs. Despite the high cost of treatment, the implementation of the best practices, preventive measures, and other interventions, this issue has remained a huge problem for healthcare organizations and caregivers daily. The population at high risk for PI can include critically ill patients, older individuals those using vasoactive medications, and those not hemodynamically stable (Joint Commission, 2022). Risk factors that predispose patients to PI that nurses need to know include advanced age, malnutrition, immobility, inadequate hydration, circulatory issues, incontinence, device-related skin pressure, and multiple comorbidities (Ebi et al., 2019). In most cases, pressure ulcers are preventable, and working to resolve this issue should involve the entire healthcare system, not solely nurses. It is expected that nurses must have sufficient expertise in successfully implementing PI best practices prevention strategies (Parisod et al., 2021). Because PI treatment is costly and preventable, healthcare professionals are expected to adhere to recommended best practice preventive measures. In 2008, the Centers for Medicare and Medicaid Services (CMS) informed the hospitals that they would not receive any payments for hospital-acquired PIs from CMS (Joint Commission, 2022).

PIs have remained a considerable problem for nurses to manage because either nurse do not fully understand the intricacy of using up-to-date best practices assessment tools or they do

not possess the self-efficacy to do so (Wu et al., 2022). In some instances, and for inexplicable reasons, nurses would instead implement preventive methods based on their intuition, experience, or habit instead of using evidence-based methods that would yield good patient outcomes. It is estimated that about 75% of patients admitted to hospitals may end up with PIs; these patients have longer stayed than anticipated in the hospital and, upon discharge, experience decreased quality of life. They are affected socially, emotionally, and financially by the high cost of health care, increased pain and suffering, and sometimes death from complications (Buh et al., 2021).

Patients' ability to interact socially has been highly affected by changes in body image, malodor and fluid leakage from PI-affected sites, pain, immobility, and the loss of independence, leading to social exclusion. Some of these patients, upon discharge, may likely end up in long-term care facilities for wound care and rehabilitation. If nurses, nursing assistants, and other health care personnel adhere to approved evidence-based preventive care guidelines, patients would not be subjected to pain and suffering as outlined above (Buh et al., 2021). Additionally, insufficient nurse knowledge and failure to implement PI-preventing measures can exacerbate the patient's chance of developing PI. Therefore, nurses need ongoing education because PI prevention (PIP) can improve the quality of patient care, reduce the length of hospital stay, and reduce incidences of PIs (Wu et al., 2022). Nurses are in a favorable position to advance the best practices for preventing pressure ulcers; therefore, they should know the signs and symptoms of pressure ulcers and be knowledgeable of management and preventive strategies to reduce their incidences.

Parisod et al. (2021) conducted a correlational and cross-sectional study that revealed that lack of knowledge prevents nurses from using proven and effective PI preventive methods.

Supporting any observed nurses' positive attitudes toward preventing PI is essential and should be part of nursing education (Parisod et al., 2021). According to Blenman and Marks (2017), nurses' insufficient knowledge of evidence-based assessment tools has significantly contributed to the higher prevalence of PIs. Prevention is expected to be the goal of all nurses as it is an essential aspect of nursing practice. Preventing PIs is one of the most significant healthcare challenges in reducing patient harm. The problem of nurses' lack of knowledge regarding PIP has been a global issue, because, according to Dalvand et al. (2018), studies carried out in different countries have indicated that nurses exhibit the same problems of knowledge deficit in PIP. Notably, geographical regions do not influence nurses' knowledge deficit on PIP. This problem in the profession should be given the immediate attention it urgently requires in every healthcare organization. If not taken seriously, this issue may lead to reduced quality care and increased risk to patient safety.

### **Purpose of the Study**

The purpose of this DNP project was to evaluate nurses' knowledge of how they can utilize evidence-based assessment tools to prevent PIs in at-risk patients in healthcare clinical settings, leading to reduced PIs. With an increased incidence of PIs, especially among patients admitted to hospitals, there is concern that nurses do not have adequate knowledge on how to implement evidence-based preventive measures consistently. When nurses lack the knowledge and skills to provide quality care to patients, it can jeopardize patients' safety and can expose them to harm. PIs are preventable. Still, due to the lack of knowledge attributed to nurses on the consistent implementation of best-practice preventive measures, the prevalence of PIs has remained very high. According to the Joint Commission (2022), high incidences of PIs are assumed to be nurses' dereliction of duty, which may have contributed to premature mortality

and a marker of poor patient prognosis (Joint Commission, 2022). The study by Parisod et al. (2021) revealed no proven method of improving the knowledge and skills of nurses. Still, researchers recommend continuous education, up-to-date information on evidence-based practice, leaders, and team support to improve nurses' knowledge effectively.

According to public opinion, nurses are expected to be the most knowledgeable about PIP (Parisod et al., 2021). Nurses with adequate knowledge understand that using evidence-based assessment tools and implementing preventive measures should begin during the comprehensive admission assessment, because any patient can be potentially at risk of developing PIs. Nurses are expected to identify at-risk patients utilizing the Braden Scale assessment tool during admission, because identifying these patients enables the nurse to initiate care plans according to the patient's specific needs and facility policies. PIP is essential to nursing practice; it helps reduce the cost of medical services and the incidence of PIs, patient suffering, and extended hospital stay. Decreasing the incidence of PIs in all healthcare settings is essential, hence the need for nurses to improve their skills and knowledge by attending seminars, training programs, and in-services in various healthcare settings.

### **Organizational Needs Assessment**

Organizational assessment is a tool used to identify an organization's strengths, weaknesses, opportunities, and threats, providing important information for decision-making. The primary purpose of conducting an organizational assessment is to gain a comprehensive understanding of an organization's strengths and weaknesses. This knowledge enables leaders and decision-makers to identify areas that require improvement and develop strategies to enhance organizational performance and productivity. The evaluation provides a holistic view of



the organization's current state and serves as a foundation for making informed decisions and implementation of effective strategies.

### ***SWOT Analysis***

SWOT stands for strengths, weaknesses, opportunities, and threats. SWOT analysis is used to identify an organization's internal strength, weaknesses, external opportunities, and threats. The analysis gives the organization a view of their current situation, then stakeholders strategize to capitalize on strengths, address weaknesses, seize any available opportunities, and mitigate any notable threats. Using the SWOT analysis for this project was crucial, because there were gaps noted in the organization's current practice that required change for better patient outcomes. The organization has previously tried to mitigate this problem by inconsistent in-service education, change of barrier cream used on incontinent patients, and other incentives of providing gift cards to nursing staff whose patients do not develop PIs while on admission.

### ***Strengths***

The three strengths of the organization were the ability to acknowledge they had a problem and tried to mitigate it, they have nursing staff who had confidence in the organization and was ready to accept changes for better patient outcomes, and a leadership that was ready, no matter the financial cost, to makes changes when recommendations were made to change the barrier cream.

### ***Weaknesses***

Weaknesses observed were a high nurse-to-patient ratio, staff shortages, inconsistent use of classes or in-service education, and the organization had not updated their software to the current technology. These problems are a setback for the nursing staff. With current technology, nursing staff could register and complete the online education modules and familiarize

themselves with current evidence-based assessment tools used in the skin assessment of patients, especially during admission to identify those at risk of developing PIs.

### ***Opportunities***

The opportunities available for this organization are to provide frequent education to the RNs on the medical-surgical unit on the consistent use of evidence-based skin assessment tools, which are the care bundles and the Braden Scale, to identify patients at risk of developing PIs. In addition, it would ensure that nursing staff update their software to acquire modules that help them learn all about PIP.

### ***Threats***

The organization leadership should be willing to mitigate these problems within the organization. Since the pandemic there have been staff shortages because most of the nurses left to become travel nurses for higher pay. The organization needs to review nurses' payment rates, consider changing the organization's health insurance, and hire more nursing staff.

### **Statement of the Problem**

It is essential that nurses be provided with adequate education on PIP using evidence-based best practices and assessment tools. Nurses must understand that self-efficacy leads to improved practice, patient care, and decreased pressure ulcers. The hospital management should provide mandatory education classes for nurses using care bundles, especially those on the medical-surgical unit. Care bundles are the implementation of multi-component pressure ulcer prevention interventions, including a risk assessment, adequate nutrition, repositioning of patients, support surfaces, mobility, moisture, and friction prevention. To ensure significant clinical outcomes, the best practices care bundle intervention should be implemented consistently and collectively (Floyd et al., 2021).

Mendes et al. (2019) conducted a systematic review and used a meta-analysis study to evaluate the effectiveness of an educational intervention. The study result determined that the intervention was successful because it increased and improved nurses' knowledge (Mendes et al., 2019). According to Floyd et al. (2021), a systematic review study by Quaseem et al. in 2015 evaluated the effectiveness of a care-bundle intervention. The report indicated that implementation of the care bundle was remarkable; there was a notable reduction in hospital-acquired PIs, with improved skin and reduced cost savings of \$3,000 per case.

In addition to using care bundles, nurses must familiarize themselves with the Braden Scale, and its importance, reliability, and effectiveness when properly used. The best evidence-based reliable assessment tool is the Braden Scale, which helps predict patients at risk of developing PIs (Hovans, 2021). The Braden Scale should be utilized during admission, in every shift, and if the nurse observes any notable change in the patient's skin condition. This assessment tool has proven to be effective, reliable, and valuable in decreasing and preventing PI development if accurately implemented and accurately scored during an assessment. Nurses must understand that the Braden Scale is one of the most effective ways to perform an accurate skin assessment, detect any susceptible high-risk areas, develop a care plan, and optimize treatment. Thorough skin assessment with the Braden Scale is vital during admission, in every shift, and as needed.

When nurses have good knowledge about the effectiveness of this assessment tool and with sound clinical judgment, they can develop accurate interventions that help prevent the incidences of pressure ulcers if well-implemented. Educating nurses should include explaining and demonstrating how PI occurs in patients at risk; PIs can recur in patients who previously had PIs and patients with past surgical histories that involved skin integrity. The nurses are

responsible for ensuring that all best practices and preventive measures are implemented accordingly. Also, the certified nurse assistants should be educated on how preventive measures can be applied to patients. Inclusive is the thorough and gentle cleaning of skin when providing care to incontinent patients, non-use of irritating cleaning agents, the application of moisturizers on dry skin. It is also vital that the patient's skin always remains clean and dry. The use of special pressure-relieving mattresses would be beneficial as the surfaces would help to relieve pressure. Per facility policy, proper lifting equipment can be used to reposition those patients who require them. In addition, protein is essential in the diets of malnourished patients—this category of patients is more susceptible to developing PIs.

### **Project Purpose**

The purpose of this DNP project was to evaluate nurses' knowledge of how they can utilize evidence-based assessment tools to prevent PIs in at-risk patients in healthcare clinical settings, leading to reduced PIs. With an increased incidence of PIs, especially among patients admitted to hospitals, there is concern that nurses do not have adequate knowledge on how to implement evidence-based preventive measures consistently. When nurses lack the knowledge and skills to provide quality care to patients, it can jeopardize patients' safety and can expose them to harm. PIs are preventable. Still, due to the lack of knowledge attributed to nurses on the consistent implementation of best practice preventive measures, the prevalence of PI has remained very high. According to the Joint Commission (2022), high incidences of PI are assumed to be nurses' dereliction of duty, which may have contributed to premature mortality and a marker of poor patient prognosis. The study by Parisod et al. (2021) revealed no proven method of improving the knowledge and skills of nurses. Still, researchers recommend

continuous education, up-to-date information on evidence-based practice, and the support of leaders and teams to improve nurses' knowledge effectively.

According to public opinion, nurses are expected to be the most knowledgeable about PIP (Parisod et al., 2021). Nurses with adequate knowledge understand that using evidence-based assessment tools and implementing preventive measures should begin during the comprehensive admission assessment because any patient can be potentially at risk of developing PIs. Nurses are expected to identify at-risk patients utilizing the Braden Scale assessment tool during admission because identifying these patients enables the nurse to initiate care plans according to the patient's specific needs and facility policies. PIP is essential to nursing practice; it helps to reduce the cost of medical services and the incidence of PIs, patient suffering, and extended hospital stay. Decreasing the incidence of PIs in all healthcare settings is essential, hence the need for nurses to improve their skills and knowledge by attending seminars, training programs, and in-services in various healthcare settings.

### **PICOT Question**

- (P) For nurses in a medical-surgical unit.
- (I) What impact does attending an evidence-based educational session have on PIs.
- (C) As compared to not attending the session.
- (O) Have nurses' knowledge and self-efficacy related to PIs as well as the rate of PIs on the unit.
- (T) Over a period of 4 days.

## Operational Definitions

**Braden scale.** The Braden Scale is one of the most effective tools used to perform an accurate skin assessment, detect any susceptible high-risk areas, develop a care plan, and optimize treatment (Afzali et al., 2020).

**Care bundles.** Care bundles include the implementation of multi-component pressure ulcer prevention interventions, including a risk assessment, adequate nutrition, repositioning of patients, support surfaces, mobility, moisture, and friction prevention (Floyd et al., 2021).

**Pressure Injury.** PIs are also called pressure ulcers or decubitus ulcers. It is defined as an injury of the skin over the bony prominences or underlying tissues due to the combination of pressure and shear (Afzali et al., 2020).

## Chapter Summary

This DNP project included a discussion on how incidences of PIs, also called pressure ulcers or decubitus ulcers, continue to rise in all healthcare settings. One of the biggest health challenges in the healthcare industry has been the high incidences of PIs. Despite the high cost of treatment, the implementation of the best practices, preventive measures, and other interventions, this issue has remained a huge problem for healthcare organizations and caregivers daily. The public perception has remained that nurses are not knowledgeable about PIP (Parisod et al., 2021). It is expected that nurses should have adequate knowledge and understanding of PIP, because PIs are among the most significant healthcare challenges confronting health professionals. Although the problem of nurses' lack of knowledge regarding PIP has been a global issue, according to Dalvand et al. (2018), studies carried out in different countries have indicated that nurses exhibited knowledge deficits in PIP.

This DNP project was guided by the following research question: For nurses on a medical-surgical unit (P), what impact does attending an evidence-based educational session on PIs (I), as compared to not attending the session (C), have on nurses' knowledge and self-efficacy related to PIs, and the rate of PIs on the unit (O) over a period of 4 days (T).

The project intervention was to provide educational sessions to RNs in the medical-surgical units who provide direct care to patients with the goal of creating awareness among nurses in the utilization of evidence-based PIP care bundle, including the Braden Scale.

## Chapter 2: Literature Review

Nurses' knowledge plays a significant role in preventing PIs because, due to the high incidences of PIs, nurses have been blamed for lack of knowledge in using the best practice strategies and designated assessment tools to prevent PI. This chapter provides a literature overview that helped to steer the research project and answered the PICOT question.

### Synthesis of Literature

I completed a search of relevant literature using Abilene Christian University's library databases, CINAHL, PubMed, and ScienceDirect. The search words were *pressure injury*, the *best practices*, *pressure ulcer*, *nurses' knowledge*, *prevention*, and *decubitus ulcer*. The screening was done on about 3,425 PI-prevention articles; then, I narrowed it to 85 publications; 15 studies were deemed more relevant to the issue after the screening because they were meta-analysis, descriptive, cross-sectional, quantitative, and reviews.

### The Prevalence of PI

PI is rated as the third most costly health problem, with deaths of about 60,000 due to complications annually, and with a high mortality rate from complications (Afzali et al., 2020). Meta-analysis and systematic review studies conducted by Afzali et al. (2020) evaluated the factors that influence the incidence rates, identified the causes, and implemented adequate preventive measures. Incidences of PIs differ in various clinical settings, although the incidence rate ranges from 4% to 38% in hospitalization and mortality. Secondary complications among the elderly are approximately 68% (Afzali et al., 2020). Annually, the cost of prevention and treatment of PIs in the United States was about \$11 billion (Afzali et al., 2020). From this systematic review and meta-analysis studies, it was revealed that about 12% of PI incidences



worldwide occurred in inpatient clinical settings. The authors recommended that professionals focus more on improving their knowledge and skills in preventing PIs.

The education of healthcare professionals must be incorporated into the priorities of the healthcare systems globally (Afzali et al., 2020). A systematic review by Etafa et al. (2018) revealed rates of PI incidences in various healthcare settings. The report put the range from 2.2%–23.9% in long-term care, from 0%–17% in-home care, and in the acute care setting it ranged from 0.4%–38% (Etafa et al., 2018). According to the report, database studies were performed using secondary retrospective analysis; it showed that despite the awareness of pressure ulcer campaigns in the hospitals, about 3.5%–4.5% of patients in hospitals could develop hospital-acquired pressure ulcers. Patients with pressure ulcers experience many emotions, pain, low self-esteem, and extended length of hospitalization, leading to financial problems (Etafa et al., 2018).

The prevalence of PIs is a global problem. Using a global systematic review and meta-analysis, a study by Afzali et al. (2020) indicated that incidences of PI is about 12% among inpatients worldwide. Similar studies were carried out in the Netherlands, Germany, and Italy, which reported 11.1% of inpatients developed PI during their hospital stay (Afzali et al., 2020). Blenman and Marks (2017) carried out a PI program (PIP), an introductory interactive education session conducted using a questionnaire on preventing PI involving both the support healthcare workers and health professionals. After the program, participants used the questionnaire to evaluate the knowledge and skills gained from the education, and the results revealed that they were confident and ready in implementing best practices to prevent PIs (Blenman & Marks, 2017).

The National Institute for Health and Care Excellence (NICE, 2015) reported that in 2011-2012 pressure ulcers were a concerning patient safety issue, accounting for about 19% of all the safety reports. Wang et al. (2018) examined why there were incidences of medical device-related PI (MDRPI) at the cardiac care unit, because, compared to MDRPIs in 2015, which was 0.4% in 2016, PI levels increased to 1.1% in the same unit. According to the review, the increase in PIs was attributed to a deficit in the nurses' knowledge of how to use this PI device, and inadequate training and ineffective education were all causes of the increase in PIs. Nurses at the continuing care unit were provided with good educational courses, which helped increase their knowledge of using care bundles. The outcome was to reduce PI from 0.8% to 0.3%, and subsequently, it was reduced to 0.1%, which is an outstanding improvement (Wang et al., 2018). Improved and increased knowledge gained from the education program showed a significant improvement in the quality of care, leading to a reduction in the incidence of PI.

### **Nurses' Awareness of Pressure Injury**

Ezgi et al. (2022) conducted a descriptive, cross-sectional study from five hospitals located in the Southeast Anatolia region of Turkey. The total population of study from the five hospitals was 406 volunteered nurses (Ezgi et al., 2022). Among the participants in the study, there were 144 nurses with a Bachelor of Science degree in nursing, 252 nurses had an associate degree, and 10 postgraduate nurses (Ezgi et al., 2022). The study results revealed that educational status can affect nurses' knowledge level, because postgraduate nurses with more comprehensive education had better scores than nurses working at public and private hospitals. The postgraduate nurses exhibited excellent knowledge of PIP. In addition, nurses with 10 years or more revealed increased knowledge levels than less experienced nurses (Ezgi et al., 2022). The study showed reduced knowledge of PIP among nurses; it was essential to improve nursing

education and postgraduate training on PI and their prevention. To help increase nurses' knowledge, health organizations should make evidence-based practice information accessible to nurses and standardized training programs with evidence-based data skin assessment tools. Nurses' knowledge must be evaluated frequently (Ezgi et al., 2022).

Dlungwane (2020) conducted a descriptive cross-sectional study with the implementation of analytical components. A self-administered questionnaire was used in the data collection, and the *t*-test and ANOVA were used for data analysis. A *p*-value of less than .05 was considered statistically significant. The mean knowledge of nurses ( $N = 223$ ) was 69.1%, which was low. In addition, the study concluded that 58% of nurses had a positive attitude toward pressure ulcer prevention. The average practice score was 56.2%. The ANOVA test indicated a remarkable difference in the mean knowledge score for four variables representing the nursing position, the number of years of experience, the type of unit, and prior knowledge of pressure ulcers. The study also revealed that though the nurses had good attitudes, their practice and knowledge of pressure ulcer prevention were below nursing standards. Although various preventive strategies had been made available, increased incidences of PIs remained a high safety concern in the healthcare settings. Nurses should be encouraged to enroll in education programs to help to improve their knowledge and increase adherence to the current evidence-based guidelines (Dlungwane, 2020). It is highly recommended that nurses working in inpatient clinical settings be provided with education courses and regular training on everything on pressure ulcers, the causes, the affected population, assessment tools, and how to implement preventive measures following the evidence-based clinical guidelines. After the education courses, the nurses were expected to have increased and improved knowledge in using the best practices and methods to prevent PIs.

## **Barriers and Variables in Pressure Injury Prevention**

Although there are approved preventive clinical guidelines and intervention strategies to prevent PIs, nurses have not been consistent with the implementation of these guidelines during patient care. Also, some variables and barriers among nurses contribute to the increase in the prevalence of pressure ulcers, especially in disseminating knowledge on the best practice guidelines. Other factors include a shortage of staff and facilities' need to provide education programs for nurses, leading to a knowledge deficit on using best practice risk assessment tools to identify individuals at risk of developing a pressure ulcer. In some cases, implementing pressure ulcer prevention and treatment depends primarily on knowledge.

Berihu et al. (2020) conducted a systematic review to assess the practices of nurses towards pressure ulcer prevention, and to identified, significant barriers that hampered nurses from implementing pressure ulcer preventive measures in hospitals in the central zone of Tigray, Ethiopia. Using random sampling participants, all nurses were selected from the three hospitals in the central zone of Tigray, Ethiopia. A self-administered structured questionnaire designed in English was distributed to the participants and used for data collection. One hundred twenty-five professional nurses were invited to participate in the study, with a response rate of 97.6%, of which most respondents (55.7%) were females. Most participants were first-degree holders, while others were diploma holders. Data entered were analyzed using SPSS v.22 (Berihu et al., 2020). The study indicated that overall, nurses' knowledge of pressure ulcer prevention was impressive at 82.75%. Participating nurses expressed the multiple barriers hindering their inability to implement PU preventive measures. These included a lack of universal guidelines on the prevention of pressure ulcers, the heavy workload, a shortage of staff, a lack of resources or

adequate equipment, insufficient information about pressure ulcers, management, and prevention during training, and a lack of time and no awareness (Berihu et al., 2020).

### **Nursing Education**

Comprehensive education on PI should be available in hospitals and other clinical settings. Hospital leadership should help motivate nurses to participate in regular education and in-service and online courses to improve nurses' understanding of PI. Although there has been ongoing emphasis on PIP in clinical settings, more education is required to encourage nurses to consistently implement the best practices to help provide quality patient care. Implementing best practices in patient care is crucial for effective patient outcomes because best practices are crucial to excellence in healthcare; nurses should ensure they are familiar with current evidence-based practice guidelines, because it is the basis for safe and effective practice to deliver exceptional, patient-centered care; improve patient out and satisfaction and reduce healthcare cost. Education on the importance of evidence-based practice (EBP) is vital especially for new nurse graduates because, with no basic knowledge about EBP, they will need help with the other details of its implementation in patient care (Matos, 2017). The increasing consistency of nursing knowledge and awareness of practice standards is essential. When nurses consistently use the best practices, the Braden Scale, and other interventions, they display an increased and improved knowledge on implementing preventive measures and decreasing the incidence of PIs. Improving nursing practice requires a multifaceted approach to ensure adequate support and to make changes reflected in patients' outcomes (Afzali et al., 2020).

Nurses can effectively determine patients at risk of developing PIs with adequate knowledge of Norton and Braden Scale assessment tools. When intervention strategies are

developed and well-implemented, they help to reduce the incidence of PIs. Patients who previously had pressure ulcers during admissions can be predisposed to PI again.

### **Theoretical Framework**

Evidence-based practice (EBP) is considered the gold standard of care in healthcare settings. As such, it is essential that nurses have knowledge of EBP and its implementation strategies to promote the delivery of safe, effective, and quality care (Duff et al., 2020). I utilized the Iowa model for this project. Although many EBP models have existed for two decades or more, the Iowa model of EBP is one of the most widely used in the United States. It was developed 25 years ago by nurses at the University of Iowa Hospital and faculty from the University of Iowa College of Nursing and underwent a significant review and revision in 2017 (Chiwaula et al., 2020). This model has proven to be strong on problem-solving, focusing on organizing the processes that support the implementation of EBP. It has clear and concise steps that guide nurses in designing an EBP change practice, from problem identification to sustaining the changes in practice. The model helps to guide and direct the process of translating research evidence into clinical practice to help nurses make the right care decisions to prevent the delivery of unstandardized and poor-quality care (Chiwaula et al., 2021).

Several EBP models have been developed to guide nurses but may not be successful because the models have not been uniformly adopted or consistently used. One of the most apparent challenging reasons to provide evidence-based care is that new evidence is being generated at an ever-increasing rate, and healthcare professionals face the challenge of providing care while also finding, appraising, and integrating new evidence into their routine practice (Duff et al., 2020).

## Summary

This literature review showed that educational sessions provided to nurses increased their awareness of using a PI-prevention care bundle, and that it was effective. Blenman and Marks (2017) conducted an introductory interactive education session using a questionnaire on preventing PI involving healthcare workers and health professionals. After the program, participants answered questions on the questionnaire. Their knowledge and skills gained from the education revealed that they were confident and ready to implement the best practices to prevent PIs (Blenman & Marks, 2017). The increasing consistency of nursing knowledge and awareness of practice standards is essential. When nurses consistently use the best practices, the Braden Scale, and other interventions, they will have an increased and improved knowledge of implementing preventive measures and decreasing the incidence of PIs. Improving nursing practice requires a multifaceted approach to ensure adequate support and make changes reflected in better inpatient outcomes (Afzali et al., 2020).

### Chapter 3: Methodology

In this project I utilized the PI preventive bundle (PIP) to educate and increase awareness among the nurses in the medical-surgical unit about preventing PIs using the bundle (Rivera et al., 2020). The educational sessions focused on increasing nurses' knowledge about PIP and implementing a pressure ulcer prevention bundle to increase pressure ulcer prevention compliance and reduce PIs. Implementing the PIP bundle included using the Braden Scale developed to promote early identification of the risk of PI development (Rivera et al., 2020). The post-education knowledge, practice, and attitude levels of participants significantly improved right after the training, like the study conducted by Yan et al. (2022). Nurses at the medical-surgical unit were provided with educational courses that helped to increase their knowledge of using care bundles, leading to reduced PI on the unit (Wang et al., 2018).

Lack of knowledge notwithstanding, some nurses are noncompliant in consistently using the approved evidence-based guidelines and assessment tools in addition to ongoing education programs, which were expected to help improve their perception of the guidelines. Education should include risk factors and those at risk, frequent positioning to minimize pressure, the use of risk assessment tools, and avoid friction and shear (Porter-Armstrong et al., 2018). PIs are preventable if best-practice interventions and evidence-based assessment tools, for example, the Braden Scale, are used on newly admitted patients, in every shift, and if there are any changes on the patients' skin. Patients are harmed if nurses do not know how to implement best practices and interventions consistently. That is why nurses must be educated using the Braden Scale. This validated, evidence-based, reliable assessment tool helps to predict at-risk patients when adequately used and the scores are accurately calculated (Agency for Health Research and Quality, 2017).



## **Setting and Population**

The setting for the project was a medical facility located in the Southeastern part of the United States. The facility has 166 beds; it was selected because of its passion for providing quality patient care with expected outcomes. It was an appropriate practice setting to implement this DNP project to improve and increase nursing knowledge. The target population for this DNP project was at least 18–20 RNs from the medical-surgical units; they had prior clinical experience and were willing to participate. Invites were sent to all 36 RNs working on these units with the employment status of full-time, part-time, or per diem. Flyers were posted in the nurses' breakroom and throughout the medical-surgical units. The flyer provided information on the educational sessions with specified dates and times. The sample of RNs was not contingent on a specified educational or demographic requirement.

## **Risks/Benefits**

There were minimal risks to the participants, but the result would benefit the facility with nurses who gained more knowledge on preventing PIs utilizing evidence-based care bundles.

## **Project Design**

The design for the project was quasi-experimental, pre-/posttest on the prevention of PIs. Using pretest and posttest questionnaires helped determine the nurses' knowledge level in using evidence-based assessment instruments to prevent PIs. Sharing the flow of ideas, the director of the medical-surgical unit, the nurse educator, the dietician, the director of physical therapy, and the quality management director collaborated with me to implement the project. The team convened and deliberated on what options would be best for the educational project, and they reached a consensus that a few days of educational sessions should be held in three sessions to accommodate nurses on different shifts. The educational sessions included visual presentations

on everything about PIs, emphasizing nurses' consistent utilization of evidence-based PIP of the care bundle including the Braden Scale.

### **Institutional Review Board**

This DNP project commenced after the study was approved by Abilene Christian University's Institutional Review Board (IRB; see Appendix B). It was paramount that the IRB approved before the project was implemented; the IRB issued an exemption after determining that there were minimal risks involved in the project.

### **The Project Plan**

It was crucial to determine nurses' baseline knowledge of PI, prevention, and use of evidence-based assessment tools. Before starting the educational sessions, pretest education questionnaires were given to the participants to get their baseline knowledge of evidence-based PIP tools. After the educational sessions, posteducation questionnaires were again distributed to the participants to assess their understanding and the success of the educational intervention. Education is crucial due to frequent changes associated with PIP strategies. I plan to present the findings and recommendations of the study to the quality improvement committee at the study site. The committee would then hopefully decide what changes to the skin assessment and skin care policy need to be updated or changed.

### **Data Integrity and Storage**

It has been my utmost responsibility to safeguard all data collected in a secured place to prevent unauthorized individuals from gaining access accidentally or deliberately. I collected the data and stored it on a password-protected laptop and uploaded it onto an Excel spreadsheet. The data was void of participants' personal information.

**Ethical Considerations**

All ethical regulations were adhered to in this project. Participants signed the informed consent voluntarily. All data collected was solely intended for the project and secured on a password-protected laptop.

**Summary**

It was crucial to determine nurses' baseline knowledge of PIP and the use of evidence-based assessment tools. The methodology used is in alignment with the plan, intervention, comparison, outcomes, and time (PICOT) that guided the development and implementation of this project. Education is crucial due to the frequent changes associated with pressure ulcer development; online education is always available and conveniently accessible. It is imperative that the hospital management provide a monthly mandatory education class for all RNs in all the units, especially those nurses providing direct patient care. Regular in-service education would also be beneficial after evaluating the nurse's knowledge improvement.

## **Chapter 4: Results**

I conducted this quality improvement project to evaluate nurses' knowledge of utilizing evidence-based assessment tools to prevent PIs in at-risk patients in hospitals and other clinical healthcare settings, leading to reduced PIs. With increased incidences of PIs, especially among patients admitted to hospitals, there was concern that nurses did not have adequate knowledge on how to implement evidence-based preventive measures. During admission, nurses are expected to identify at-risk patients utilizing the PIP care bundle, including the Braden Scale assessment tool. Identifying these patients enables the nurse to initiate care plans according to the patient's specific needs and facility policies to prevent PIs. PIP has been deemed an essential aspect of nursing practice; it helps to reduce the cost of medical services, reduces the length of hospital stays, and reduces the incidences of PIs and patient suffering. This project includes a comparison of the pretest and posttest results utilizing the Pressure Ulcer Baseline Assessment questionnaire (Appendix C) developed by the Agency for Healthcare Research and Quality to determine the effects of educational sessions. I analyzed the data to reveal the differences in knowledge gained from the educational intervention using ANOVA (Heavy, 2019).

### **Data Collection Tools/Instruments**

The main tool for data collection was the Pressure Ulcer Baseline Assessment questionnaire, which I administered both before and after conducting educational sessions with the participant RNs. This method was vital because it helped to provide information quickly and effectively. I uploaded the results of the questionnaires into an Excel spreadsheet and had them analyzed by a statistician. Educational interventions were provided for clinical nurses to increase their knowledge in preventing PIs using evidence-based assessment tools, the Braden Scale, and the care bundle (Wu et al., 2018). Participating nurses were advised not to reveal their identity or

personal information; responses were anonymous. Those willing to participate signed an informed consent form stating their right to refuse participation, to ask questions, and to have no monetary incentives for participating.

### **Data Collection**

Before the education session intervention, I administered the Pressure Ulcer Baseline Assessment questionnaire to participants to determine their baseline knowledge on PIP. After the 4-day educational sessions, participating nurses were reassessed using the same knowledge test questionnaires. Postintervention, RNs' perception of using the PIP care bundle, which included the Braden Scale, improved. The goal of the educational session intervention was for all the medical-surgical nurses attending the education sessions to show increased improvement in the prevention of PI using the evidence-based PIP care bundle. I hand-scored the results using the Pressure Ulcer Baseline Assessment answer key. Increased knowledge would lead to improved adherence to the utilization of the PIP care bundle, reducing PI incidences.

### **Data Analysis**

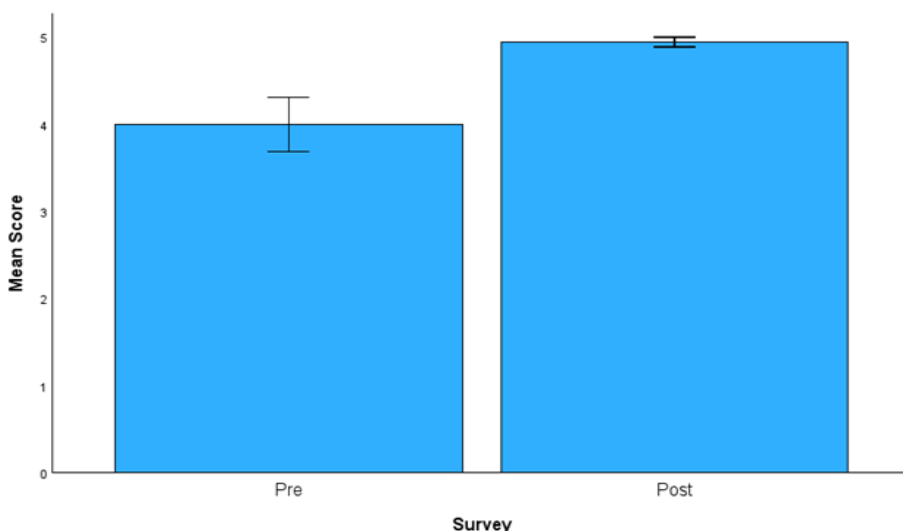
Prior to data collection, participants were instructed not to include any demographics or personal information because they are not required for this educational session project. I examined the questionnaires to ensure there was no missing data prior to data analysis. As instructed, participants did not include their personal information or demographics. The data were analyzed by a statistician, results of the data analysis were organized into frequency tables (Table 1) and bar graphs to display statistical data.

**Table 1***Anonymized Test Results Per Question*

RN	Survey	Q1	Q2	Q3	Q4	Q5
1	Pre	c	b	c	d	b
1	Post	c	b	c	d	b
2	Pre	c	b	c	d	b
2	Post	c	b	c	d	b
3	Pre	c	c	b	b	b
3	Post	c	b	c	d	b
5	Pre	c	b	c	d	b
5	Post	c	b	c	d	b
6	Pre	c	b	c	d	b
6	Post	c	b	c	d	b
4	Pre	c	b	c	d	b
4	Post	c	b	c	d	b
7	Pre	c	c	b	d	b
7	Post	c	b	c	d	b
8	Pre	b	b	b	d	b
8	Post	c	b	c	d	b
9	Pre	c	b	c	d	d
9	Post	c	b	c	d	b
10	Pre	b	c	b	d	d
10	Post	c	b	c	d	b
11	Pre	c	b	c	d	b
11	Post	c	b	c	d	b
12	Pre	c	b	c	d	b
12	Post	c	b	c	d	b
13	Pre	c	b	c	d	b
13	Post	c	b	c	d	b
14	Pre	c	c	c	b	b
14	Post	c	b	c	d	b
15	Pre	c	b	c	d	b
15	Post	c	b	c	d	b
16	Pre	c	c	b	d	d
16	Post	c	b	c	d	b
17	Pre	c	b	c	d	b
17	Post	c	b	c	d	d
18	Pre	c	b	b	d	b
18	Post	c	b	c	d	b

**Figure 1**

*Graph Analysis of the Average Scores on Pretest and Posttest*



Survey questionnaires were analyzed using descriptive statistics. The data analysis is presented in a bar graph (Figure 1) showing the average (mean) scores at pretest and posttest and error bars around the mean score. Results showed the mean score at pretest was 4.00 and at posttest was 4.94. Next, I conducted univariate tests (Table 2) comparing the score at pretest versus posttest. Statistically, the difference is significant, as indicated by  $p = .005$ .

**Table 2**

*Univariate Tests*

Numerator <i>df</i>	Denominator <i>df</i>	<i>F</i>	<i>p</i>
1	34	8.820	.005

Note. The *F* tests the effect of survey. This test is based on linearly independent pairwise comparisons among the estimated marginal means.

Figure 2 through Figure 6 show crosstabulation results on different questions on the Pressure Ulcer Baseline Assessment (Appendix C). Results showed clear improvement on every survey question.

**Figure 2***RN Response to Factors in Braden Scale*

Crosstabs					
Survey * Which factors in Braden scale you evaluate patient's ability to respond to commands Crosstabulation					
			Which factors in Braden scale you evaluate patient's ability to respond to commands		Total
			Mobility	Sensory/Perception	
Survey	Pre	Count	2	16	18
		% within Survey	11.1%	88.9%	100.0%
	Post	Count	0	18	18
		% within Survey	0.0%	100.0%	100.0%
Total		Count	2	34	36
		% within Survey	5.6%	94.4%	100.0%

**Figure 3***RN Response to Question - Frequency of Pressure Ulcer Assessments*

			Minimally, patient in acute care should be assessed for pressure ulcer at least every		Total
			24 Hours	8 Hours	
Survey	Pre	Count	13	5	18
		% within Survey	72.2%	27.8%	100.0%
	Post	Count	18	0	18
		% within Survey	100.0%	0.0%	100.0%
Total		Count	31	5	36
		% within Survey	86.1%	13.9%	100.0%



**Figure 4***RN Response to Question - Frequency of Assessment of Skin Conditions*

<b>Survey * How often should RN assess and document skin conditions Crosstabulation</b>					
			How often should RN assess and document skin conditions		Total
			Once a shift	Admission, discharge, every shift, condition warrants	
Survey	Pre	Count	6	12	18
		% within Survey	33.3%	66.7%	100.0%
	Post	Count	0	18	18
		% within Survey	0.0%	100.0%	100.0%
Total		Count	6	30	36
		% within Survey	16.7%	83.3%	100.0%

**Figure 5***RN Response to Accountability and Assessment Question*

<b>Survey * Who is accountable for patient skin assessment, pressure prevention &amp; documentation Crosstabulation</b>					
			Who is accountable for patient skin assessment, pressure prevention & documentation		Total
			RN	D	
Survey	Pre	Count	15	3	18
		% within Survey	83.3%	16.7%	100.0%
	Post	Count	17	1	18
		% within Survey	94.4%	5.6%	100.0%
Total		Count	32	4	36
		% within Survey	88.9%	11.1%	100.0%

**Figure 6***RN Response to Question on Skin Discoloration*

Survey * What can RN do when patient has discoloration of skin Crosstabulation					
			What can RN do when patient has discoloration of skin		
			Let next nurse know about it & start skincare plan	Both B & C	Total
Survey	Pre	Count	2	16	18
		% within Survey	11.1%	88.9%	100.0%
	Post	Count	0	18	18
		% within Survey	0.0%	100.0%	100.0%
Total		Count	2	34	36
		% within Survey	5.6%	94.4%	100.0%

**Summary**

The statistical analysis shows that the educational sessions were successful. Crosstabulations were used for each question of the survey, which shows the number and percentage of nurses who selected a certain response on the pretest and posttest. For the data analysis for this project, participants' demographic and professional characteristics were not obtained. The analyzed data also determined the *p*-value at .005, showing a significant difference in results because of the educational sessions. The data analysis revealed that implementing the educational sessions was effective and helped increase nurses' knowledge, which led to improved adherence to the utilization of the PIP care bundle to reduce PI incidences among at-risk patients.

**Limitations**

A few limitations were identified with this project, and the most notable was the small sample of participants. Additionally, due to the high population of travel nurses working in the organization, there was the risk of losing some participants if their contracts ended and they decided not to renew or extend their travel contract with the facility. The organization is a primary care facility, and the findings in this project may not apply to acute care settings; furthermore, this was a pilot project with few participants. It is recommended that a project with a larger number of participants may be needed to implement this vital quality improvement project on a larger scale and with better, more reliable outcomes.

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

PI incidences continue to rise in all healthcare settings. Despite the high cost of treatment and the implementation of best practices, preventive measures, and other interventions, this issue has remained a huge problem for healthcare organizations and caregivers daily. The population at high risk for PI can include critically ill patients, the elderly, those using vasoactive medications, and those not hemodynamically stable (Joint Commission, 2022). This project aimed to reduce incidences of PIs in clinical healthcare settings. With increased incidences of PIs, especially among hospitalized patients, there were concerns that nurses did not have adequate knowledge of how to implement evidence-based preventive measures consistently. The results of the educational sessions were impressive because participants displayed a commendable understanding of PI reduction using the evidence-based care bundle. Providing education helped create awareness among medical-surgical nurses on using care bundles consistently to prevent PIs, increase nurses' knowledge in preventing PIs, and increase PIP compliance.

### **Summary of the Project**

After the education intervention, nurses familiarized themselves with the Braden Scale, its importance, reliability, and effectiveness when properly used. The best evidence-based reliable assessment tool is the Braden Scale, which in this case helped nurses to understand how to predict patients at risk of developing PIs (Hovans, 2021). Nurses were encouraged to consistently utilize the Braden Scale during admission, in every shift, and if there were any notable changes in the patient's skin condition. This assessment tool has proven to be effective, reliable, and valuable in decreasing and preventing PI development if accurately implemented and well-scored during an assessment. Nurses understand that the Braden Scale is one of the

most effective ways to perform an accurate skin assessment, detect any susceptible high-risk areas, develop a care plan, and optimize treatment (White, 2021).

### **Interpretation of Findings**

It is worth noting that meeting this educational project's criteria ensured that nurses understood the importance of consistent implementation and compliance with using the care bundle, including the Braden Scale. The postintervention data collected revealed that 100% of participants completed the pretest and posttest. The awareness gained from this project was the importance of consistent use of care bundles, leading to reduced incidence of PIs. Before the educational sessions, I utilized the Pressure Ulcer Baseline Assessment, developed by the Iowa Des Moines Institute for Healthcare Improvement, to determine nurses' baseline knowledge of PIP. (Institute for Healthcare Improvement, 2021). The data was collected by the principal investigator and stored on a password-protected laptop. I implemented the educational project at a medical facility located in the Southeastern part of the United States for RNs on three separate shifts to accommodate participants' schedules and availability. All ethical standards required to protect the participants were observed, and there was no breach of confidentiality by the principal investigator. After the 4-day educational sessions, participating nurses were reassessed using the same knowledge test questionnaires developed by the Iowa Des Moines Institute for Healthcare Improvement. Postintervention, nurses' perception of using the PIP care bundle, which includes the Braden score protocol, improved. The goal of the educational session intervention was for all the medical-surgical nurses attending the education sessions to show increased improvement in the prevention of PI using the evidence-based PIP care bundle. I hand-scored the results using the Pressure Ulcer Baseline Assessment answer sheet. Statistically, data analysis revealed that implementing the educational sessions was effective and helped increase

nurses' knowledge, which led to improved adherence to the utilization of the PIP care bundle to reduce PI incidences among at-risk patients.

### **Major Findings**

This quality improvement project was conducted with 18 RN participants from the medical-surgical unit of the facility. Based on the statistical analysis, the pretest indicated decreased knowledge among the participants in the use of evidence-based care bundle and the Braden Scale. The posttest data collected revealed that participants who completed the postquestionnaires scored 100%. The awareness and knowledge gained from this project was the importance of consistent use of care bundles, potentially leading to reduced incidence of PIs in clinical settings.

### **Project Strengths and Limitations**

A significant strength of this project was that it did not question nurses' ability and knowledge in the treatment of PI; rather, it only assessed how providing educational sessions and creating awareness can increase nurses' knowledge in preventing PIs, utilizing the evidence-based care bundle and the Braden Scale leading to decreased PI incidences in healthcare clinical settings. It is essential to note that the project also must have some limitations, especially referencing the small sample size and the time limit. From all indications, this project implemented on a small scale was successful; implementing it on a larger scale would be more beneficial.

### **Nursing Implications**

An essential aspect of nursing practice is using evidence-based assessment tools to prevent/decrease incidences of PIs because the prevention of PIs has become a major indicator in the assessment of quality care and patient experience. Although the prevention of PI is assumed

to be the responsibility of all healthcare professionals, the burden of implementing preventive measures lies with nurses providing direct patient care. In the current healthcare systems, providing adequate education and training to nursing staff, especially nurses who provide direct patient care, is vital. Continuous education and mandatory in-service on evidence-based practices would significantly create nurse awareness and increase knowledge of quality patient care.

### **Evidence-Based Practice Findings and Relationship to DNP Essentials**

According to the American Association of Colleges of Nursing (AACN; 2006), advanced nursing practice is grounded in the Essentials of Doctoral Education. One of the responsibilities of the advanced nurse is to enhance knowledge to improve nursing practice and patient outcomes, to enhance leadership skills to strengthen practice and health care delivery, and to lead in excellence through scientific inquiry, leadership, and clinical practice (AACN, 2006). The DNP degree, when obtained, is designed to prepare nurses for the highest leadership level in practice and scientific inquiry and also to prepare individuals for specialized nursing practice. Notably, the Essentials of Doctoral Education for Advanced Nursing Practice coordinates the competencies for all nurses practicing at this level (AACN, 2006). This project's aim relates to DNP Essentials I, II, and V.

#### ***Essential V: Health Care Policy for Advocacy in Health Care***

DNP-prepared nurses can advocate for their profession in developing healthcare policy and educating others, including health policy leaders (AACN, 2006). This DNP project aimed to help create awareness of using evidence-based assessment tools to prevent PIs. Creating awareness will motivate nurses and increase their knowledge in preventing PIs. During the education sessions, not only were all participants eager to engage in learning, but the education director and a few certified nurse assistants were in attendance just to listen. Before the

implementation of this project, I was granted permission by the facility to conduct the project, including receiving a letter of support from the healthcare facility leadership (Appendix A). The kind act by the healthcare facility demonstrates healthcare policy and advocacy at healthcare organizations, which will benefit future quality improvement projects and sustain this project as a standard clinical practice.

***Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking***

An ever-changing and complex healthcare industry requires executive leadership with the knowledge and skills to revolutionize care delivery models and improve patient and organizational outcomes. DNP-prepared nurses should be prepared to be at the helm of company affairs to build and lead organizations for quality improvement (AACN, 2006). As highlighted by the AACN (2006), the DNP education program is very much involved in research designed to prepare graduates to have knowledge and skills in determining and implementing evidence-based practices. The AACN (2006) discussed the importance of the DNP-trained nurse having the analytic experience of using information technology to collect and analyze data. This project used education to create nurse awareness by utilizing evidence-based assessment tools, the care bundle, and the Braden Scale to detect at-risk patients of developing PIs. The successful project implementation has contributed to increased and improved knowledge on PIP.

***Essential I: Scientific Underpinnings for Practice***

The purpose of the project relates to DNP Essential I. The DNP nurse has acquired a wide range of knowledge and so can translate that knowledge effectively into patient care. For the DNP nurse to be prepared to address current and future practice issues, the scientific



foundation of nursing practice is required, which has expanded to include a focus on the natural and social sciences.

### **Recommendations for Future Projects and Researchers**

This quality improvement project was conducted on a small scale; it could be added as one of the existing evidence-based interventions in using care bundles to reduce PIs. Further investigation on a larger scale is encouraged for improved patient outcomes. It would benefit healthcare organizations to incorporate this teaching project into their education program to help educate newly hired nurses on PIP using care bundles and best practices for improved patient outcomes during hospitalization. A study conducted by Awoke et al. (2022) recommended that nurses play a major role in pressure ulcer prevention practice; healthcare organizations must implement frequent educational programs and provide up-to-date training on pressure ulcer prevention practice to increase nurses' knowledge leading to a decrease in PIs (Awoke et al., 2022). Some recommendations include the following: Health organizations should develop a program on PI to keep the nurses updated on current preventive strategies and evidence. Healthcare facilities should create a mandatory orientation education class, especially for new graduates to familiarize them with the facility's policies on PI. It is imperative to evaluate nurses' knowledge on the use of evidence-based preventive assessment tools, so regular knowledge assessment should be performed by the education unit of the facility to evaluate impact of education. Monthly in-service on PI should be scheduled and failure to participate should be considered tardy (Boateng et al., 2018). Though this project was conducted on a smaller scale, it is recommended that a large-scale project should be conducted using a larger sample for better outcomes

## **Sustainability**

This project has proven to be successful, therefore the sustainability of this project will require the full commitment of the education unit and the facility leadership. Sustaining the findings from this project, the healthcare organization should put in place some crucial measures that include the reevaluation of nurses on the medical-surgical unit knowledge on PIP. In addition, the organization should require the consistent utilization of the evidence-based assessment tools, conducting health fair with visuals of PIs including the stages of PI. Due to the success of this quality improvement project, it can be implemented in other clinical healthcare settings. The findings from this DNP project can be added to existing PIP measures. Although the education sessions were conducted in-person, in this era of technology, the educational sessions can be completed virtually during the reevaluation process. It saves time and is more comfortable for nurses to complete and it would also reach larger audiences.

## **Plan for Dissemination**

The need for the dissemination of this DNP quality improvement project is crucial, due to the high incidences of PIs in the healthcare clinical settings. The vital sections to benefit from the results of the project would include healthcare professional organizations, long-term care facilities, and local community events. There is an urgent need to share knowledge of findings, especially in the nursing profession, to enhance quality patient care and increase knowledge. Disseminating findings from research studies, evidence-based practice projects, and quality improvement initiatives brings new information to healthcare professionals, patients, and families. The use of professional organizations in disseminating evidence-based project findings are vital because healthcare professionals should have access to current and relevant clinical findings that contribute to optimized care and enhance professional development. Professional

organizations could benefit from publications in nursing journals that focus primarily on research and evidence-based information. Nursing journal articles offer insight to those individuals deciding to make nursing a career; the journal also supports the careers of nurses. Other methods of dissemination would be oral presentation during professional health conferences or local community meetings. These DNP quality improvement findings can also be disseminated by creating and distributing materials, such as flyers, guides, pamphlets, and posters. When new findings are not shared and go unnoticed, healthcare becomes stagnant.

### **Conclusion and Contributions to the Profession of Nursing Practice**

Organizational and Systems Leadership for Quality Improvement and Systems Thinking DNP Essential II was conveyed within this project. The findings from this evidence-based quality improvement project will be added as one of the existing evidence-based interventions in using care bundles to reduce PIs in clinical settings. Literature that I discussed in Chapter 2 revealed that providing education to nursing staff who care for patients at risk of developing PIs has been successful. Although literature reviews highlighted lack of knowledge among nurses in the consistent use of evidence-based measures to prevent PIs, providing education created awareness and increased nurses' knowledge.

Studies have shown that PIs are rated as the third most costly health problem, with annual deaths of about 60,000 due to complications (Afzali et al., 2020). Meta-analysis and systematic review studies conducted by Afzali et al. (2020) evaluated the factors that influence the incidence rates, identified the causes, and implemented adequate preventive measures. Incidences of PI differ in various clinical settings; incidence rate ranges from 4% to 38% in hospitalization and mortality, and secondary complications among the elderly are approximately

68% (Afzali et al., 2020). Annually, the cost of prevention and treatment of PI in the United States has recently been about \$11 billion (Afzali et al., 2020).

Comprehensive education on PI should be available in hospitals and other clinical settings; hospital leadership should help motivate nurses to participate in regular education, in-service and online courses to improve and increase nurses' understanding of PI. Although there has been ongoing emphasis on PIP in clinical settings, more educational resources are required to encourage nurses to consistently implement the best practices to help provide quality patient care. Implementing best practices in patient care is crucial for effective patient outcomes because best practices are crucial to excellence in healthcare. Nurses should ensure they are familiar with current evidence-based practice guidelines because it is the basis for safe and effective practice to deliver exceptional, patient-centered care; improve patient outcomes and satisfaction and reduce healthcare costs. There are approved preventive clinical guidelines and intervention strategies to prevent PIs, nurses have not been consistent with the implementation of these guidelines during patient care. To help increase nurses' knowledge, health organizations should make evidence-based practice information accessible to nurses and standardized training programs with evidence-based data skin assessment tools. Nurses' knowledge must be evaluated frequently (Ezgi et al., 2022).

If healthcare organizations can implement the above recommendations, it would increase the nursing staff knowledge, improve patient care outcomes, and contribute to decreased incidences of PIs in healthcare clinical settings. The successful implementation of this DNP project has demonstrated the benefits of continued education with nurses on the medical surgical units in the prevention of PIs using the care bundle and the Braden Scale. Participants expressed

that the education sessions were informative leading to improved and increased knowledge, which is an attestation that the project was successful.

### **Chapter Summary**

I selected and conducted this project because of the potential evidence-based practice outcome attributed to it. This quality improvement project was carried out to evaluate nurses' knowledge of utilizing evidence-based assessment tools to prevent PIs in at-risk patients in hospitals and other clinical healthcare settings, leading to reduced PIs. With increased incidences of PIs, especially among patients admitted to hospitals, there was concern that nurses did not have adequate knowledge on how to implement evidence-based preventive measures. Literature has proven that when nurses' knowledge and skills are based on best practices, the outcome benefits the patients and increases the nurse's knowledge of implementing evidence-based PIP strategies. Studies have shown that nurses, due to a lack of continuous education, lack knowledge on how to implement evidence-based PI preventive measures to reduce incidences of PIs in at-risk patients. Several EBP models have been developed to guide nurses but may not be successful because the models have not been uniformly adopted or consistently used. One of the most apparent challenging reasons to provide evidence-based care is that new evidence is being generated at an ever-increasing rate, and healthcare professionals face the challenge of providing care while also finding, appraising, and integrating new evidence into their routine practice (Duff et al., 2020). This project demonstrated that education is crucial in healthcare settings to keep the staff current with EBPs for better patient outcomes.

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**Appendix A: Letter of Support**

To Whom it may concern,

I am confirming the employment of your Doctorate student, Olive Tariah, RN. She is currently employed in our medical-surgical unit at xxxxxxxxxxxx.

Olive is conducting a project concerning the Braden Scale and PI Prevention.

We have discussed updated research and information available now.

I will continue to work with Olive and our nurses concerning this project.

If you have any questions, concerns, or issues, please email me to the address below.

Kindest Regards,

XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX

Contact information:

XXXXXXXXXX  
Clinical Educator  
XXXXXXXXXXXX  
XXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX

## Appendix B: IRB Approval

IRB-2023-316 - Initial: Initial - Exempt – ACU

External

Inbox

do-not-reply@cayuse.com

Wed, Jan 24, 11:00 AM

to xxxxxx, me

Date: January 24, 2024

PI: Olive Tariah

Department: ONL-Online Student, 17250-EdD Online

Re: Initial - IRB-2023-316

Assessing Nurses' Knowledge on Prevention of PI

The Abilene Christian University Institutional Review Board has rendered the decision below for Assessing Nurses' Knowledge on Prevention of PI. The administrative check-in date is January 24, 2025.

Decision: Exempt

Category: Category 2. (i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Research Notes:

Additional Approvals/Instructions:

If at any time the details of this project change, please resubmit it to the IRB so the committee can determine whether or not the exempt status is still applicable. All approval letters and study documents are located within the Study Details in Cayuse IRB.

The following are all responsibilities of the Primary Investigator (PI). Violation of these responsibilities may result in suspension or termination of research by the Institutional Review Board. If the Primary Investigator is a student and fails to fulfil any of these responsibilities, the Faculty Advisor then becomes responsible for completing or upholding all of the following:

When the research is completed, inform the Office of Research and Sponsored Programs. If your study is Exempt, Non-Research, or Non-Human Research, email [orsp@acu.edu](mailto:orsp@acu.edu) to indicate that the research has finished.

- According to ACU policy, research data must be stored on ACU campus (or electronically) for 3 years from inactivation of the study, in a manner that is secure but accessible should the IRB request access.
- It is the Investigator's responsibility to maintain a general environment of safety for all research participants and all members of the research team. All risks to physical, mental, and emotional well-being as well as any risks to confidentiality should be minimized.

For additional information on the policies and procedures above, please visit the IRB website

<http://www.acu.edu/community/offices/academic/orsp...>

or email [orsp@acu.edu](mailto:orsp@acu.edu) with your questions.

Sincerely,

Abilene Christian University Institutional Review Board

## Appendix C: Pressure Ulcer Baseline Assessment

Date \_\_\_\_\_

### Pressure Ulcer Baseline Assessment for Registered Nurse

1. For which factors in the Braden Scale are you evaluating the patient's ability to respond to verbal commands?
  - A. Activity
  - B. Mobility
  - C. Sensory/Perception
  - D. Friction/Shear
  
2. Minimally, a patient in the acute care setting should be assessed for pressure ulcer risk at least every:
  - A. 48 hours
  - B. 24 hours
  - C. 8 hours
  - D. 4 hours
  
3. How often should you, the RN, assess and document skin conditions?
  - A. Daily
  - B. Once a shift
  - C. Upon admission and discharge, every shift, and as patient condition warrants
  - D. Upon admission and discharge
  
4. What can you, the RN, do when one of your patients has discoloration of the skin (red, purple or blue) indicating pressure?
  - A. See what happens over the next 24 hours.
  - B. Let the next nurses know about it. Start a skincare plan.
  - C. Place the patient on a pressure-reducing surface and explain to the patient and family that the patient needs to limit pressure to the area.
  - D. B&C from above
  
5. Who is the primary person accountable for patient skin assessment, pressure ulcer prevention and documentation?
  - A. WOC Nurse (ET nurse)
  - B. RN
  - C. Nursing Assistant
  - D. All of the above

(Institute for Healthcare Improvement, 2021)