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Implementing an Evidence-Based Pressure Injury Bundle to Reduce Acquired Pressure Injuries in a Long-Term Care Facility

LaTecia Rhoden
lrhoden@stu.jsu.edu

Jacksonville State University
Graduate Studies
700 Pelham Rd N., 320 Angle Hall, Jacksonville, AL 36265
Phone: (256) 782-5348
http://www.jsu.edu/graduate/index.html

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First Name: * Latecia Last Name: * Rhoden

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DNP Clinical Coordinator Signature	Electronically signed by Lori McGrath on 07/19/2023 8:01:07 AM
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Implementing an Evidence-Based Pressure Injury Bundle to Reduce Acquired Pressure Injuries in a Long-Term Care Facility

A DNP Project Submitted to the
Graduate Faculty
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Requirements for the Degree of
Doctor of Nursing Practice

By

LaTecia Elston Rhoden

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Abstract

Background*:* Pressure injuries in the United States affect between 1 -3 million people. Of the percentage of patients affected by pressure injuries, a range from 2% to 28% of those patients are in long-term care facilities. In Alabama, the pressure injury rate in long-term care facilities ranges from 2.3% to 18.4%. According to this long-term care facility's November 2022 quality improvement report, the acquired pressure rate rose from 2.2% to 8.3% in a year. A total of nineteen newly acquired pressure injuries were reported. Eleven of the nineteen pressure injuries occurred in the long-term stay unit, accounting for almost 58% of this facility's acquired pressure injuries. In the United States, pressure ulcers cost $9.1-$11.6 billion per year of health care cost. Pressure causes pain, decreased mobility, decreased quality of life, increased chances of developing an infection, and increased risk of morbidity and mortality. This practice improvement project aimed to reduce acquired pressure injuries in a long-term care facility over eight weeks.

Purpose*:* This project was intended to reduce the percentage of acquired pressure injuries to less than 3% in eight weeks by implementing an evidence-based pressure injury prevention bundle. The secondary goal is to evaluate the impact of implementing an evidence-based pressure injury bundle on acquired pressure injuries in a long-term care unit in rural Alabama compared to the facility's current plan in place, which only consisted of standard orders for treating pressure injuries rather than preventive measures.

Method*:* This project will utilize a pretest and posttest design to compare the rate of pressure injuries acquired before and after the intervention. Additionally, it will evaluate the effectiveness of the Agency of Healthcare Research and Quality's Pressure Injury Prevention Injury Pathway for Acute Care in preventing pressure injuries, as compared to the current plan adopted by the

facility, which involves treating pressure injuries through standing orders after they have occurred.

Results*:* Preintervention data showed that eleven of the fifty-eight residents assigned to the long-term care unit developed pressure injuries accounting for 0.19% of the residents in that unit. Postintervention data concluded that after implementing the Pressure Injury Prevention Injury Pathway for Acute Care bundle, the rate of acquired pressure injuries dropped to 9%, proving a 10% decrease in acquired pressure injuries in the long-term care unit consisting of fifty-eight long-term care residents.

Conclusion*:* Although the objective of reducing the rate of acquired pressure injuries to less than 3% in an eight-week timeframe was not achieved, the adoption of AHRQ's Pressure Injury Prevention Injury Pathway for Acute Care bundle proved to be more advantageous in minimizing the occurrence of acquired pressure injuries compared to the conventional approach of addressing such injuries only after they have occurred.

Keywords*:* pressure injury prevention bundle, pressure ulcers, long-term care, pressure injury prevention methods

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Implementing an Evidence-Based Pressure Injury Bundle To Reduce Acquired Pressure Injuries In A Long-Term Care Facility

Pressure injuries are injuries to the skin caused by unrelieved pressure. Pressure usually develops over bony prominences in the hips, sacral region, heels, and elbows. Because of the seriousness of pressure injuries, they are considered one of the most important quality measures in clinical care. The Centers for Disease Control and Prevention states that pressure injuries range from 2% to 28% in long-term care residents (Centers for Disease Control and Prevention [CDC], 2010). In the United States, pressure ulcers cost $9.1-$11.6 billion annually, with individual costs ranging from $20,900 to 151,700 per patient. Medicare estimated in 2007 that each pressure ulcer added $43,180 in fees to a hospital stay (Agency of Healthcare Research and Quality [AHRQ], 2011). In Alabama, 9.43% of long-term care residents suffer from pressure injuries (Elder Guide, 2023). In this facility, a 5.9% increase in acquired pressure injuries was noted in the monthly quality improvement reports over a year. Research studies have concluded that evidence-based pressure injury prevention bundles, including risk assessment tools such as Braden scales and skin assessments combined with good skin hygiene, pressure reduction devices, every two-hour repositioning, and moisture management, have reduced facility-acquired pressure injuries.

Background

Pressure injuries are a common problem affecting millions in the United States annually (Mondragon & Zito, 2022). The incidence of these injuries varies depending on the clinical setting, with hospitalized patients being particularly susceptible (5% to 15%). Long-term and intensive care environments have even higher rates of these injuries. Risk factors contributing to pressure injury development include immobility, reduced perfusion, malnutrition, and sensory

loss. Patients with cerebrovascular or cardiovascular disease, recent lower extremity fracture, diabetes, and incontinence are also at an increased risk for developing these injuries. Older patients are especially vulnerable due to changes in their skin associated with aging, such as a breakdown in both the dermis and epidermis layers of the skin, which can decrease their resistance to shear forces. The National Nursing Home Survey 2004 revealed that approximately 11% of current nursing home residents in the United States, or around 159,000 people, had pressure ulcers. Among these cases, Stage 2 pressure ulcers were the most prevalent. Furthermore, residents who were aged 64 or younger were more likely to develop pressure ulcers compared to their older counterparts. Additionally, those who stayed in nursing homes for a year or less had a higher likelihood of developing pressure ulcers than those who stayed longer. Lastly, one out of every five nursing home residents who experienced recent weight loss also had pressure ulcers. Pressure ulcers pose a significant challenge for hospitals and long-term care facilities. They lead to reduced quality of life and high expenses for the patient and our healthcare system.

In a skilled nursing facility in rural Alabama, the acquired pressure injury rate increased from 2.1% to 8.3% in a year. Even though this facility has established protocols for treating pressure injuries, there are no written guidelines to prevent them. Therefore, the question arises: Can adopting an evidence-based pressure injury prevention bundle decrease the number of pressure injuries acquired in long-term care, in comparison to solely relying on standing orders for treatment? Various studies conducted on the use of pressure injury prevention bundles, such as the AHRQ's "Pressure Injury Prevention Pathway for Acute Care bundle," has proven beneficial in preventing pressure injuries. The Pressure Injury Prevention Pathway for Acute Care Bundle includes preassessment tools such as the Braden scale for early identification of

high risks patients who are likely to develop pressure injuries combined with patient skin audits, making it possible to implement other recommended prevention methods like pressure reduction devices, every two-hour repositioning, nutritional supplements, and moisture control. This intervention has proven effective in preventing pressure injuries in hospitals and in long-term care.

Needs Analysis

Pressure injuries remain a severe problem in nursing homes, even with regulatory and market methods to promote prevention and treatment. Pressure ulcers cause pain, disfigurement, and increased infection risk and are associated with more extended hospital stays and increased morbidity and mortality. Pressure injuries cost about $3.3 billion annually and are an incredible financial burden on healthcare organizations (AHRQ, 2016a). Pressure injuries are the second most common diagnosis in health systems billing in the United States, accounting for 60,000 deaths annually (Dweekat et al., 2023). Proper education on pressure injury management in long-term care facilities can lead to better nursing care and wound prevention in long-term care facilities. Furthermore, it will improve the quality of pressure injury management practice and nursing care for the elderly living in such facilities. Healthcare professionals in long-term care settings should be knowledgeable and skilled in pressure injuries, but more education is warranted (Lee et al., 2022).

The acquired pressure injury rate in a 230 -bed long-term care facility increased from 2.1% to 8.3% in a year (W. Care Team Director, personal communication, November 15, 2022). According to the facility QI reports, on average, this facility has not reported more significant than 5% of total acquired pressure injuries in the entire facility. In the November 2022 QI report, 19 facility-acquired pressure injuries were reported boosting the rate of acquired pressure to

8.3%. Of the 19 acquired pressure injuries reported in this facility, 11 were acquired in the long-term care unit accounting for 58% of acquired wounds. The incidence of pressure ulcers in the hospital setting ranges from 2.7% to 29.5%. Long-term care pressure ulcer occurrences range from 4% to 24%. Pressure Ulcers predominate in the long-term care setting. Residents of long-term care facilities have increased risk factors for developing pressure ulcers, such as limited mobility, advanced age, decreased activity, poor nutrition, and chronic medical conditions. Pressure ulcers in long-term care facilities vary from one facility to another due to staffing issues and caseloads (Wound Care Learning Network [WCLN], 2001). In 2008, the United States Centers for Medicare and Medicaid Services stated that it would no longer pay for further costs of acquired pressure injuries. Joint Commission believes pressure injuries are costly but can be prevented using evidence-based nursing education and practice. According to the Joint Commission, developing stage 3 or 4 pressure injuries is a safety issue that could be considered a sentinel event (The Joint Commission, 2022). Studies have shown that implementing evidence-based prevention programs has been more effective than facility programs.

Problem Statement

Over the year, the rate of acquired pressure injuries at a 230-bed long-term care facility has risen from 2.1% to 8.3% (W. Care Team Director, personal communication, November 15, 2022). Upon conducting a needs analysis, it was discovered that while the facility has standing orders to treat such injuries, there is no written policy or procedure to prevent them. In addition, studies have found that implementing pressure injury prevention bundles can significantly decrease the occurrence of newly acquired pressure injuries.

PICOT Question

In patients in a long-term care unit, does the utilization of an evidence-based pressure injury prevention bundle, compared to a reactive pressure injury treatment plan, reduce the percentage of acquired pressure injuries over eight weeks?

Aims and Objectives

The primary aim of this project is to implement an evidence-based pressure injury prevention bundle as an intervention to reduce the rate of acquired pressure injuries in a long-term facility to less than 3% acquired pressure injury rate. This project also aims to decrease infection, mortality, and morbidity risks due to acquired pressure injuries by early identification of at-risk patients and implementing preventive measures to reduce the chances of developing pressure injuries, thus improving patient outcomes. Lastly, the project aims to reduce facility costs for pressure injuries by implementing pressure-reduction devices, nutritional support, early identification tools, and good skin hygiene to reduce the occurrence of pressure injuries.

Review of Literature

A literature review was conducted to investigate the effectiveness of implementing an evidence-based pressure injury bundle in reducing the rate of acquired pressure injuries in a long-term care facility. The results of my review are presented below.

To ensure the reliability of my research, I utilized search strategies on renowned databases such as CINAHL Complete, Cochran Library, Scopus, and the Lippincott Database. I used specific keywords such as pressure injuries, pressure ulcer prevention, prevention bundles, and long-term care to enhance my search for pressure injury prevention bundles. I found three hundred and ninety-eight potential sources using different combinations of these key terms. To streamline my search, I excluded articles and studies over a decade old, articles not evidence-

based or peer-reviewed, and articles and studies not written in English. After applying these exclusion criteria, I reviewed twenty articles thoroughly for my study. These twenty articles met all inclusion criteria and included studies about the burden of pressure injuries to both the patients and facility, cost of pressure injuries, and methods used to prevent pressure injuries.

Early Identification Tools

According to the Institute for Healthcare Improvement, early identification of risk patients and timely intervention for pressure reduction are essential factors in reducing pressure injuries. One of the critical components of pressure injury prevention identified by the Institute for Healthcare Improvement was the use of admission risk assessment tools like the Braden scale to identify patients at risk for skin breakdown. The Braden Scale is used to evaluate patients based on two general factors: the amount and period of pressure and the skin's likely tolerance. Patients are scored in six categories: sensory, activity, moisture, mobility, friction, and nutrition. Each category is assigned a score; the lower the score, the more that patient is at risk for developing a pressure injury. For example, a Braden score of under 18 indicates the need for intervention (Institute for Healthcare Improvement, 2022).

Skin Care

The Joint Commission considers pressure injury development a patient safety event and stages three and four pressure injuries a sentinel event. The Joint Commission believes that pressure injury prevention and treatment should include multi-disciplinary teamwork, good organizational culture, and practices that promote safety. The Joint Commission referenced International Guidelines in identifying that risk assessment is a crucial factor of medical practice and a necessary first step in identifying individuals who are vulnerable to pressure injuries. The Joint Commission also identified other interventions that affect an individual's healing process,

including identifying nutritional needs, repositioning, skincare, and using pressure reduction devices. One key component identified in the Joint Commission report was skincare. Protecting and monitoring the condition of the patient's skin using skin assessment tools is essential for preventing pressure sores and identifying the early onset of pressure injuries to initiate treatment before they worsen. The Joint Commission believes the skin should be inspected on admission and at least daily for signs of an injury. Also, good skin hygiene after incontinent episodes and often repositioning to relieve pressure play a part in good skin care (The Joint Commission, 2022).

Nutritional Consults

In 2008, CMS stated it would no longer pay for additional costs incurred for acquired pressure injuries. CMS acknowledges that the cost of treating pressure injuries is expensive and believes that the development of pressure injuries can be prevented using evidence-based nursing practice (Centers for Medicaid and Medicare Services, 2023). CMS developed a sample skincare bundle, Pressure Ulcer Critical Element Pathway, which included nutrition consults, risk assessment, skincare, and pressure reduction devices. Hospitalized individuals are at greater risk for undernutrition.

CMS developed a sample skincare bundle, the Pressure Ulcer Critical Element Pathway, which included nutrition consults and risk assessment, skin care, and pressure reduction devices. Hospitalized individuals are at significant risk for undernutrition. Performing nutritional assessments and referring those patients at risk for nutritional deficiencies to a dietitian to provide supplemental nutrition is also vital in wound prevention (The Joint Commission, 2022).

Wound Prevention Bundle

Lastly, the Agency of Healthcare and Research and Quality (AHRQ) developed the skin bundle, the Pressure Injury Prevention Pathway for Acute Care, to prevent acquired pressure injuries in hospitals. However, this project will be tailored to meet long-term care residents' needs. This bundle includes preassessment risk tools, the Braden Scale, skin audits, and interventions such as pressure relieving devices, good skin hygiene, nutrition assessments, and repositioning to prevent pressure injuries. In a study conducted by the AHRQ where 11 hospitals participated in a 2-year pilot project implementing the AHRQ prevention bundle toolkit, results showed a reduction in stage 2+ acquired pressure injuries, and the results were sustained for a year of continued observation (Agency of Healthcare Research and Quality, 2017). This research proved that implementing pressure injury prevention bundles could decrease the occurrence of acquired pressure injuries.

Theoretical Model

Our DNP project will involve the implementation of Lewin's Change Theory (Appendix A), developed by Kurt Lewin, a German physicist, in 1947. This theory emphasizes the need to create an effective team to bring about positive changes in practice, ultimately leading to improved patient outcomes.

Our project utilizes Lewin's Change Theory, which involves three stages: unfreezing, changing, and refreezing. This theory was selected because it emphasizes identifying the problem and presenting evidence-based solutions before implementing change. In the initial unfreezing stage, we identified a rise in acquired pressure injuries during our monthly quality improvement meeting. To address this issue, we researched and educated stakeholders on using

pressure injury bundles to reduce such injuries. We then formed a pressure injury prevention team and established common goals to solve the problem.

During the change phase, the team recognized the need for change and worked together to implement new methods to solve the issue. The principal investigator presented evidence-based education to ensure the team understood the benefits of implementing the AHRQ's Pressure Injury Prevention Pathway for Acute Care bundle. All members involved in implementing the new method were part of the project improvement team. Each team member was encouraged to ask questions and provide input on implementing the new bundle. With the team's input, the Pressure Injury Prevention Pathway for Acute Care bundle was customized to meet the needs of the long-term care residents in the facility. Each team member had specific responsibilities in implementing the bundle. Educational resources such as PowerPoint presentations and demonstrations were provided to all staff involved. Team members monitored the method's effectiveness after implementation, and weekly meetings were held to discuss project progress.

It is essential to emphasize the significance of the refreezing stage in showcasing the success of the newly introduced technique and guaranteeing its consistent usage. This phase is critical for the durability of the fresh approach. The outcomes are analyzed and compared to the pre-intervention results in this stage. The findings revealed a correlation between staff adherence and the decline in pressure injuries from 8.2% to 5%. These results were shared with stakeholders and staff as evidence of the importance of continuing to implement the pressure injury prevention bundle.

Methodology

This DNP project was a pre-and post-intervention evidence-based practice (EBP) design. This intervention was chosen because many studies have shown the benefits of implementing pressure ulcer prevention programs in similar settings to reduce acquired pressure injuries. In addition, because this long-term care facility did not have a standardized pressure ulcer prevention plan, this project aimed to incorporate evidence-based pressure injury prevention methods as a standard of practice for this facility.

The person in charge of the project utilized the PDSA model to steer its implementation. During the project's planning phase, an educational module was included to educate the staff on pressure injuries and the benefits of the different components of the Pressure Injury Prevention Pathway for Acute Care. The staff was educated using AHRQ's staff education toolkit and a PowerPoint presentation, which was given at specific times aligned with their shifts.

Once the pressure injury prevention team established a comprehensive plan for implementation following education, the long-term care unit within the facility underwent the project. The team meticulously recorded and monitored pre/post results and made any necessary adjustments during weekly meetings. Following the eight-week implementation period, the team compared findings before and after the intervention. It concluded that implementing pressure injury bundles in long-term care yields benefits.

Once all the results were compiled, we presented the data to stakeholders and staff to showcase the effectiveness of the project's interventions. We also emphasized the need for facility-wide sustainability as a crucial aspect of quality improvement. In order to ensure sustainability, we have developed plans to monitor staff compliance and implement ongoing education programs.

Setting

This healthcare facility has 230 beds, with 28 beds designated for acute care rehab. In contrast, the remaining beds are split between a Dementia Unit, a long-term care unit, and a unit that accommodates both long-term and short-stay patients. The average patient age was 75, with females comprising 60% and males 40% of the population. The majority of patients (80%) were aged 65 and above. The facility had a nursing staff of approximately 40, composed of full-time, part-time, and PRN nurses. This facility provides wound care by a regular wound team consisting of three nurses, an outside wound care referral center, and a wound care specialist. This facility also provides physical therapy, occupation therapy, and speech therapy. There was a dietician in-house and a Nurse Practitioner on duty five days a week and on call on the weekends—two physicians rounded weekly and as needed at this facility. The DNP project was launched in the long-term care unit, which can accommodate up to 58 residents.

Population

This project was implemented on a long-term care unit in a skilled care nursing facility in an urban county in Alabama. The project site had a population of fifty-eight long-term residents. Nursing staffing ratios when fully staffed were CNAs/residents equaled 1:7 on the first shift, 1:10 on the second shift, and 1:15 on the third shift, with nurses averaging about 1:19 each shift. The project's population consisted of adult patients in the long-term care unit, and all patients were included in the intervention as it was part of their daily nursing care.

Design

This project overall aimed to assess the impact of introducing an evidence-based pressure injury bundle on the occurrence of acquired pressure injuries. The study utilized a Quasi-experimental design, measuring pre- and post-intervention outcomes to evaluate the

effectiveness of pressure injury bundles. Prior research has shown that implementing such bundles has improved patient outcomes and decreased acquired pressure injuries in long-term care facilities. Despite lacking a pressure ulcer prevention plan, the facility had pre-existing orders for treating pressure ulcers as they occurred.

Budget and Resources

The facility provided all the necessary physical tools for the improvement project. Staff members who participated in the project did so during their regular scheduled hours. They provided care activities such as skin care, pressure reduction, and repositioning every two hours per facility rounding protocol and were compensated with their usual wages. The AHRQ's website offered training materials, which were made readily available. The facility provided free printing services and access to computers and projectors for educational presentations. As a result, the project implementation incurred zero costs, including printing and document disposal (Appendix B).

Project Timeline

The project spanned a total of 10 months and the timeline is represented in Appendix C. The planning phase, between August 2022 and January 2023, involved acquiring the necessary paperwork such as the CITI Training Certificate (Appendix D), and the JSU IRB Approval Letter (Appendix E), to implement this project, forming a team, assigning duties, and collecting preintervention data. The project facility also provided support for the project as represented in Appendix F.

The project implementation started in January 2023 and involved educating all staff members. The education included demonstrating the use of repositioning and pressure reduction devices. Throughout this phase, the wound care team and pressure injury prevention committee

held weekly meetings to collect and analyze data on progress and areas for improvement. The implantation phase was completed by March 2023. From March 2023 to May 2023, the dissemination phase was conducted. Data were analyzed, and the results were communicated in staff and stakeholder meetings. Additionally, plans were formulated to ensure the sustainability of the project improvement process implementation.

Evaluation Plan

Statistical Consideration

During the implementation phase, descriptive statistics were used to compare data before and after the intervention. This involved conducting pre-intervention audits through electronic medical records and weekly compliance audits to track weekly skin audit compliance, acquired pressure injury rates, and staff education rates. We then compared the post-intervention results to assess the effectiveness of the intervention.

Data Maintenance and Security

The documentation stored in all data collection and storage devices were kept secure with password protection. To ensure the privacy of patient information, all collected data was de-identified and followed HIPPA guidelines. Any hard copies were safely stored in a locked filing cabinet within a restricted office, limited to access only by the Director of Nursing. After analysis and result dissemination, all data was destroyed in a secure manner, such as shredding hard copies and deleting electronic data files from all storage devices. Immediate destruction of all data was ensured to protect the participants' confidentiality.

Results

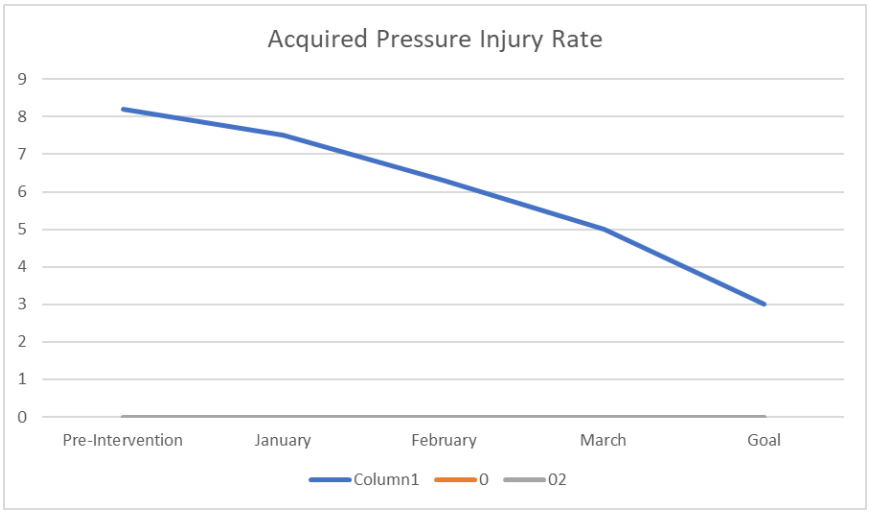
Data Analysis

This project aimed to reduce the pre-intervention acquired pressure injury rate of 8.2% to less than 3% post-intervention in three weeks. The project was guided by this question "In patients in a long-term care unit, does the utilization of an evidence-based pressure injury prevention bundle, compared to a reactive pressure injury treatment plan, reduce the percentage of acquired pressure injuries over eight weeks?" Using descriptive statistics to compare pre-intervention results to post-intervention results, we revealed that although our goal of 3% was not met, the acquired pressure rate did decline to a 5% acquired pressure injury rate. This project still proved the benefit of the implantation of an evidence-based pressure injury prevention bundle versus standing wound care orders alone.

Using descriptive statistics has various advantages, such as utilizing pre-existing data accessible to the organization and providing a comprehensive overview of the entire population, hence enhancing accuracy. However, one potential limitation of descriptive statistics is that every facility is unique, making it challenging to generalize the results to all scenarios.

Figure 1

Acquired Pressure Injury Rate



Discussion

To prevent pressure injuries, healthcare agencies like CMS, AHRQ, and the Institute for Healthcare Improvement recommend using pre-assessment tools like admission and weekly skin audits, as well as Braden scales. Before the intervention, compliance with weekly skin audits by nursing staff was only at 75%, despite 100% compliance with admission skin audits and Braden scales. However, post-intervention data showed a significant improvement with 100% compliance, demonstrating the intervention's positive impact. Nursing assistants who documented activity of daily living needs every two hours and as needed were found to have only completed documentation 72% of the time before intervention. However, post-intervention results showed a remarkable improvement, with 98% of all completed documentation. Furthermore, using evidence-based pressure injury devices was found to positively correlate with reducing acquired pressure injuries.

Implication for Clinical Practice

Evidence-based studies have identified specific guidelines incorporated in various pressure ulcer prevention bundles, such as the Agency of Healthcare Research and Quality's (AHRQ) Pressure Injury Prevention Pathway for Acute Care. This bundle utilizes interventions such as risk assessment, including the Braden Scale, and weekly skin audits as methods of earlier identification of those patients at risk for developing pressure injuries. Implementing pressure injuries risk assessment tools, such as the Braden Scale and skin assessment, is critical in preventing pressure injuries. Individualized care plans can be implemented after risk patients have been recognized to prevent pressure injuries. Some other intervention included in the Pressure Injury Prevention Pathway for Acute Care allows for the implantation of every two-hour repositioning, moisture control, and pressure relief devices. Implication for this clinical practice is the reduction of acquired pressure injuries in this facility, better patient outcomes, and reduced cost.

Implication for Quality and Safety

Pressure injuries are believed preventable, yet the rate of acquired pressure injuries in long-term health continues to increase. An estimated 2.5 million adults in the United States will develop pressure injuries yearly. Preventing pressure injuries is essential to protect patients and reduce the cost of care (Sullivan & Schoelles, 2013). Implementation and compliance with pressure injury prevention bundles like AHRQ's Pressure Injury Prevention Pathway for Acute Care have proven beneficial in reducing pressure injuries.

Limitations

Limitations to this project include a short timeframe, staff shortage, and small sample size. In addition, this project was implemented over eight weeks; more time was needed to

achieve the desired goal of less than 3%. However, this timeframe produced favorable results, such as a decline in the acquired pressure injury rate.

This project was conducted on a single unit in a skilled nursing facility with staff shortages and a timeframe of eight weeks; these factors do not represent all patients at risk for developing pressure injuries. Staff shortages in primary factor in providing exemplary patient care. When healthcare facilities have inadequate staff, the quality of patient care declines resulting in injection, skin breakdown, and increased risks of death.

Sustainability

To address the persistent issue of pressure ulcers, the success of this project relies on the unwavering support of unit leaders. Pressure ulcers are prevalent in long-term care facilities, resulting in high treatment costs and adverse patient outcomes. Implementing this cost-effective quality improvement initiative can be applied facility-wide and customized to meet each patient's unique needs. This nurse will oversee and aid the long-term care facility in achieving their pressure injury reduction objectives.

Conclusion

The focus of this DNP project was on the high rate of pressure injuries that were being acquired by patients in a long-term care facility located in rural Alabama. The main objective was to lower the acquired pressure injury rate to less than 3% within eight weeks by implementing the AHRQ's Pressure Injury Prevention Pathway for Acute Care pressure injury prevention bundle. Extensive research showed that early detection of pressure injuries could significantly reduce their occurrence. To meet this objective, the nursing staff must comply with early assessment tools such as admission and weekly Braden Scales and skin audits. As a result, nursing compliance with this pressure injury prevention strategy increased from 75% to 100%.

The involvement of other nursing staff greatly influenced the success of this project. Unit nurses and certified nursing assistants were crucial in demonstrating compliance through accurate daily documentation, maintaining good skin hygiene, using pressure reduction devices, and repositioning the patients every two hours. It is worth mentioning that the certified nursing assistants showed outstanding compliance, with a post-intervention rate of 98%. The steady reduction observed each month further confirmed the effectiveness of this method in minimizing pressure injuries.

Utilizing Lewin's Change Model, we could pinpoint the problem that required a solution. Offering evidence-based education provided a practical solution to the issue, resulting in improved education for the staff on pressure injuries and how to prevent them. This also brought attention to the adverse effects of pressure injuries on the quality of life for patients and the financial strain it puts on the facility. Finally, Lewin's Change Theory assisted in the formation of a team to ensure the success of this project.

The lack of proper pressure injury prevention measures can lead to physical and emotional suffering, extended hospital stays, higher healthcare expenses, and even fatalities. Despite not achieving the initial objective, the implementation of this quality improvement project had a significant impact on reducing pressure injuries. The decline in acquired pressure injuries aligns with research evidence that supports the effectiveness of pressure injury prevention bundles. The knowledge gained from this project is useful for future initiatives aimed at eradicating pressure injuries in long-term care facilities.

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Appendix A

Lewin's Change Theory

Unfreeze

• Unfreezing is the process which involves finding a method of making it possible for people to let go of an old pattern that was somehow counterproductive.
• There are three methods that can lead to the achievement of unfreezing.
  o The first is to increase the driving forces that direct behavior away from the existing situation or status quo.
  o Second, decrease the restraining forces that negatively affect the movement from the existing equilibrium.
  o Thirdly, finding a combination of the first two methods (Petiprin, 2023).

Change
The change stage, which is also called "moving to a new level" or "movement," involves a process of change in thoughts, feeling, behavior, or all three, that is in some way more liberating or more productive (Petiprin, 2023).
Refreeze
The refreezing stage is establishing the change as the new habit, so that it now becomes the "standard operating procedure." Without this final stage, it can be easy for the patient to go back to old habits (Petiprin, 2023).

Appendix B

Resource and Budget

Resources	Needed: Yes/No	Notes on what is needed
Funds		
Other Resources		
Staff Education Program	Yes	
Quality Improvement Experts	No	
Physical and Occupation Therapy Consultation on Work Practice	No	
Information Technology Support	No	
Specific Products/Tool (e.g., support bed and chair surfaces)	Yes	
Facility and Supplies (e.g., meeting room)	Yes	
Printing/Copying	Yes	
Graphic Design	No	
Nonclinical Time for Team Meetings and Activities	Yes	
Other	All material and Technology were supplied by the facility.	

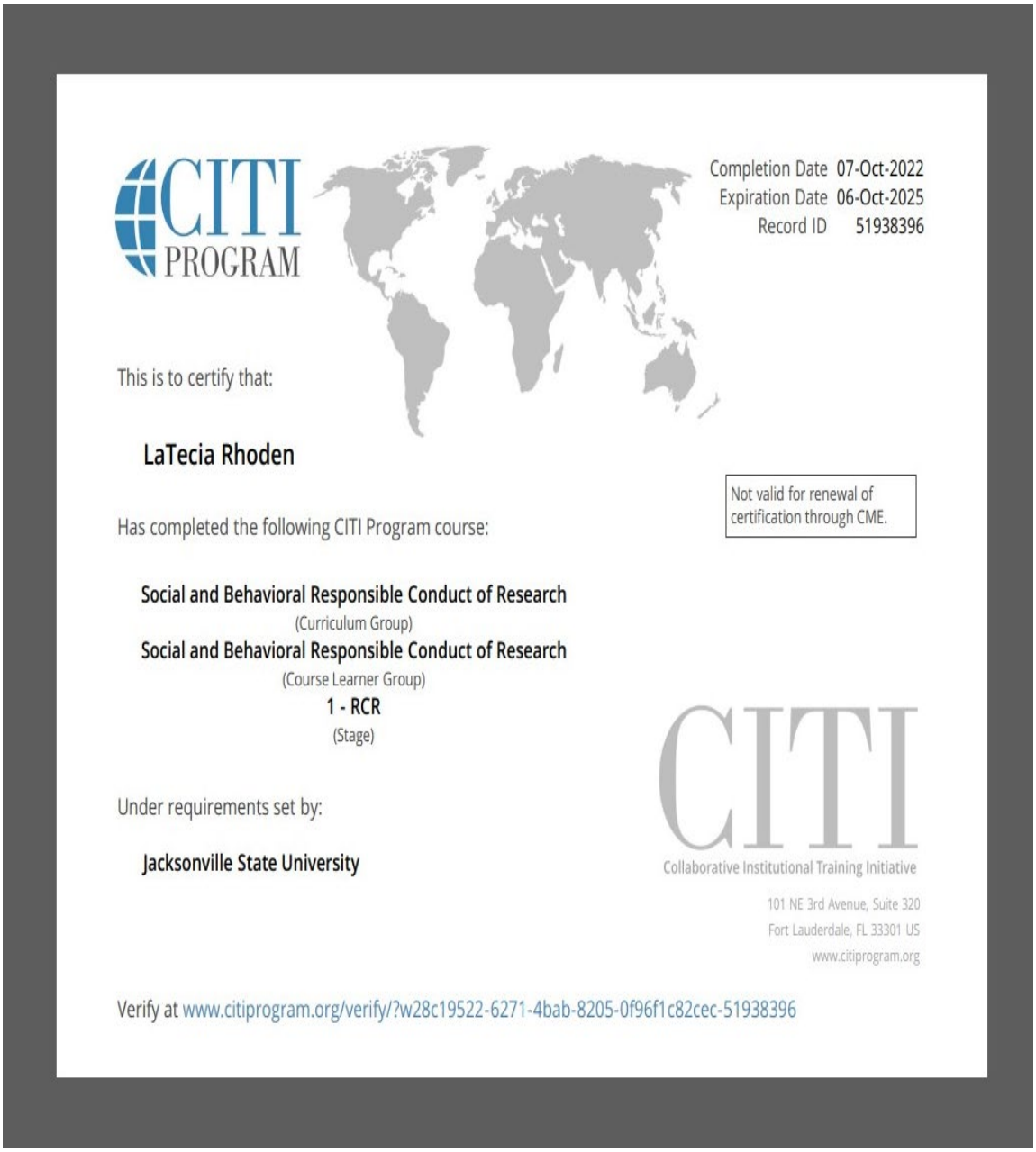
Appendix C

Project Timeline

Task	Aug 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	April 2023	May 2023
Pre- Project Paperwork										
Assemble Team, Assign Roles, Perform Evidence-Based Research, Stake Holder Meeting, Gather Pre-Intervention Data										
Implementation of Quality Improvement Project										
Analyze Data, Evaluate Outcome, and Dissemination of Findings,										

Appendix D

CITI Training Certificate



CITI PROGRAM

Completion Date 07-Oct-2022
Expiration Date 06-Oct-2025
Record ID 51938396

This is to certify that:

LaTecia Rhoden

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

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

Under requirements set by:

Jacksonville State University

CITI
Collaborative Institutional Training Initiative
101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w28c19522-6271-4bab-8205-0f96f1c82cec-51938396

Appendix E

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 13, 2022

Latecia Rhoden
Jacksonville State University
Jacksonville, AL 36265

Dear Latecia:

Your protocol for the project titled "Implementing an Evidence-Based Pressure Injury Bundle to Reduce Acquired Pressure Injuries in a Long-Term Care Facility" protocol number 12132022-03 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,

Jennifer Mead
Senior Human Protections Administrator, Institutional Review Board

Appendix F

Facility Support Letter

REHAB SELECT
at Talladega

Talladega Health and Rehab
616 Chaffee Street
Talladega, Alabama 35160

October 4, 2022

Jacksonville State University,

Talladega Health and Rehab is in full support of Jacksonville State University graduate nursing student Mrs. LaTecia Rhoden's DNP project. Mrs. Rhoden has received our approval to focus on *Reducing the Rate of Facility Acquired Pressure Injuries* over the coming year.

We are excited to support her as she works toward improving patient care delivery in our facility.

Please let me know if we can assist in any way.

Sincerely,

Administrator: _____

Director of Nursing: _____

Medical Director or CRNP: _____