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## Wound Care Management and Documentation Non-Compliance in Prevention and Care of Wounds

Tobechukwu Unaegbu

University of St. Augustine for Health Sciences, t.unaegbu@usa.edu

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**Wound Care Management and Documentation Non-  
Compliance in Prevention and Care of Wounds**

Tobechukwu Unaegbu, MSN, APRN, FNP-BC, FNP-C

School of Nursing, University of St. Augustine for Health Sciences

This Manuscript Partially Fulfills the Requirements for the  
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Robin Kirschner, EdD, DNP, RN, CNS

Laynette Goudy-Egger, DNP, FNP-BC, MSN, CWS

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### **Abstract**

The incidence of non-compliance and adherence to best practices wound care competence continues to be an issue among the clinical staff of the Veterans Affairs Medical Center (VA). At the VA, there is a practice problem of non-compliance and adherence to best practices wound care competency as evidenced in the electronic medical record (EMR) documentation among the clinical staff. A PICOT question was developed to explore if the establishment of a staff best practices wound care policy focusing on EMR documentation will improve proper wound care management among the clinical staff. The clinical site is a hospital consisting of 40 acute care beds. A new policy adjusted documentation with the use of the Braden scale and the spinal cord impairment monitoring (SCI-PUMT) tools and documentation in the EMR at appropriate times was implemented. A pretest and posttest were conducted to determine the significance of the total documentation using the Braden or SCI-PUMT tools, total accurate documentation using the wound care tools, and the number of multidisciplinary team contacts using the EMR. The results showed no statistically significant improvement with  $t = 1.66$ ,  $p = .107$ ,  $t = 1.03$ ,  $p = .310$ , and  $t = -0.31$ ,  $p = .775$ , respectively. Although the above results did not show any statistical significance after two months of the project implementation, a re-implementation of the project is recommended with the elimination of the barriers encountered during the project implementation.

## **Wound Care Management and Documentation Non-Compliance in Prevention and Care of Wounds**

Wound care continues to be an issue in the United States (US) health care institutions, including the Veterans Affairs Medical Center (VA) in Detroit, Michigan (Cowan, Garvan, Rugs, Banks, Chavez, & Orozco, 2018). Due to the complexity and wound types which may be acute or chronic including spinal cord injuries, pressure injuries, surgical wounds, combat wounds, competent wound care management skills by the clinical staff are required to improve and prevention of complications of such wounds (Cowan et al., 2018). According to Cowan et al. (2018), evidence-based wound care among clinicians has been shown to improve wound care management and documentation. Communication of the status of wounds in the electronic medical record (EMR) is essential to ensure a multidisciplinary collaboration of care by standardizing wound care documentation to improve identification of the patients wound status.

Effective policies that direct actions of the clinical staff is important in ensuring they can safely and effectively identify, evaluate, and manage patients' wounds (Bamohammed, Mohidin, George, & Al-Aidarous, 2018). Improper wound care extends patients' wound healing length, thereby adding additional cost for treatment (Goudy-Egger & Dunn, 2018). Therefore, a new wound care policy that directs clinical staff in care delivery documentation in the EMR creates alignment between expectations and patient outcomes.

The goal of this evidence-based project was to establish a new wound care policy with a focus on EMR documentation supporting improved identification of patient wound status as an effort to decrease patient wound incidences and improve proper wound management.

### **Significance of the Practice Problem**

At the VA, there is a practice problem of non-compliance and adherence to best practices wound care competency as evidenced in the EMR documentation among the clinical staff which contributes to poor wound healing and management. An updated wound care policy was established with a focus on EMR documentation to provide policy adherence supporting best practices for preventing and managing wounds including the most complex wounds and injuries (Cowan et al., 2018). A study conducted by Oseni and Adejumo (2014) showed that continuing wound care education helps improve wound care. The new wound care policy focusing on EMR wound care documentation outlines the expectations required for clinical staff to provide wound care. The importance of staff knowledge, skills, and ability in preventing and improving patient wound care is instrumental in achieving best outcomes. Therefore, clinical staff education aligned with the wound care policy was measured through the EMR documentation.

According to Walker et al. (2019), pressure injuries are the types of wounds that affects 2.5 million people in the U.S., costing \$9.1 to \$11.6 billion annually. Although there are other types of wounds, pressure injuries that can be prevented, account for more than 60,000 deaths and 20,000 lawsuits annually (Walker et al., 2019). In the US, almost 8.2 million Medicare beneficiaries have at least one or more types of wounds or wound-related infections, costing Medicare about \$28 to \$96.8 billion annually (Driver et al., 2019). Globally, in 2014, wound care cost an average of \$2.8 billion, and it is projected to increase up to \$3.5 billion in 2021 (Sen, 2019). Policy compliance documentation will support improved wound care outcomes and decrease organizational costs.

Wounds can be a burden to both the patients and their relatives. According to Driver et al. (2018), untreated or poorly managed wounds can lead to complications such as (a) amputations,

(b) sepsis, (c) social isolation for some patients, (d) decreased ambulation/mobility, (e) depression, (f) pain, and (g) caregiver burnout for relatives taking care of wound patients. Additionally, veterans from combat with spinal cord injuries are predisposed to pressure injuries, where clinicians lacking knowledge on preventing wounds and managing such patients will create more problems (Johnson-Kunjukutty & Delille, 2019). Following wound care policy documentation learned through clinical staff attending continuing wound care training assists in preventing, improving, reducing cost, and burnout associated with wound treatment and management (McCluskey & McCarthy, 2017). Policy-related wound documentation of prevention and wound management is a leadership identified current problem. This lack of policy adherence when corrected will lead to compliance with EMR documentation supporting multidisciplinary collaboration for (a) prevention, reduction of wound complications, (b) an increase proper wound management, and (c) reduction of cost.

### **PICOT Question**

The PICOT question that guided this project was through clearly identifying the population (P), intervention or implementation (I), comparison to current practice (C), expected outcomes from the intervention or implementation (O), and the time frame of the project (T). The PICOT question for this project is as follows: Among the wound care clinical staff members at the VA (P) will establishment of a staff best practices wound care policy focusing on EMR documentation (I) compared to current staff practices (C) improve multidisciplinary collaboration to decrease wound incidences and improve proper wound care management (O) within two months of initiation of the practice change (T)?

Population (P): The population that benefited from the project were the patients, supported by the following stakeholders: clinical staff members, including the nursing staff,

physicians, nurse practitioners, physician assistants, nursing assistants, and the nursing managers. Intervention (I): The intervention was the establishment of the wound care policy with a focus on documentation. The policy was addressed through wound care training protocol and procedures to be documented in the EMR. The policy was adjusted to improve staff compliance. Comparison (C): The new wound care policy was compared to national standard guidelines and documentation expectations. Outcome (O): Improved documentation of a multidisciplinary collaboration approach to wound care leading to a reduction of the incidence of wounds and improved proper wound management. The data collected was through staff acknowledgement of the new policy and staff documented wound care charting in the EMR. Timing (T): Improvement in the staff compliance in wound care documentation with the two months of the project implementation.

### **Evidence-Based Practice Framework & Change Theory**

#### **Evidence-Based Practice Framework**

The Johns Hopkins evidence-based framework guided the development and implementation of the VA evidence-based practice problem change (Dang & Dearholt, 2017). According to Dang and Dearholt (2017), the Johns Hopkins model involves three steps: practice question, evidence, and translation (PET process).

The first step is the clinical practice question which is, why are there increased incidences of wounds and missing documentation for high-quality care delivery. This clinical practice question lead to the PICOT question, which is: Among the wound care clinical staff members at the VA (P) will establishment of a staff best practices wound care policy focusing on EMR documentation (I) compared to current staff practices (C) improve multidisciplinary collaboration to decrease wound incidences and improve proper wound care management (O)

within two months of initiation of the practice change (T)? Identifying the practice question, directed the project (Dang & Dearholt, 2017).

The next step of the Johns Hopkins model was the use of the best evidence to answer the identified question. For this project, best evidence practices as stated by Cowan et al. (2018) among other researchers, was to identify the clinical issue and solution options aligning with the environment. Lastly, "translation," was the last process that required the utilization of the evidence found applied in practice where change was needed. Concerning the evidence-based practice change at the VA, the evidence found was utilized to reestablish a wound policy focusing on EMR documentation and improve documentation of best practices outlined in the policy to improve clinical staff practice leading to multidisciplinary collaboration to ultimately improve patient outcomes.

### **Change Theory**

Lewin's change theory (as cited in Batras et al., 2016) served as the foundation for the evidence-based project. Lewin's change theory is a three-phase model that includes "unfreezing," "change," and "refreeze" (Batras, Duff, & Smith, 2016). The theory uses the three phases in identifying an organizational problem that needs change, implementing the change, and lastly, sustaining the change implemented (Batras et al., 2016).

In the first phase change theory (unfreezing) the practice problem was identified as an increase incidence of wounds due to improper documentation of wound management by the clinical staff compared with best practices of wound care. During this phase, the current VA wound care policy was evaluated. In addition, the staff opinions for the rationale for their non-compliance was assessed. According to Lewin, as individuals are sometimes influenced by group behavior and group norms, the group behaviors and group norms of the clinical staff that do not



conform with the practice change will be noted, and leadership will plan for correction (Batras et al., 2016). During this phase, the stakeholders were identified and involved in the process.

The second phase of the Lewin change theory is called the "change." At this phase, the proposed change was implemented. The change, which is the implementation of the new wound care policy with a focus on documentation, was implemented through good communication, support, stakeholders' involvement, and use of other measures that enhanced the smooth implementation such as flyers, emails, and so forth. During the implementation phase, feedback from the clinical staff were sought and acknowledged with reinforcement and clarification where needed while monitoring EMR documentation.

The last phase of Lewin's theory of change is the "refreeze" phase. This phase involved sustaining the practice change (Mulholland, 2017). After implementing the policy as the practice change, the change made was anchored into the clinical staff culture. The following were put in place for the sustainability of the implemented change; (a) staff encouragement, (b) sending due dates reminders of wound care updates to the staff, (c) rewards, (d) periodic staff evaluation, and (e) leader expectations via establishment of a periodic documentation audit.

### **Evidence Search Strategy**

The electronic databases used for the literature search included Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Medline, Ovid, ProQuest, and ScienceDirect. The following key words were used for the search: Combat Veteran Health Administration, wound management, wound care educational training, wound providers, competence, knowledge, wound healing, multi-professional practice, evidence-based practice, wound care, pressure injury, prevention, and control. Combat (wounded) veterans were noted in some databases used "combat veterans" while some used "wounded veterans," patients with both

acute and chronic wounds, patients with different stages of wound, inpatient and outpatient veterans with wound, veterans of all ages, sex, and ethnicity were the inclusion criteria. Veterans with only psychological pain not related to wound, self-managed wounds, textbooks were excluded.

Both full text and non-full text, evidence-based journals, peer reviewed articles were included. English was set as the language for the literature search, and the number of years of publication was limited to 5 years (2015-2020). Initially, 30 evidence-based articles were retrieved and 10 evidence-based articles were finally selected after careful review using the exclusion criteria.

### **Evidence Search Results**

An extensive evidence-based research article search was made using the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Medline, Ovid, ProQuest, and ScienceDirect. The search resulted in 30 research articles as shown in Appendix A: PRISMA Reporting. No additional records were identified through other sources. After duplicates were removed, 23 research articles remained. The 23 research articles were screened, and 10 articles were excluded leaving 13 full-text research articles. Three out of the 13 full research articles were excluded for not meeting the inclusion criteria. Among the excluded research articles were related to veterans with only psychological pain and not wound-related, self-managed wounds. The final search resulted in 10 research articles. (See Appendix B: Primary Research Results).

The Johns Hopkins evidence-based practice (EBP) model was used in grading the 10 research articles found for the project. The EBP model by Johns Hopkins is used to evaluate the level and quality of evidence (Dang & Dearholt, 2017). Appendix B: Primary Research results evidence and Appendix C: Systematic Review studies shows the research articles' grading details. As shown in Appendix B, three (Level II), four (Level III), and two (Level IV) research articles were found using the Johns Hopkins EBP grading model. Among the nine research articles in Appendix B, one (Grade A), four (Grade B), three (Grade A/B), and one (Grade C) articles were found. One systematic review was found as shown in Appendix C where these authors used 27 research studies for their systematic review. The systematic review according to Johns Hopkins EBP model had Level 1 and Grade A evidence. An overview of this material can be seen in Appendix D: Summary of Primary Research Evidence and Appendix E: Summary of Systematic Reviews.

### **Themes with Practice Recommendations**

A practice problem at the VA is the non-compliance of the clinical staff with current documentation practice expectations related to wound care. The following themes were discovered: continuing education/in-service education, prevention practices, tools for wound care evaluation, and wound care policy will be used to discuss the practice recommendations.

**Continuing Education/In-Service Education:** Continuing education/in-service education among the clinical staff is vital in the prevention and wound care management. Ousey and Blackburn (2019) indicated that competence and confidence are connected and needed in managing the wound. Ousey and Blackburn (2019) explained that competence acquired through wound care education or training is associated with increased staff confidence in caring for patients with wounds. Awali et al. (2018) studied 200 nurses on the effects of the implementation

of pressure injury (PI) educational prevention protocol on nurses' knowledge, attitude and practices showed that there is a positive relationship between continuous clinical staff wound care prevention educational program and its effects on pressure injury prevention. Awali et al. (2018) recommend healthcare institutions' development of continuous educational programs that will improve the nurses' knowledge, attitude, and practice related to PI prevention. These studies support that clinical practice education that includes comprehensive documentation improves wound care outcomes.

A cross-sectional, descriptive study by Cowan et al. (2018) found that clinical staff education and documentation were the two areas that the staff lacked regarding wound prevention and management. Oseni and Adejumo (2014) concurred that knowledge of wound documentation and continuing education is essential in improving patients' wound care outcomes. Also, BaMohammed et al. (2018), in their cross-sectional observational study conducted on 41 nurses, concluded that an educational course on wound management for the nurses is essential. These studies support that policy compliance noted in documentation supported through education improves wound prevention.

McCluskey and McCarthy (2017) agree with the importance of clinical staff continuing education. They further explained that when nurses apply the knowledge acquired from the competency training, it significantly enhances patients' outcomes and practice. In the management of patients' chronic wounds, Goudy-Egger and Dunn (2018) in their pretest-posttest research, concluded the need to support the need for continuing education among the clinical staff in the management of patients with a chronic wound. These studies support that educating staff on the wound care policy improves wound care management which can be documented in the EMR.

**Prevention Practices:** As the Centers for Medicare and Medicaid (CMS) in 2007 determined that hospital-acquired pressure injuries are preventable, the CMS decided not to pay organizations for pressure injuries that occurred while the patients were in the hospital (Nussbaum et al., 2018). Based on this information, hospitals must implement strategies such as policy and training, that will help prevent wounds. The patients at the VA are prone to developing pressure injuries due to the nature of their wounds, which may lead to immobility and neurological deficit (Awali et al., 2018). In their meta-synthesis, Walker et al. (2020) recommended the importance of clinical staff knowledge in preventing wounds through repositioning, nutrition, and support surfaces. Awali et al. (2018) also noted in their study that strategies such as education of health care staff, implementation of PI guidelines, and appropriate equipment used to reduce PI would make a tremendous difference in preventing PI among patients. These sources support the establishment of a wound care policy as a means for improving wound care.

**Tools for Wound Care Evaluation:** The Braden scale and the Spinal Cord Impairment Pressure Ulcer Monitoring (SCI-PUMT) tools are some of the tools that can be used in the evaluation of pressure injury and healing. The Braden scale is a pressure injury risk assessment tool which consists of six subscales: (a) sensory perception, (b) moisture, (c) activity, (d) mobility, (e) nutrition, and (f) friction and shear (Adibelli & Korkmaz, 2019). Each item is given a score from 1-4, the lower the score, the more the patient is prone to developing pressure injury (Adibelli & Korkmaz, 2019). According to Adibelli and Korkmaz (2019), the Braden scale is a valid and reliable wound assessment tool with a sensitivity of .95 and specificity of .75. See Appendix K for the Braden Scale tool.

Due to the pathophysiological factors involved in individuals with spinal cord injury, the SCI-PUMT was developed (Thomason et al., 2016). The SCI-PUMT includes two subscales; the geometrical factors and the substance factors (Thomason et al., 2016). The geometrical factors measure the surface area, depth, edges, tunneling, and undermining. While the surface factors measure exudate type, necrotic tissue, and amount. When the scores are added, an SCI-PUMT score of 2 means healed wound, and a score of 26 means the most severe wound (Thomason et al., 2016). In research performed by Thomason, Luther, Powell-Cope, Harrow, and Palacio (2014), the SCI-PUMT tool was found to be valid, reliable, and sensitive in detecting pressure injury healing over time in Veterans with spinal cord injury. See Appendix L for the SCI-PUMT.

At the VA (Detroit), the staff are expected to use the tools mentioned above in the assessment, evaluation of wound healing and to document appropriately in the electronic medical records (EMR).

**Wound Care Policy:** In their cross-sectional research, Soban et al. (2016) recognized that organizational strategies to assist in implementing PI prevention programs might not always work out as intended. The Department of Veterans Affairs Office of Inspector General (OIG), in their audit of 47 V.A. hospitals to evaluate clinicians' compliance with the required PI prevention and management protocols, identified that not all the clinicians adhered to the staff PI prevention as found through documentation (Department of Veterans Affairs Veterans Office of Inspector General, 2015). The OIG recommended that facilities have defined requirements for their PI prevent and management policy or protocol. The establishment of the wound care policy with a focus on EMR documentation aligns with the OIG recommendation.

The OIG, in their recommendation, added that facility managers need to monitor employee compliance and appropriate action instituted where required. With this project,

establishing a wound care policy with a focus on EMR documentation provided the means to monitor wound care compliance and identify actions for non-compliance.

### **Setting, Stakeholders, and Systems Change**

#### **Setting**

The project setting was a veterans affairs medical center, which comprises of an inpatient and outpatient units. The inpatient unit consists of 40 acute care beds, 11 intensive care unit beds, and 9 step-down unit beds. This veterans affairs medical center is one of the largest in the United States and provides services to about 350,000 veterans.

#### **Description of a typical participant**

The patients of this facility are typical participants for this project, and the patients are comprised of United States veterans. The patients either have wounds inflicted during combat or a wound acquired as a result of pressure injury. Due to the nature of the wounds acquired during combat, the patients are prone to having complications, while some patients who have other medical issues that are not wound-related develop pressure injuries. The patients at this facility deserve proper wound care management and prevention. As the patients of this facility are the primary focus of this project, the non-compliance of the clinical staff to the wound care best practices and documentation prevents effective management and documentation the patient wounds.

#### **The Organizational Mission and Vision**

The mission of the organization is one that has the veterans' interest at heart in fulfilling President Lincoln's promise "To care for him who shall have borne the battle, and for his widow. And his orphans" by serving and honoring the men and women who are America's veterans

(U.S. Department of Veterans Affairs, 2015). This project supports the accomplish the organization's mission of caring for the veterans by preventing and managing wounds. The organization's vision is to provide the veterans world-class benefits and services by employing the highest standard of compassion, commitment, excellence, professionalism, integrity, accountability, and stewardship (U.S. Department of Veterans Affairs, 2015).

### **Organization Need Establishment**

The organizational need was established after discussing and identifying different practice problems with the organization-affiliated preceptor. Increased wound incidences and improper management of patients' wounds due to the non-compliance of the clinical staff to wound care was identified as its most pressing problem. This deficit leads to poor patient outcomes and increased cost for care. Organizational leadership support and will approve the new wound care policy.

### **The Stakeholders**

The stakeholders included the patients, nurses, nurse practitioners, physicians, physician assistants, certified nursing assistants, unit managers, chief nursing officer, and wound care specialists. Organizational stakeholders represented the multidisciplinary team that collaborated on patient wound care.

### **The Organizational Support and Project sustainability**

The organizational support was confirmed by introducing the practice change project topic to the stakeholders by the preceptor. Approval for the new wound policy was provided by leadership. As the practice problem has been an ongoing organizational problem, the stakeholders and team members supported in achieving the project's purpose. Staff



encouragement, rewards, celebrating improvements, updates, feedback with EMR audits, were used for the sustainability of the project.

### **Required Interprofessional Collaboration**

Multidisciplinary, also called interprofessional collaboration was needed in achieving the purpose of the project. The dietician provided nutrition guidance for the support of wound healing (Awali et al., 2018). The interprofessional collaboration with physical and occupational therapy were needed in mobilizing the patients. Additionally, other stakeholders such as the nurses, nurse practitioners, physicians, physician assistants focused on the care delivery based on documentation to make recommendations to adjust or support current wound care processes.

### **SWOT Analysis**

The following were the strengths, weaknesses, opportunities, and threats (SWOT) as it related to the project change. The strengths and weaknesses are considered as the internal organizational factors, while the opportunity and threats are the external factors that can influence the project's outcome. The strength of the VA as related to this project included (a) the support of the stakeholders for the practice change, (b) electronic medical record (EMR) availability, which were used in inputting and retrieval of information, and (c) interprofessional staff and clinical staff members availability. The weaknesses were (a) staff time constrain, (b) staff resistance to change, and (c) staff lack of motivation. Identified opportunities were factors that influenced the project, including the federal government's willingness to provide financial support for the practice change project. Lastly, the threats identified that could have negatively affected the project include (a) an uncertain economic environment, (b) a sudden change in the

national wound care guidelines, and (c) employee turnover. See Appendix F for the SWOT analysis diagram.

### **Level of system change of the project and the system change.**

The project was supposed to create a meso level of system change. The establishment of the wound care policy required the clinical staff participation in mandatory policy update. Sustaining the wound care policy with focus on EMR documentation was to improve multidisciplinary collaboration leading to the number of patients with wound complications reduced as the clinical staff applies wound care policy.

### **Implementation Plan with Timeline**

As wound incidences and improper management of wounds is an issue at the VA, the objective of this practice problem change was to improve wound care policy adherence as evidenced by EMR documentation of patients' wound care management and prevention within two months of re-establishing the organization's current wound care policy. The objectives that guided the project's policy creation, implementation, and evaluation were to improve documentation compliance with the policy, prevent patients from developing pressure injury wounds, and support multidisciplinary management of patients' staff, and increased wound care compliance and adherence by the clinical staff.

The current wound care policy was reviewed with an interdisciplinary team of wound care experts with the use of research evidence, clinical guidelines, and VA processes. The project manager who was the lead reviewed and collaboratively adjusted the current policy to become a new wound care policy, adding compliance monitoring. The approval to develop this new policy was confirmed by the current leadership. Upon completion of the new

collaboratively developed wound care policy, the project manager received final approval from the facility's leadership team for the project implementation. The new policy was focused on the EMR documentation to support multidisciplinary collaboration. Within the new policy was the establishment of regular EMR audit periods where the interdisciplinary team assessed the data to make recommendations for any identified changes in care. Additionally, implementation process for introduction of the new policy to the clinical staff followed the VA processes.

According to the current VA policy, clinical staff are required to identify patients/residents at risk for skin breakdown, prevent avoidable pressure injuries, and chart in the electronic medical record (EMR) (Department of Veterans Affairs Veterans Health Administration, 2019), see Appendix G. The Braden scale and Spinal Cord Impairment Pressure Ulcer Monitoring Tool are two of the tools that clinical staff are required to use in evaluating patients at risk for developing pressure injuries and healing. EMR documentation of these tools by the clinical staff supported their policy compliance.

Introduction of the new wound care policy with a focus on EMR documentation occurred as the clinical staff were expected to attend in-person wound care training and policy updates. The change in staff behavior was measured by their compliance with the policy through the EMR documentation. Attachment of professional evaluation credit to the policy update by the wound care educator served as an incentive to ensure that knowledge was transferred to daily wound care management and documentation.

Through clear and effective communication, the stakeholders' involvement, and feedback from the clinical staff via EMR documentation, the objectives were met. During the implementation and evaluation period, every step was clearly and effectively communicated to the clinical staff and patients who were the primary stakeholders. Any questions from the

stakeholders were answered. The stakeholders were involved with the progress updates shared throughout the implementation and evaluation periods, which gave them a sense of being part of the project. The stakeholders were encouraged to provide feedback during the implementation and evaluation phases. See Appendix H for the implementation plan with a timeline.

### **Budget**

The cost of the project was very minimal. The cost consisted of the hourly wage for the Information Technology (IT) personnel for time spent in educating the program manager on the computer applications and assistance in retrieving data. The project manager was not paid any wage or compensation. The money was spent on purchasing office supplies that were used in printing handouts and posters during the dissemination of the project's period. The financial support from the institution was used wisely to accomplish the project goal. See Appendix I for the budget plan.

### **EBP and Change Models as Guide to the Recommended Practice Change**

The EBP model used for the project was that of Johns Hopkins evidence-based framework for practice change. The PET steps of the Johns Hopkins evidence-based framework were used to guide the recommended practice change. The PICOT question for this project was clearly stated as: Among the wound care clinical staff members at the VA (P) will establishment of a staff best practices wound care policy focusing on EMR documentation (I) compared to current staff practices (C) improve multidisciplinary collaboration to decrease wound incidences and improve proper wound care management (O) within two months of initiation of the practice change (T)? With the question as the guide, evidence-based research articles were evaluated and synthesized to answer the PICOT question. The Johns Hopkins evidence-based framework

guided in grading and leveling of the evidence-based research articles ensuring quality evidence-based articles were selected for the project. With the Johns Hopkins evidence-based framework, one Level 1, three Level 2, four Level 3, and two Level 4 evidence-based research articles were synthesized for this project. Two Grade A, four Grade B, and three Grade A/B research articles were found. During the Johns Hopkins evidence-based frameworks transition phase, the best evidence gathered from the synthesized research articles were selected and used in the implementation of the practice change.

The Lewin's change theory (Mulholland, 2017) was used to manage the change process through three phases: unfreezing, change, and refreezing. At the unfreezing phase of the project, a practice problem was identified as non-compliance with the current wound care policy and EMR documentation. During this phase, (a) the current wound care policy was evaluated and adjusted for establishment, (b) the rationale for the clinical staff non-compliant to the wound care were determined with strategies for compliance, and (c) trends of patients developing pressure injuries because of missed multidisciplinary collaboration evaluation of treatment plans. All the stakeholders were identified and involved during this phase. This phase took one week to gather the needed information.

At the "change" phase, the proposed project change was implemented. The change that was be implemented was the reestablishing the wound care policy-based analysis of the information obtained from the stakeholders. During the implementation phase, good communication, support, and involvement of the stakeholders were employed. Feedback from the stakeholders were acknowledged. PowerPoint presentations, email, staff meetings, and meetings of the stakeholders were used to disseminate information and communicate the change

implementation's progress. EMR documentation using the two evaluation tools and multidisciplinary collaboration were monitored.

The last phase is the "refreezing," where the implemented change is sustained. After the implementation of the proposed change, it was sustained through (a) staff encouragement, (b) sending due dates reminders of wound care training to the staff, (c) rewards, (d) periodic staff evaluation, successes were celebrated of the improved number of staff attending the wound care training, (f) weekly updates of the staff on the number of pressure injuries, and (g) leadership audits of the EMR documentation. The strategies as mentioned above, were supported by staff engagement while sustaining the practice change. The "change" and the refreezing phases took 7 weeks.

### **Interprofessional collaboration required during Implementation**

During the implementation phase of the project, interprofessional collaboration commenced. The nurses were charged with wound care documentation using the two wound care tools mentioned earlier. The dietician was consulted to determine nutritionally deficient patients and make sure that those patients were nutritionally stable. The physical therapists and occupational therapists evaluated and mobilize the patients as required. Other professionals involved include the prosthetic department because some patients had pressure injuries related to their prosthetics, and wound care specialists, nurse practitioners, and physicians were given updates on the clinical staff EMR documentation supporting the wound care practice. There were weekly meetings to assess progress and feedback for the project during the implementation phase.

### **Role of the Project Manager**

As the project manager, the Doctor of Nursing Practice (DNP) student was the person at the helm of the affairs of the project implementation. The project manager coordinated with project team members and ensured the smooth implementation of the project. The project manager who was the director of the project, gathered information, monitored, and ensured smooth project implementation. The leadership skills applied by the project manager for the successful completion of the project were the ability to communicate effectively, listen attentively, and manage time appropriately. The project manager was trustworthy, respectful, and was open to suggestions.

### **Results**

The project manager was in charge of the project plan. After the problem change intervention implementation, the total documentation using the “Braden scale” or the “spinal cord impairment pressure ulcer monitoring” tools, the total number documented accurately, and the number of multidisciplinary team contacts were evaluated. Clinical staff compliance was measured by the level of completion of the two tools in the EMR. Outcomes improvement of wound care was evaluated by the number of multidisciplinary team encounters (See Appendix J: Data Collection Tools).

Data was collected by the project manager with the assistance of the facility's IT department. Pre-and post-intervention of the clinical staff documentation in the EMR using the EMR embedded Braden scale and SCIPUM tools were retrieved and analyzed. During the data collection/ retrieval process, HIPAA was observed because only individuals directly involved in the patients' retrieval process was allowed access to the patients' information. During the retrieval, the computer was password protected when not in use. Unidentifiable identification numbers were assigned to the patients. Extra HIPAA protection was also in place because

patients' information could only be assessed from the facility's computers to protect the patients' information.

A two-tailed independent samples *t*-test was conducted to examine whether the mean of Total\_Documentation\_using\_Braden\_or\_SCIPUM\_tools was significantly different between the Pretest and Posttest categories of Time Period. The result of the two-tailed independent samples *t*-test was not significant based on an alpha value of 0.05,  $t(31) = 1.66$ ,  $p = .107$ , indicating the null hypothesis cannot be rejected. This finding suggests the mean of Total\_Documentation\_using\_Braden\_or\_SCIPUM\_tools was not significantly different between the Pretest and Posttest categories of Time Period. The results are presented in Table 1. A bar plot of the means is presented in Figure 1.

**Table 1**

*Two-Tailed Independent Samples t-Test for Total\_Documentation\_using\_Braden\_or\_SCIPUM\_tools by Time Period.*

Variable	Pretest		Posttest		<i>t</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Total_Documentation_using_Braden_or_SCIPUM_tools	31.50	11.25	23.57	14.13	1.66	.107	0.62

*Note.* N = 33. Degrees of Freedom for the *t*-statistic = 31. *d* represents Cohen's *d*.

**Figure 1**

*The mean of Total\_Documentation\_using\_Braden\_or\_SCIPUM\_tools by levels of Time Period.*



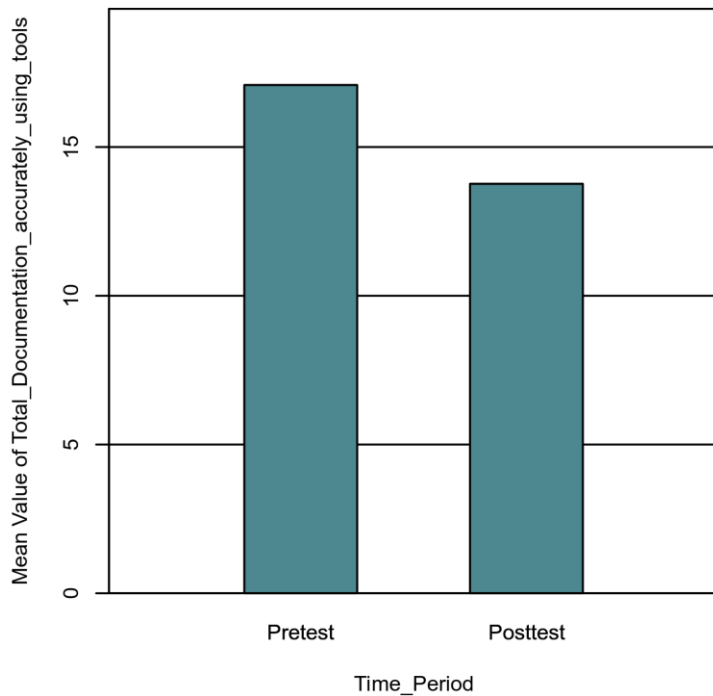


Total\_Documentation\_accurately\_using\_tools 17.08 10.07 13.76 8.18 1.03 .310 0.36

*Note.* N = 33. Degrees of Freedom for the *t*-statistic = 31. *d* represents Cohen's *d*.

**Figure 3**

*The mean of Total\_Documentation\_accurately\_using\_tools by levels of Time\_Period*



Lastly, a two-tailed independent samples *t*-test was conducted to examine whether the mean of Number\_of\_Multidisciplinary\_team\_contacts was significantly different between the Pretest and Posttest categories of Time Period. The result of the two-tailed independent samples *t*-test was not significant based on an alpha value of 0.05,  $t(31) = -0.31, p = .755$ , indicating the null hypothesis cannot be rejected. This finding suggests the mean of Number\_of\_Multidisciplinary\_team\_contacts was not significantly different between the Pretest and Posttest categories of Time Period. The results are presented in Table 5. A bar plot of the means is presented in Figure 5.

**Table 5**

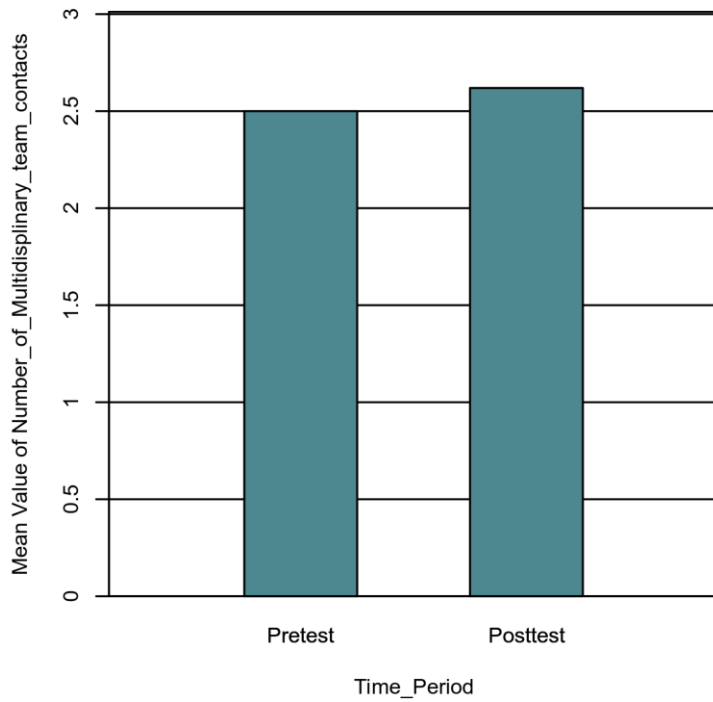
*Two-Tailed Independent Samples t-Test for Number\_of\_Multidisciplinary\_team\_contacts by Time Period*

Variable	Pretest		Posttest		<i>t</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Number_of_Multidisciplinary_team_contacts	2.50	1.17	2.62	0.97	-0.31	.755	0.11

*Note.* N = 33. Degrees of Freedom for the *t*-statistic = 31. *d* represents Cohen's *d*.

**Figure 5**

*The mean of Number\_of\_Multidisciplinary\_team\_contacts by levels of Time Period*



### **Impact**

At the VA, the clinical staff are not new to rules, regulations, and policies. Therefore, establishing a staff best practices wound care policy focusing on EMR documentation was needed at the VA to improve multidisciplinary collaboration to decrease wound incidences and improve proper wound care management. As a result of the intervention implementation, the clinical staff were able to see new perspectives of reducing and preventing wounds in their hospital. Unfortunately, due to the present pandemic, the COVID-19, and its restrictions, not a huge positive outcome after implementing the intervention was observed.

Although the wound care educator educated the staff on the “Braden Scale” and the “SCI-PUMT” tools policies, utilizing the intervention implemented on using the tools will go a long way in helping in reducing wounds in the facility. For the intervention to be sustained, the unit manager(s) should help reinforce the intervention implemented and hold the staff accountable through frequent EMR wound care chart auditing. While the charge nurses remind the clinical staff of the use and proper documentation of the Braden scale and SCI-PUMT tools during daily hurdle.

Some of the barriers and limitations encountered were the inability to follow up face-to-face with the staff due to the implemented restrictions due to COVID-19 and wound staging and charting inconsistency. In addition, due to inadequate staffing, the available staff were more focused on direct care to the patient instead of documentation. More awareness needs to be created among the clinical staff. Some of the staff were not aware that wound care documentation using the tools mentioned above should be performed on every patient and not only on the patients with wounds. Reimplementation of the project is recommended where the barriers mentioned above would be removed, allowing for a greater opportunity for staff

mentoring, coaching, and oversight to ensure processes are fully completed based on the protocols.

### **Dissemination Plan**

After successfully implementing the EBP change project, the result of the change project was disseminated within the facility. Within the facility, the Chief Nursing Officer (CNO), Chief Medical Officer (CMO), the unit managers, project manager preceptor, wound care specialist, dietitian, physical therapists, occupational therapists, patients' representative, nurses representatives were present during the dissemination of the result with PowerPoint presentation through a Zoom virtual presentation. Permission for disseminating the result at the facility level was obtained from the hospital executives, the date, time, and location were fixed. The responsible parties for the dissemination were notified and reminded through email of the event's location, date, and time. Within the inpatient unit, a poster presentation of the EBP change result was posted on the unit.

For the professional community, the result of the project will be archived at the University of Saint Augustine for Health Sciences scholarship and open access repository (SOAR) for the accessibility of the students and faculty. In addition, the EBP change project will be shared at the Michigan Council of Nurse Practitioners annual conference scheduled for 2022. Finally, the Journal of the American Association of Nurse Practitioners (JAANP) has been selected for the publication of the EBP change project. The JAANP supports evidence-based practices, and the journal publications are used to keep nurse practitioners informed of the latest best practices (AANP, 2020).

### **Conclusion**

The goal of this evidence-based project was to establish wound care policy with a focus on EMR documentation supporting improved identification of patient wound status as an effort to decrease patient wound incidences and improve proper wound management as aligned with VA expectations. The issue with current practice was the non-compliance with current best practices which was supposed to have been alleviated through the new wound care policy updates and evaluation of wound care documentation. Unfortunately, due to some barriers encountered by the project manager, the result was not statistically significant. A re-implementation of the project without barriers is recommended by the project manager.

The project was defined by the following PICOT question: Among the wound care clinical staff members at the VA (P) will establishment of a staff best practices wound care policy focusing on EMR documentation (I) compared to current staff practices (C) improve multidisciplinary collaboration to decrease wound incidences and improve proper wound care management (O) within two months of initiation of the practice change (T)? The Johns Hopkins evidence-based practice framework guided the project, and the Lewin change theory defined the project steps. The DNP student was the designated project manager who led the change project, collected, and analyzed the data, and disseminated of results to stakeholders. The project was complete in 8 weeks.

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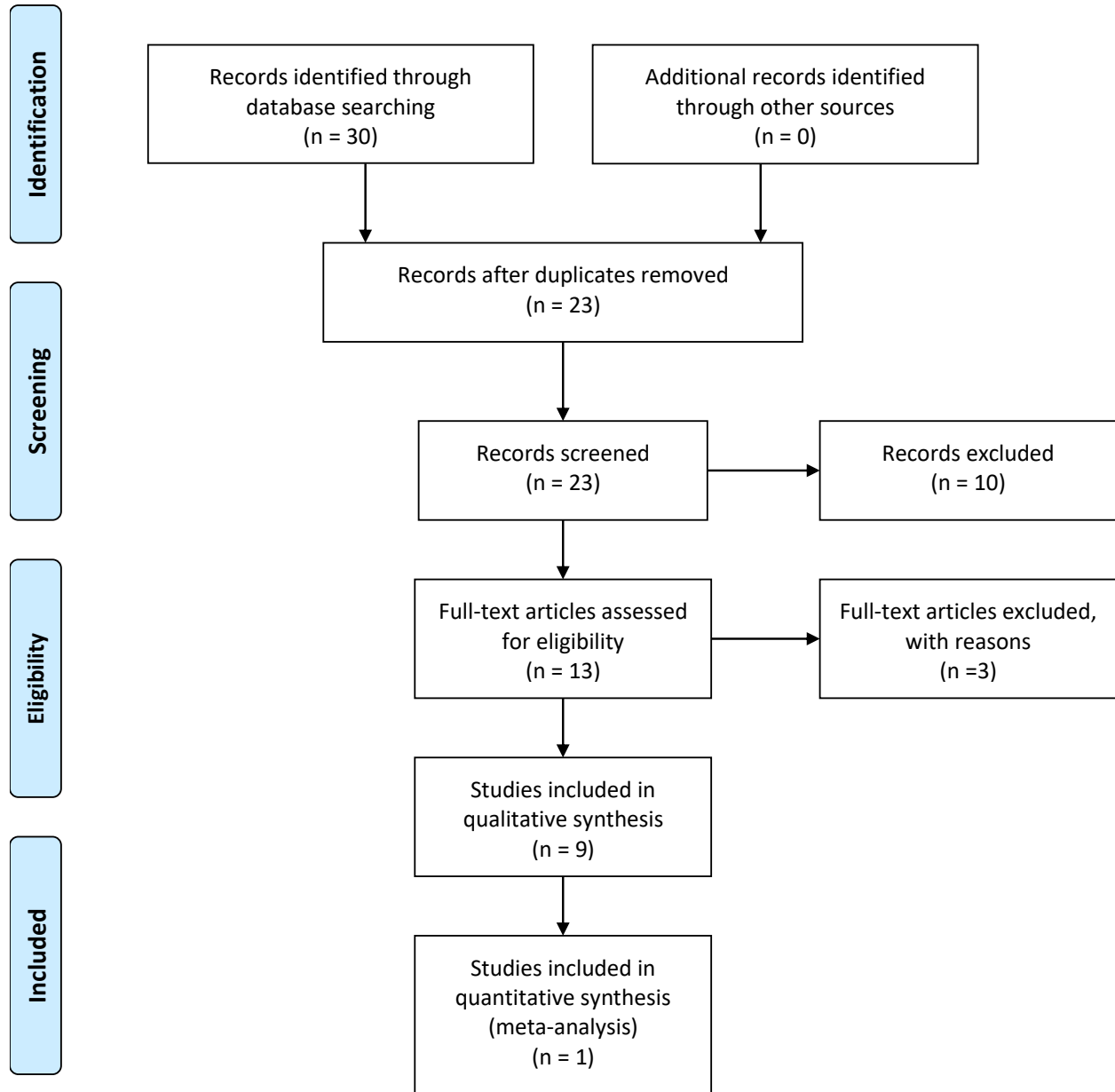
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Appendix A: PRISMA Reporting

PRISMA



PRISMA transparent reporting of systematic reviews and meta-analysis. (2015).

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## Appendix B: Primary Research Evidence

Citation	Design	Level of evidence according to John Hopkins EBP Model	Grade of evidence according to John Hopkins EBP Model
Bamohammed, A., Mohidin, S., George, B., & Al-Aidarous, S. (2018). An observation study on wound dressing performance among nurses in adult units. <i>Journal of Nursing and Health Science</i> , 7(3), 1-6. <a href="https://doi.10.9790/1959-0703020106">https://doi.10.9790/1959-0703020106</a>	A cross-sectional observational study.	Level III	Grade B
Cross, R., Jennings, N., McGuinness, W., & Miller, C. (2016) Profiling wound management in the emergency department: A descriptive analysis. <i>Australia Emergency Nursing Journal</i> , 19(3), 166-171. <a href="https://doi.org/10.1016/j.aenj.2016.06.003">https://doi.org/10.1016/j.aenj.2016.06.003</a>	Retrospective descriptive review.	Level IV	Grade B
Cowan, L., Garvan, C., Rugs, D., Barks, L., Chavez, M., & Orozco. (2018). Pressure injury education in the department of veterans affairs. <i>Journal of Wound Ostomy Continence Nursing</i> , 45(5),419-424. <a href="https://doi.1097/WON.0000000000000468">https://doi.1097/WON.0000000000000468</a>	A cross-sectional, descriptive study.	Level III	Grade A/B
Goudy-Egger, L., & Dunn, K. S. (2018). Use of continuing education to increase nurses' knowledge of chronic wound care management. <i>Journal for Continuing Education in Nursing</i> , 49(10), 454-459. <a href="https://0b32q1tld-mp03-y-https-www-proquest-com.prx-usa.lirn.net/docview/2112266917">https://0b32q1tld-mp03-y-https-www-proquest-com.prx-usa.lirn.net/docview/2112266917</a>	Pretest-posttest research design.	Level III	Grade A/B
Gupta, N., Loong, B., & Leong. (2012). Comparing and contrasting knowledge of pressure ulcer assessment, prevention, and management in people with spinal cord injury among nursing staff working in two metropolitan spinal units and rehabilitation medicine training specialists in a three-way comparison. <i>Spinal Cord</i> , 50, 159-164. <a href="https://doi.org/10.1038/sc.2011.88">https://doi.org/10.1038/sc.2011.88</a>	Prospective Survey design study	Level III	Grade C
Kielo, E., Suhonen, R., Salminen, L., & Scott, M. (2019). Competence areas for registered nurses and podiatrists in chronic wound care, and their role in wound care practice. <i>Journal of Clinical Nursing (John Wiley &amp; Sons, Inc.)</i> , 28(21/22), 4021–4034. <a href="https://doi.org/10.1111/jocn.14991">https://doi.org/10.1111/jocn.14991</a>	Qualitative design.	Level II	Grade A/B

<p>McCluskey, P. &amp; McCarthy, G. (2017). Nurses' knowledge and competence in wound management. <i>Wounds U.K.</i>, 8(2), 37-47. <a href="http://0b30boj34.mp02.y.http.eds.b.ebscohost.com.prx-usa.lirn.net/eds/pdfviewer/pdfviewer?vid=1&amp;sid=fca5d1c6-6695-4460-af28-bfd06906c515%40pdc-v-sessmgr01">http://0b30boj34.mp02.y.http.eds.b.ebscohost.com.prx-usa.lirn.net/eds/pdfviewer/pdfviewer?vid=1&amp;sid=fca5d1c6-6695-4460-af28-bfd06906c515%40pdc-v-sessmgr01</a></p>	<p>A quantitative, descriptive study.</p>	<p>Level IV</p>	<p>Grade A</p>
<p>Mwebaza, I., Katende, G., Groves., S., &amp; Nankumbi, J. (2014). Nurse' knowledge, practices, and barriers in care of patients with pressure ulcers in a Ugandan teaching hospital. <i>Nursing Research and Practice</i>, 2014. <a href="https://doi.org/10.1155/2014/973602">https://doi.org/10.1155/2014/973602</a></p>	<p>A descriptive cross-sectional quantitative study.</p>	<p>Level II</p>	<p>Grade B</p>
<p>Seo, Y., and Roh, Y. S. (2020). Effects of pressure ulcer prevention training among nurses in long-term care hospitals. <i>Nurse Education Today</i>, 84. <a href="https://doi.org/10.1016/j.nedt.2019.104225">https://doi.org/10.1016/j.nedt.2019.104225</a></p>	<p>Comparison of group pretest-posttest design.</p>	<p>Level II</p>	<p>Grade B</p>

## Appendix C: Systematic Review

Citation	Level of evidence according to John Hopkins EBP Model	Grade of evidence according to John Hopkins EBP Model
Walker, R. M., Gilleespie, B. M., McInnes, E., Moore, Z., Eskes, A. M., Patton, D., Harbeck, E. L., White, C., Scott, I. A., & Chaboyer, W. (2020). Prevention and treatment of pressure injuries: A meta-synthesis of Cochrane reviews. <i>Journal of Tissue Viability</i> , <i>S0965-206X</i> (20), 1-17. <a href="https://doi.org/10.1016/j.jtv.2020.05.004">https://doi.org/10.1016/j.jtv.2020.05.004</a>	Level 1	Grade A



Appendix D: Summary of Primary Research Evidence

Citation	Design, Level Quality Grade	Sample Size	Intervention Comparison (Definitions should include any specific research tools used along with reliability & validity)	Theoretical Foundation	Outcome Definition	Usefulness Results Key Findings

<p>Bamohammed, A., Mohidin, S., George, B., &amp; Al-Aidarous, S. (2018). An observation study on wound dressing performance among nurses in adult units. <i>Journal of Nursing and Health Science</i>, 7(3), 1-6. <a href="https://doi.10.9790/1959-0703020106">https://doi.10.9790/1959-0703020106</a></p>	<p>A cross-sectional observational study. Level III. Grade B</p>	<p>Clinical staff members. N = 41</p>	<p>SPSS version 21 was used to analyze the data. Pearson correlation, ANOVA, and t-tests were used to compare group means, and alpha was set at 0.05 to compare both observation groups in the study.</p>	<p>No theoretical foundation was stated</p>	<p>Educational course on wound care management is essential to the clinical state.</p>	<p>The mean score of the clinicians who adhered to the educational wound care management technique was high, demonstrating the importance of wound care education.</p>
<p>Cross, R., Jennings, N., McGuinness, W., &amp; Miller, C. (2016) Profiling wound management in the emergency department: A descriptive analysis. <i>Australia Emergency Nursing Journal</i>, 19(3), 166-171. <a href="https://doi.org/10.1016/j.aenj.2016.06.003">https://doi.org/10.1016/j.aenj.2016.06.003</a></p>	<p>Retrospective descriptive review. Level IV. Grade B</p>	<p>Patients. N = 539</p>	<p>Data was extracted through VEMD using ICD (version 10). SPSS (version 22) was</p>	<p>No theoretical foundation was stated</p>	<p>The patients that were not adequately profiled in the emergency department ended</p>	<p>Education/knowledge of nurses regarding wound care is needed in the profiling of wounds to provide high-quality patient care.</p>

			used to analyze the data.		up admitted instead of been discharged home.	
<p>Cowan, L., Garvan, C., Rugs, D., Barks, L, Chavez, M., &amp; Orozco. (2018). Pressure injury education in the department of veterans affairs. <i>Journal of Wound Ostomy Continence Nursing</i>, 45(5),419-424. <a href="https://doi.1097/WON.00000000000000468">https://doi.1097/WON.00000000000000468</a></p>	<p>A cross-sectional, descriptive study.</p> <p>Level III</p> <p>Grade A/B</p>	<p>Veterans' Health Administration (VHA) wound care providers and clinicians.</p> <p>N = 1726</p>	<p>Data were compiled and the integrity of the data checked by the NCOD analysts. SAS (version 9.4) was used to summarize and interpret the findings. Provider types and level of experience were used to compare responses.</p>	<p>No theoretical foundation was stated</p>	<p>Wound care education and documentation were identified by the clinical staff as the biggest issue of P.I. prevention and management.</p>	<p>Clinical staff requires education and improved documentation to prevent P.I., manage, and evaluate the wound adequately.</p> <p>In preference to the type of wound care training, 17% of the clinical staff indicated a preference for online wound care training, while 82% prefer face-to-face training.</p>

			Content analysis was used for qualitative analysis of open-ended text response questions.			
Goudy-Egger, L, & Dunn, K. S. (2018). Use of continuing education to increase nurses' knowledge of chronic wound care management. <i>Journal for Continuing Education in Nursing, 49</i> (10). 454-459. <a href="https://0b32q1tld-mp03-y-https-www-proquest-com.prx-usa.lirn.net/docview/2112266917">https://0b32q1tld-mp03-y-https-www-proquest-com.prx-usa.lirn.net/docview/2112266917</a>	Pretest - posttest research design.  Level III  Grade: A/B	Randomly selected clinical staff.  N = 31	SPSS (version 21.0) was used to analyze the data. The research question was addressed using a paired-sample <i>t</i> -test.  Pretest of the participants' knowledge of wound care	No theoretical foundation was stated	The need for wound care education increases among clinical staff in the health care system.	There was a statistically significant increase in wound care management's clinical staff knowledge after attending the wound care educational workshop. Showing that there is a relationship between clinical staff wound care management education

			was compared to posttest after wound care education ( $p < .05$ )			and wound outcome.  The study was limited due to the small sample size. Another limitation was that the nursing knowledge was not clinically tested rather, it was tested on paper.
Gupta, N., Loong, B., & Leong. (2012). Comparing and contrasting knowledge of pressure ulcer assessment, prevention, and management in people with spinal cord injury among nursing staff working in two metropolitan spinal units and rehabilitation medicine training specialists in a three-way comparison. <i>Spinal Cord</i> , 50, 159-164. <a href="https://doi.org/10.1038/sc.2011.88">https://doi.org/10.1038/sc.2011.88</a>	Prospective Survey design study.  Level III  Grade C	Nurses.  N = 28	Data were analyzed with software package R (version 2.8). The ANOVA test was used in detecting the average score differences by work area, years of	No theoretical foundation was stated	There was a difference in knowledge of P.I. prevention and management among the nurses.	A gap in knowledge among clinical staff in the care of patients with SCI was noted where doctors score higher in SCI knowledge than nurses. The authors recommended the implementation of a wound managemen

			experience, and the type of job. The questionnaire was used in data collection.			nt pathway, clinical staff education in the prevention and management of P.I.s.
Kielo, E., Suhonen, R., Salminen, L., & Scott, M. (2019). Competence areas for registered nurses and podiatrists in chronic wound care, and their role in wound care practice. <i>Journal of Clinical Nursing (John Wiley &amp; Sons, Inc.)</i> , 28(21/22), 4021–4034. <a href="https://doi.org/10.1111/jocn.14991">https://doi.org/10.1111/jocn.14991</a>	Qualitative design.  Level II  Grade A/B	Clinical staff.  N = 23	Semi-structured focus group interviews were used for data collection. Purposive sampling was used in recruiting participants from different organizations. The data were analyzed with NVIO	No theoretical foundation was stated	There was a difference in knowledge of how physicians care for wounds from nurses.	Strong theoretical knowledge of wounds is needed for a clinician to be able to develop skills and care for wounds. The design, methods, and analysis were seen as a limitation to the study. The authors recommended clinical staff wound care teaching and education.

			V (version 12).			
<p>McCluskey, P. &amp; McCarthy, G. (2017). Nurses' knowledge and competence in wound management. <i>Wounds U.K.</i>, 8(2), 37-47.  <a href="http://0b30boj34.mp02.y.http.e ds.b.ebscohost.com.prx-usa.lirn.net/eds/pdfviewer/pdfviewer?vid=1&amp;sid=fca5d1c6-6695-4460-af28-bfd06906c515%40pdc-v-sessmgr01">http://0b30boj34.mp02.y.http.e ds.b.ebscohost.com.prx-usa.lirn.net/eds/pdfviewer/pdfviewer?vid=1&amp;sid=fca5d1c6-6695-4460-af28-bfd06906c515%40pdc-v-sessmgr01</a></p>	<p>A quantitative, descriptive study.</p> <p>Level IV</p> <p>Grade A</p>	<p>Convenience sample (Nurses).</p> <p>N = 150</p>	<p>Researcher-design questionnaires were used in obtaining the data. SPSS was used in analyzing the data. Data were described, explained, and summarized with the use of descriptive and inferential statistics. CNS examined the questionnaire in wound care</p>	<p>No theoretical foundation was stated</p>	<p>Knowledge application to practice is enhanced when wound care knowledge is updated.</p>	<p>There was a substantial positive correlation between competence and the number of wounds treated by the nurses (p&lt;.001).</p>

			and a registered nurse. Ambiguous questions were reconstructed and clarified.			
<p>Mwebaza, I., Katende, G., Groves., S., &amp; Nankumbi, J. (2014). Nurse' knowledge, practices, and barriers in care of patients with pressure ulcers in a Ugandan teaching hospital. <i>Nursing Research and Practice, 2014</i>.  <a href="https://doi.org/10.1155/2014/973602">https://doi.org/10.1155/2014/973602</a></p>	<p>A descriptive cross-sectional quantitative study.</p> <p>Level II</p> <p>Grade B</p>	<p>Nurses providing direct care in a selected unit.</p> <p>N = 84</p>	<p>A questionnaire and observational checklist were used to obtain the information. SPSS (version 16) was used in analyzing the data. Descriptive statistics were used to analyze the participants' demographics,</p>	<p>No theoretical framework mentioned</p>	<p>There was inadequate knowledge of the participants regarding P.I. development, staging, and management.</p>	<p>Continuous education is needed for clinical staff to enable them to meet the wound care management standards. A protocol is required to assist the clinical staff in recognizing, preventing, and managing the wound. Nurses knowing the prevention and management of wound care with the</p>



			knowledge level, and wound management and prevention practices.			implementation of the wound care assessment tool (Braden) will help in wound management.
Seo, Y., & Roh, Y. S. (2020). Effects of pressure ulcer prevention training among nurses in long-term care hospitals. <i>Nurse Education Today</i> , 84. <a href="https://doi.org/10.1016/j.nedt.2019.104225">https://doi.org/10.1016/j.nedt.2019.104225</a>	Comparison of group pretest - posttest design.  Level II  Grade B	Nurses from long-term care hospitals.  N = 60 (divided into two groups)  Team-based learning (n = 30) Lecture-based learning (n = 30).	There was pretest and posttest . Posttest was conducted two weeks after the pretest was conducted for both TBL and LBL. Both groups showed improved knowledge after the posttest (p < .001,	No theoretical foundation was stated	It is essential to educate nurses' on pressure injury prevention.	Regardless of the type of learning, it was concluded that pressure injury prevention training is essential in enhancing the nurses' pressure ulcer prevention knowledge.  Not examining the nurses' educational needs in the long-term care hospital was one of this study's limitations. It was also noted as a limitation the

			<p>respectively). PUKA T 2.0 was used in measuring pressure ulcer prevention knowledge. SPSS (version 23) was used in analyzing the data. A <i>t</i>-test was used in evaluating the difference in knowledge, behaviors, and attitude results between each group's pretest and posttest.</p>		<p>difference in both groups' training, which could have affected the training outcome.</p>
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Legend: ANOVA = Analysis of Variance; ANOVA = Analysis of variance; CNS = Clinical Nurse Specialist; ICD = International Statistical Classification of Disease; NCOD = national Center for Organization Development; LBL = Lecture-Based Learning; PI: Pressure Injury; SCI = Spinal Cord Injury; SPSS = Statistical Package for the Social Sciences; TBL = Team-Based Learning; VEMD = Victoria Emergency Minimum Dataset;

Appendix E: Summary of Systematic Reviews (S.R.)

Citation	Quality Grade	Question	Search Strategy	Inclusion/Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/Implications
Walker, R. M., Gillespie, B. M., McInnes, E., Moore, Z., Eskes, A. M., Patton, D., Harbeck, E. L., White, C., Scott, I. A., & Chaboyer, W. (2020). <i>Journal of Wound Ostomy Continence Nursing</i> , 46(2), 98-105. <a href="https://doi.org/10.1097/WON.000000">https://doi.org/10.1097/WON.000000</a>	Level 1 Grade A	What are the prevention and treatment strategies for pressure injuries?	Only Cochrane reviews were included. Evidence from the articles was screened independently and evaluated by two authors. 163 studies were obtained from the Cochrane database. Titles and abstracts on the wound group website were screened. The terms "pressure injury," or "pressure ulcer" were used as the keywords.	Inclusion: P.I. prevention and P.I. treatment. Excluded: Not P.I. Intra-operative, not a nursing intervention	Data dictionary detailing was used in extracting the data. Two pairs of independent authors conducted the data extraction on each study. 163 reviews were screened but only 27 reviews were used. 136 excluded due to (a) not pressure injuries (n = 100), (b) Intra-operative (n = 20), (c) Not a nursing intervention (n = 11), (d) Withdrawn (n = 5).	There is clinical uncertainty of the nurses in the prevention and management of wounds.	They recommended the need for repositioning, surface support, health professional education, and nutrition to prevent P.I.s. The meta-analysis was limited because it favored reproducible quantitative designs. There was not enough clear and reliable evidence to use from the Cochrane database.

Citation	Quality Grade	Question	Search Strategy	Inclusion/Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/Implications
0000000512							

Legend: P.I. = Pressure Injury

Appendix F: SWOT Analysis

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>○ Support of the stakeholders for a practice change.</li> <li>○ Availability of Electronic Medical Record.</li> <li>○ Availability of interprofessional staff and clinical staff members.</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>○ Staff time constrain.</li> <li>○ Staff resistance to change.</li> <li>○ Staff lack of motivation</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>○ The federal government's willingness to support organizational change financially.</li> <li>○ Setting a goal and becoming a benchmark for other organizations.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>○ Uncertain economic environment.</li> <li>○ A sudden change in the national wound care guidelines.</li> <li>○ Employee turnover.</li> </ul>

Appendix G: VA Publications Link

[www.va.gov/vhapublications/ViewPublication.asp?pub\\_ID=8274](http://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=8274)

## Appendix H: Timeline - Steps and Details of the project schedule

Task	Responsible Party	Start Time	End Time
Meeting with the preceptor	Project manager and the preceptor	Week 1	Week 1
Discussing with preceptor regarding the problem change project	Project manager and the preceptor	Week 1	Week 1
Getting familiar with the facility	Project manager	Week 1	Week 1
Faculty approval of the project	The University of Saint Augustine Faculty members	Week 2	Week 6
Presentation of the project proposal to the hospital executives with an evidence-based	Project manager	Week 6	Week 7



literature review of the proposal			
Facility IRB approval	Facility IRB committee	Week 7	Week 8
Stakeholders' meeting and creating awareness of the importance of the problem change project and formation of the project team. Obtaining of consent.	Project manager, preceptor, wound care specialist, PT/OT, stakeholders, dietician	Week 9	Week 9
Meeting with the I.T. regarding electronic medical record access. Meeting with the finance dept to review the budget for the project.	Projector Manager, I.T. department. Finance dept rep. hospital executives. And the project manager	Week 9	Week 9

Wound care training for establishment of policy in progress	Wound care Educator, with the project manager checking in on the progress.	Week 9	Week 10
Collection of attendance information from the wound care educator	Project manager	Week 11	Week 11
Implementation and evaluation of the project change.	Project manager, project team members, and interprofessional personnel.	Week 12	Week 15
Term 3 Nur 7803			
Implementation and evaluation of the project change Continues.	Project manager, project team members, and interprofessional personnel.	Week 1	Week 1

Implementation of measures for the sustainability of the change projects and project closure.	Project manager	Week 2	Week 2
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## Appendix I: Budget

<b>EXPENSES</b>		<b>REVENUE</b>	
IT personnel \$37 per hour x 16 hours	\$592	Grants from the federal government	\$600
Office supplies	\$300	Institutional budget support	\$400
Project Manager (Graduate student)	\$0		
Total Expenses	\$892.00	Total Revenue	\$1,000
Net Balance			\$ 108.00

Appendix J: Data Collection Tools

1. Data Collection Tool: EMR documentation

<b>Patient Identifier</b>	<b>Braden Scale:</b> 1 = All sections completed 2 = Missing two to four items 3 = Missing greater than four items	<b>Spinal Cord Impairment Pressure Ulcer Monitoring Tool</b> 0 = Not applicable 1 = All sections completed 2 = Missing two to four items 3 = Missing greater	<b>Multidisciplinary Team Collaboration</b> NP – Nurse Practitioner MD/DO – Physician DT – Dietician OT/PT – Occupational Therapy/ Physical Therapy Case Manager/ Unit Manager – CM/UM
<b>Example:</b> <b>VAD1010</b>	<b>2</b>	<b>0</b>	<b>NP, DT</b>
<b>TOTAL NUMBER OF DAYS</b>	<b>Score Number:</b> 1= 2=	<b>Score Number:</b> 0= 1=	<b>Number of Encounters:</b> NP= MD/DO=

	3=	2=	OT/PT=
		3=	CM/UM

Appendix K: The Braden Scale

**BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK**

Patient's Name _____		Evaluator's Name _____		Date of Assessment					
<b>SENSORY PERCEPTION</b> ability to respond meaningfully to pressure-related discomfort	<b>1. Completely Limited</b> Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation. OR limited ability to feel pain over most of body	<b>2. Very Limited</b> Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness. OR has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body.	<b>3. Slightly Limited</b> Responds to verbal commands, but cannot always communicate discomfort or the need to be turned. OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.	<b>4. No Impairment</b> Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort.					
<b>MOISTURE</b> degree to which skin is exposed to moisture	<b>1. Constantly Moist</b> Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	<b>2. Very Moist</b> Skin is often, but not always moist. Linen must be changed at least once a shift.	<b>3. Occasionally Moist:</b> Skin is occasionally moist, requiring an extra linen change approximately once a day.	<b>4. Rarely Moist</b> Skin is usually dry, linen only requires changing at routine intervals.					
<b>ACTIVITY</b> degree of physical activity	<b>1. Bedfast</b> Confined to bed.	<b>2. Chairfast</b> Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	<b>3. Walks Occasionally</b> Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair	<b>4. Walks Frequently</b> Walks outside room at least twice a day and inside room at least once every two hours during waking hours					
<b>MOBILITY</b> ability to change and control body position	<b>1. Completely Immobile</b> Does not make even slight changes in body or extremity position without assistance	<b>2. Very Limited</b> Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.	<b>3. Slightly Limited</b> Makes frequent though slight changes in body or extremity position independently.	<b>4. No Limitation</b> Makes major and frequent changes in position without assistance.					
<b>NUTRITION</b> <u>usual</u> food intake pattern	<b>1. Very Poor</b> Never eats a complete meal. Rarely eats more than 1/2 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement OR is NPO and/or maintained on clear liquids or IV's for more than 5 days.	<b>2. Probably Inadequate</b> Rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR receives less than optimum amount of liquid diet or tube feeding	<b>3. Adequate</b> Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) per day. Occasionally will refuse a meal, but will usually take a supplement when offered OR is on a tube feeding or TPN regimen which probably meets most of nutritional needs	<b>4. Excellent</b> Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.					
<b>FRICTION &amp; SHEAR</b>	<b>1. Problem</b> Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction	<b>2. Potential Problem</b> Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	<b>3. No Apparent Problem</b> Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair.						
					<b>Total Score</b>				

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**Medscape**

Severe risk: Total score ≤ 9, High risk: Total score 10-12,  
Moderate risk: Total score 13-14, Mild risk: Total score 15-18.

<https://jessbrantnerwvudietetics.files.wordpress.com/2014/01/braden-scale1.jpg>

Appendix L

The Spinal Cord Impairment Pressure Ulcer Monitoring Tool

**Spinal Cord Impairment Pressure Ulcer Monitoring Tool**

Patient \_\_\_\_\_ SS# \_\_\_\_\_ Ulcer # \_\_\_\_\_

**Healed**

**Pressure Ulcer**

Site:  Sacrum-Coccyx  Trochanter  Ischium  Heel  Other \_\_\_\_\_

Body Side:  Right  Left  Midline

Orientation:  Medial  Lateral  Superior  Inferior  Other \_\_\_\_\_

**Positioning**

Upper Leg *Flexed* When Turned:  Yes  No

Dependent Side:  Right Side-Lying  Left Side-Lying  Back  Abdomen

Variables	Scoring Options	Score
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**GEOMETRIC FACTORS**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
<b>Surface Area (L x W)</b>	> 0 - ≤1 cm <sup>2</sup>	>1 - ≤2.5 cm <sup>2</sup>	>2.5 - ≤5 cm <sup>2</sup>	>5 - ≤10 cm <sup>2</sup>	>10 - ≤15 cm <sup>2</sup>	
	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>L x W</b>
	>15 - ≤25 cm <sup>2</sup>	>25 - ≤35 cm <sup>2</sup>	>35 - ≤55 cm <sup>2</sup>	>55 - ≤85 cm <sup>2</sup>	>85 cm <sup>2</sup>	__ cm x __ cm

*Do not continue if the Surface Area is "0" indicating complete epithelialization (i.e., resurfacing)*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>D</b>
<b>Depth</b>	0 cm	>0 - ≤1 cm	>1 - ≤2 cm	>2 - ≤3 cm	>3 cm	__ cm

	<b>1</b>	<b>2</b>
<b>Edges</b>	<i>Not</i> rolled under, thickened, fibrotic, scarred, or hyperkeratotic	Rolled under, thickened, fibrotic, scarred, or hyperkeratotic

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Tunneling</b>	None	≤ 2 cm	> 2 - ≤ 4 cm	>4 cm

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Undermining</b>	None	≤ 2 cm	> 2 - ≤ 4 cm	>4 cm

**GEOMETRIC SUBTOTAL**

**SUBSTANCE FACTORS**



<b>Exudate Type</b>	<b>0</b> None	<b>1</b> Serous or Sanguineous	<b>2</b> Green or Purulent
<b>Necrotic Tissue Amount</b>	<b>0</b> None	<b>1</b> ≤ 25%	<b>2</b> >25%

**SUBSTANCE SUBTOTAL**

**TOTAL**

Maximum score = **26** The HIGHER the score, the more severe the ulcer

Evaluator: \_\_\_\_\_

Date: \_\_\_\_\_

Thomason et al. (2016). <https://doi.10.1097/01.ASW.0000482283.85306.8f>