

11-7-2025

Depression Screening in Veterans and Active-Duty Service Members with Chronic Pain

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Walden University

College of Nursing

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Lynelle Marie Endsley

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University

2025

Abstract

Depression Screening in Veterans and Active-Duty Service Members with Chronic Pain

by

Lynelle Marie Endsley

MS, Walden University, 2014

BS, Western Governors University, 2011

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

November 2025

Abstract

This Doctor of Nursing Practice project addressed the absence of evidence-based depression screening among military members and veterans with chronic pain. Contrary to national guidelines, no standardized depression screening process was in place. This gap in practice was attributed to inadequate staff knowledge and understanding in using such tools. The purpose of this project was to evaluate whether staff education on the Patient Health Questionnaire-9 (PHQ-9) improved knowledge and confidence, in evaluating for and identifying depression in a high-risk population. The practice-focused question asked: Will staff education on the importance and consistent use PHQ-9 increase knowledge and confidence in depression screening among chronic pain patients? The project was guided by the Johns Hopkins evidence-based practice model (JHNEBPM), the ADDIE model, Watson's theory of human caring, and Leininger's culture care theory. A comprehensive literature review was conducted using databases to identify 1,095 articles, five of which were selected for inclusion and appraised using the JHNEBPM tool. A quantitative pre- and post-knowledge assessment was used. Twenty-three participants completed the assessments and integrated with an educational intervention. Data analyzed through the Wilcoxon Signed-Rank Test, revealing a statistically significant improvement ($Z = 0.0, p = .0013$). Implementation of staff education was supported by the findings of this project. Additionally, statistical significance revealed transferability of this staff education project in educating staff and improving outcomes related to the identification of those with depression in chronic pain settings.

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Section 1: Nature of the Project

Introduction

Depression is a prevalent and frequently underdiagnosed mental health condition among military service members and veterans, particularly those experiencing chronic pain (Moore et al., 2023). Depression is more prevalent and co-occurs more frequently with specific clinical conditions, including pain, anxiety, and substance abuse (Stevens et al., 2020). Furthermore, depression is a comorbidity that adversely affects functional ability, treatment adherence, and overall quality of life (Stevens et al., 2020). National organizations, including the U.S. Department of Veterans Affairs (2024) and the U.S. Preventative Services Task Force (USPSTF, 2023) have recommended the use of validated screening instruments, such as the Patient Health Questionnaire-9 (PHQ-9), to facilitate early identification and intervention. Despite these evidence-based recommendations, there were clinical settings surveying high-risk populations that had not integrated routine depression screening into standard practice. The lack of systematic screening results in missed opportunities for diagnosis and timely treatment, underscoring the need for targeted interventions to close this gap in care whereby promoting positive social change (National Institute for Health Care Excellence [NICE], 2022).

Problem Statement

The nursing practice problem addressed by this doctoral project was the absence of routine, evidence-based depression screening among military service members and veterans with chronic pain at the selected clinical site. This gap in practice was linked to insufficient staff education and training on the use of standardized screening tools such as

the PHQ-9. Initial observations confirmed that no systematic depression screening was conducted, despite the site serving a substantial number of active-duty service members and veterans-populations with well-documented elevated risk for depression (Department of Veterans Affairs, 2022; USPSTF, 2023).

Purpose Statement

The purpose of this doctoral project was to evaluate whether implementing a targeted staff education program on the PHQ-9 would improve staff knowledge, competency, and confidence in conducting routine depression screening, thereby promoting consistent identification of depression in military service members and veterans with chronic pain. The practice-focused question guiding the project was: *Does implementing staff education regarding the routine use of standardized depression screening tools, specifically the PHQ-9, improve staff knowledge and competence, leading to consistent identification of depression in military service members and veterans with chronic pain at the selected clinical site?* This question aligned with the identified practice gap by directly addressing the lack of screening through an evidence-based educational intervention.

Nature of the Doctoral Project

This doctoral project addressed the practice gap by developing and delivering a targeted staff education intervention that emphasized the consistent use of the PHQ-9 for depression screening in a high-risk population. A comprehensive literature review was conducted using multiple academic databases including MEDLINE/PubMed, CINAHL, APA PsycInfo, and ScienceDirect among others. Peer-reviewed studies, clinical

guidelines, and systematic reviews were critically appraised using the John Hopkins Evidence-Based Practice (EBP) Evidence Level and Quality Guide. A staff education plan was developed using the application of an instructional design framework analyze, design, develop, implement and evaluate (ADDIE) model, a social design theory, to emphasize and promote the importance of screening for depression in veterans and military service members and how to utilize the PHQ-9 tool to screen for depression (ELM Learning, n.d.). Additionally, Watson's theory of human caring and Leininger's culture care theory informed this Doctor of Nursing Practice (DNP) project. Clinical staff completed pre- and post-education knowledge assessments, administered via ProProfs, to evaluate changes in knowledge and confidence. Data were collected including scores of pre- and post- knowledge assessments. Aggregate, de-identified results were analyzed and compiled to determine the outcome of the intervention in addressing the identified gap in practice.

Significance

The stakeholders identified for this DNP staff education project include staff, supervisors, patient care providers, patient advocates, and community resources. Staff stakeholders such as nurses, physicians, medical assistants, and therapists were directly impacted, as the education program enhanced their knowledge and competency in administering the PHQ-9 for depression screening. Supervisors, leaders, and management involved in the pain management program were affected through their responsibility to training implementation for new oncoming staff, evaluating outcomes, and ensuring institutional goals for quality care. Clinicians and specialists benefit from improving

patient assessments, thereby supporting the earlier identification of depression and more timely interventions. Patient advocates along with community agencies and mental health organizations, were directly impacted through strengthened referral pathways and improved access to care for high-risk patients.

The potential contributions of this doctoral project to nursing practice are substantial. By equipping staff with knowledge and skills to consistently use a validated screening tool, this project advanced evidence based-nursing care, promoted early detection of depression, and improved clinical decision making for veterans and military service members with chronic pain (U.S. Department of Veterans Affairs, 2024; USPSTF, 2023). The project also demonstrated the applicability of instructional design frameworks such as ADDIE for developing staff interventions in clinical practice.

Transferability of this project is evident, as the education model and implementation strategy can be applied to similar practice areas, including primary care, behavioral health, and other specialty clinics. This is particularly true of those serving populations with high rates of comorbid depression and chronic conditions. The structured design of the intervention allows replication in diverse settings while accommodating local resources and patient needs.

Finally, the project holds significant implications for positive social change. By improving staff competency in depression screening, the intervention contributes to reducing mental health disparities, addressing stigma, and ensuring that vulnerable populations such as veterans and service members receive more timely and appropriate care. The broader impact includes enhanced quality of life, prevention of worsening

mental health outcomes, and alignment of clinical practice with national guidelines that advocate for routine depression screenings.

Summary

The project was significant for nursing practice as it demonstrated the role of staff education in facilitating adherence to national evidence-based guidelines, promoting early detection of depression, and improving patient outcomes. By integrating PHQ-9 screening into routine workflows, the intervention enhanced staff competency, standardized clinical practice, and supported timely referrals for appropriate care. The results have implications for positive social change, including improved access to mental health care, reduced stigma, earlier intervention, and improved quality of life for the high-risk patients (National Institutes of Health [NIH], 2020). The educational model used in this project is scalable and transferable to other clinical settings, including primary care, behavioral health, and pain management clinics (NICE, 2022).

Section 2 presents a comprehensive review of the scholarly literature that informed this doctoral project. It examines current evidence on depression prevalence among military service members and veterans, the relationship between chronic pain and depression, the efficacy of standardized screening tools such as the PHQ-9, and the role of staff education in improving adherence to evidence-based guidelines.

Section 2: Background and Context

Introduction

The nursing practice problem addressed by this doctoral project was the absence of staff education on the use of standardized, evidence-based depression screening tools—specifically the PHQ-9 at the selected clinical site. This gap in practice was particularly concerning given the high prevalence of chronic pain and depression among military service members and veterans served at the clinic. According to Stevens et al., 2020, patients with chronic pain are more likely to suffer from other conditions including depression, substance abuse and anxiety. The purpose of this project was to increase staff knowledge and confidence in administering the PHQ-9, thereby improving early identification and treatment of depression in a high-risk patient population. The practice-focused question guiding this practice project was: Does implementing staff education regarding the routine use of standardized depression screening tools, specifically the PHQ-9, improve staff knowledge and competency, leading to consistent identification of depression in military service members and veterans with chronic pain at the selected clinical site?

This section begins with an examination of the key concepts, models, and theories that informed the development and implementation of this project. Specifically, the ADDIE instructional design model, Watson's theory of human caring, and Leininger's culture care theory are explored for their relevance to staff education and patient-centered care. I then address the background and local relevance of the project, highlighting the high incidence of chronic pain and depression within the military-affiliated population

served by the clinic. Finally, in this section, I define my role as the DNP student in identifying the practice gap and implementing a targeted staff education intervention to improve care outcomes. These elements provide the theoretical and contextual foundation for the staff education project and its significance to nursing practice.

Concepts, Models, and Theories

This doctoral project was informed by three foundational frameworks ADDIE instructional design model, Watson's theory of human caring, and Leininger's culture care theory. Each of these models and theories provided a structured and evidence-based approach to guide the development and implementation of the staff education intervention.

The ADDIE model is an instructional systems design framework commonly used in nursing education and implementation science (Patel, 2018). As a social design theory, it offered a structured yet adaptable process for developing and delivering the educational program aimed at improving staff knowledge and confidence in using the PHQ-9 to screen for depression in military service members and veterans (Jeffery et al., 2015). The ADDIE model was appropriate for this project because it emphasizes contextual applications in real-world practices and aligned with the NIH's research agenda, which prioritizes training in evidence-based practice and outcome evaluation (Patel, 2018). Each phase of the model guided the implementation of this doctoral project—from identifying the learning need to evaluating the impact of education through pre- and post- assessment data (ELM Learning, n.d.; Jeffery et al., 2015).

The theory of human caring, developed by Jean Watson, emphasizes the importance of a compassionate and holistic approach to care (Gaines, 2023). This theory supported the staff education project's goal of fostering empathy and understanding in the clinical assessment of patients with chronic pain and depression. By promoting a caring healing environment, Watson's theory aligned with the objective of improving nurse-patient relationships through early identification of psychological needs and mental health concerns (Watson, 2008).

Culture care theory, developed by Madeline Leininger, emphasizes the importance of culturally congruent care and understanding patient values, beliefs, and needs within their social context (Leininger, 2006). This is a meaningful theory in guiding nursing research as it is the essence of reconceptualizing care and nursing practice by focusing on culture care as an interrelated phenomena leading to the identification of advanced nursing care practices (Gaines, 2023). Given the unique backgrounds, combat experiences, and cultural considerations associated with military service members and veterans, this theory was instrumental in guiding staff to provide culturally competent mental health screenings and interventions (Leininger, 2006). According to Leininger, care must be conceptualized with the interrelationship of care to culture at the core of development (Leininger, 2006). Furthermore, care should be understood and realized in diverse and specific cultural contexts (Gaines, 2023).

Relevance to Nursing Practice

The broader problem in nursing practice in which this doctoral project is embedded is the persistent under identification and limited treatment of depression

among high-risk populations, particularly veterans and active-duty military service members with chronic pain. Depression is frequently comorbid with chronic pain, anxiety, and substance use disorders, making early detection essential to holistic care (Stevens et al., 2020). Research has shown that 35.1% of patients with chronic pain also experience depression, a rate substantially higher than in the general population (Lee et al., 2018). All those screening recommendations have been in place for decades, including those from the USPSTF(2023) and the American Academy of Family Physicians (AAFP; Maurer et al., 2018); however, implementation has been inconsistent across clinical settings. Thériault et al. (2020) noted that many military personnel with depression do not engage in mental health services, reflecting a broader systemic gap in early screening and diagnosis. This gap has historically limited nurses' ability to intervene early and deliver comprehensive care aligned with evidence-based practice.

Current nursing practice, within this clinical setting, continues to fall short in the systematic implementation of routine depression screening, especially within this pain management setting which serves military populations. Although screening tools such as the PHQ-9 are well validated for use in clinical practice (Ford et al., 2020), they are underutilized. Korsen and Gerrish (2022) noted that the PHQ-9 remains inconsistently applied in primary care, despite strong evidence supporting its use as part of measurement-based care. Moreover, collaborative care models promoted by the Veterans Administration have been shown to improve outcomes in patients with mental health conditions (U.S. Census Bureau, 2021). Recommendations from the USPSTF (2023) and AAFP (Maurer et al., 2018) stress that screening should occur within systems capable of

ensuring follow up diagnosis and treatment, either on-site or through referral networks. However, inconsistencies persist in translating these guidelines into clinical practice, especially in settings without structured staff education or screening protocols in place.

Strategies to address the underutilization of depression screening tools have included implementing measurement-based care models, staff training on screening instruments such as the PHQ-9 and integrating mental health screenings into routine primary care visits. Systematic reviews have evaluated interventions across 28 studies, finding median engagement with mental health services ranged from 36% to 48%, particularly when diagnostic interviews were employed (Thériault et al., 2020). The military health system and the Veterans Administration recommended annual depression screenings, with increased frequency for individuals at high risk, such as those with chronic conditions (Maurer et al., 2018). Nonetheless, these practices have not been uniformly adopted. At the clinical site, it was observed that no strategies or standard protocols had previously been used to implement depression screening, despite national guidelines and a high-risk patient population.

The present doctoral project advances nursing practice by addressing a clearly identified gap in the literature and clinical care: the lack of consistent depression screening for military-affiliated patients with chronic pain. This staff education project increased awareness, knowledge, and confidence among nursing staff and providers in using the PHQ-9, thereby supporting the early detection of depression. According to Miller et al. (2021), the high cost of mental health care, the large number of undiagnosed individuals, and the stigma surrounding mental illness underscore the urgency of

implementing evidence-based preventative strategies. By standardizing depression screening at the selected site, this project translated existing guidelines into practical applications, improving access to diagnosis and referral for treatment. It filled a gap in practice by initiating a process where none previously existed, aligning nursing care with national screening recommendations and enhancing patient outcomes in a high-risk population.

Local Background and Context

To provide a concise summary of the local evidence on the relevance of the problem, this doctoral project addressed a critical gap in nursing practice at a pain management clinic serving a disproportionately high population of veterans and active-duty service members experiencing chronic pain. Guam's unique demographic profile highlights the significance of this problem, as 14% of the island's population consists of active-duty military personnel, compared to only 0.5% in large states such as California and Texas (U.S. Department of Defense, 2023). Staff at the clinical site demonstrated limited awareness of the strong correlation between chronic pain, depression, and anxiety, compared to civilians (Gunther, 2023; Stevens et al., 2020). The local urgency of this issue was further underscored by the projected influx of 8,600 Marines and 9,000 Dependence to the island by 2025 (Congressional Research Service, 2023). High comorbidity rates, combined with the underutilization of valid screening tools such as the PHQ-9, justified the practice-focused question of whether staff education could improve screening practices and patient outcomes in this high-risk setting.

To describe the institutional context as applicable to the problem being addressed in this doctoral project, the clinic in which the project was conducted serves a patient population composed of more than 50% veterans and active-duty service members diagnosed with chronic pain. The clinic operates under regulatory frameworks and guidelines established by the Department of Veterans Affairs, 2023 and the USPSTF (2023), Which explicitly recommend the use of validated screening instruments such as the PHQ-9. Despite these mandates, routine depression screening was not implemented, creating a disconnect between federal and institutional policy and the clinical practices at the site. The governance structure of the organization emphasizes continuous quality improvement and evidence-based, holistic care for service members; however, the absence of standardized depression screening highlighted the need for staff education to bridge this practice gap and align institutional processes with national expectations.

Concise definitions of locally used terms or operational processes relevant to understanding the doctoral project are as follows:

PHQ-9: A validated, nine-item screening instrument designed to identify and measure the severity of depression symptoms (Ford et al., 2020). Chronic pain management protocols at the clinical site involve comprehensive pain assessment, individualized treatment planning, and interdisciplinary coordination of care, but have not included systematic depression screening.

Staff education: Structured instructional activities designed to enhance staff knowledge, confidence, and competency in clinical practice. In this project, staff

education formed the core process for addressing knowledge deficits and supporting the integration of evidence-based depression screening practices into routine care.

To describe the state and/or federal contexts applicable to the problem in this doctoral project, multiple mandates and recommendations informed the relevance and urgency of the intervention. Federal guidelines from the Department of Veterans Affairs (2024) and the USPSTF (2023) Recommended universal and routine depression screening, with increased frequency for high-risk populations such as individuals with chronic pain and military service members. These recommendations underscore a public health priority of improving early identification and treatment of depression. At the state and territorial level, Initiatives aimed at integrating mental health into primary care settings align with these federal efforts, supporting the broader goal of health equity and comprehensive care for military-affiliated populations residing in Guam. The alignment of local, institutional, and federal contexts further justified the implementation of a staff education program to address the practice gap in depression screening. Building upon the identified local, institutional, and federal contexts, the next subsection outlines the role of the DNP student in addressing the practice gap through the design, implementation, and staff education intervention.

The Role of the DNP Student

My initial role as the DNP student in the staff education project was to develop, lead, and facilitate the educational intervention, and subsequently interpret and evaluate the data collected. Given the high concentration of military service members at the

clinical site, we had a unique opportunity to screen a significant number of military patients for depression within this specialty practice area (U.S. Census Bureau, 2021).

I identified a clinical practice gap when observing a common theme among patients who reported experiencing untreated chronic pain for extended periods, ranging from months to years, prior to visiting our pain management clinic. Concurrently, these patients frequently express symptoms indicative of depression. Despite the chronic nature of their condition, many patients remained undiagnosed and untreated for depression. Recognizing this gap led to further research and validation of current recommendations for depression screenings, thus affirming the urgent need for systematic screening within the clinic.

I collaborated with subject matter experts (SMEs) to validate the content of the staff education project. After identifying local SMEs, I facilitated early communication to clearly establish expectations. Content was reviewed collaboratively, feedback from SMEs was carefully considered, and appropriate revisions were incorporated into the education project. Utilizing the ProProfs platform, the finalized staff education content was disseminated, along with pre-knowledge assessments. This approach allowed for the anonymization and de-identification of participant responses to ensure confidentiality and unbiased evaluation of outcomes.

My personal and professional biases as the doctoral learner included concerns that military service members might be reluctant to disclose symptoms indicative of depression due to stigma and fears of potential medical discharge from service. Another bias was the presumption that staff education would effectively increase staff knowledge

and the consistent adoption of evidence-based screening practices for depression and anxiety. Additionally, there was an acknowledgement of the risk that staff might not consistently apply the screening tool post-training, potentially resulting in missed screening opportunities and lower than anticipated identification rates of depression in this population.

Ultimately, I translated the knowledge gained through this doctoral project into clinical practice by addressing an identified gap in care, thereby improving staff education with a goal of also later improving patient outcomes. Recognizing the chronic pain setting as uniquely suited for addressing the identified care gap motivated this project's initiation. Furthermore, acknowledging that military service members often remain underserved within healthcare contexts reinforced my commitment to this project. The potential impact such as improving patient's quality of life, connecting patients to appropriate resources, or preventing even one suicide-justified the significant effort dedicated to developing and implementing the educational intervention.

Summary

In summary, Section 1 established the foundation of the doctoral project by identifying the local nursing practice problem—the absence of routine, evidence-based depression screening among veterans and active-duty service members with chronic pain at the selected clinical site. The lack of standardized screening was attributed to insufficient staff training on the use of validated tools such as the PHQ-9. The purpose of the project was to implement a targeted educational intervention to improve staff knowledge, competency, and confidence in using the PHQ-9, thereby enhancing early

identification and treatment of depression in this high-risk population. The practice-focused question was explicitly aligned with this gap in practice, asking whether staff education on the PHQ-9 would increase knowledge and promote consistent screening practices. The nature of the doctoral project was further described through the development and implementation of an education program guided by the ADDIE instructional design model. Finally, the significance of the project was outlined, emphasizing its potential to improve nursing practice, patient outcomes, and alignment with national evidence-based guidelines. Building on this foundation, Section 2 explored the broader scholarly literature, theoretical frameworks, and contextual factors that informed the development of this staff education project, providing the background and rationale necessary to support the intervention.

Section 3: Collection and Analysis of Evidence

Introduction

Building upon the theoretical frameworks, nursing relevance, and local context established in Section 2, the next step involved a comprehensive review of the evidence that informed this doctoral project. Section 3 presents an examination of the scholarly literature, practice guidelines, and locally generated data that justified the need for a targeted staff education program on the PHQ-9. This review synthesized sources that address the prevalence of depression among veterans and military service members with chronic pain, the effectiveness of validated screening tools, and the role of staff education in translating evidence into consistent practice. The goal of this section is to critically appraise and integrate the existing evidence base, thereby providing the rationale for the design, implementation, and evaluation strategies used in the staff education intervention.

The identified practice problem for this project was the absence of routine depression screening in a pain management clinic serving a patient population at high risk for undetected depression, specifically active-duty military service members and veterans. Section 2 established the foundation for this doctoral project by clearly identifying the local nursing practice problem—the absence of staff education on the use of standardized depression screening tools, specifically, the PHQ-9, at the clinical site serving a high-risk military population with chronic pain. The project was guided by three key frameworks: the ADDIE instructional design model, Watson’s theory of human caring, and Leininger’s culture care theory. Collectively, these models provided a structured approach to education, emphasized holistic and empathetic care, and

reinforced the importance of culturally congruent practice in working with veterans and active-duty service members.

Section 2 also highlighted the broader relevance to the problem of nursing practice. Despite long standing national guidelines (USPSTF, 2023; U.S. Department of Veterans Affairs, (n.d.)), depression screening remains underutilized, particularly in pain management settings where comorbidity rates are high. Evidence demonstrated that inconsistent implementation of validated tools like the PHQ-9 contributes to under diagnosis and treatment of depression among veterans and military personnel. The local context further underscored the urgency of this initiative, with Guam's disproportionately high military population and the clinics lack of structured screening protocols despite alignment with institutional and federal mandates.

Finally, Section 2 outlined the DNP student's role in identifying the practice gap, collaborating with SMEs, and leading the development of a targeted educational intervention. By situating the project within national, institutional, and local contacts, this section provided the theoretical, empirical, and practical justification for the staff education initiative. These foundations now lead into Section 3 which reviews the body of evidence, sources, and materials used to inform the projects design, implementation, and evaluation.

Building upon the theoretical frameworks, nursing relevance, and local context established in Section 2, the next step involves a comprehensive review of the evidence that informed this doctoral project. Section 3 examines the scholarly literature, practice guidelines, and locally generated data that justified the need for a targeted staff education

program on the PHQ- 9. This review synthesizes sources that address the prevalence of depression among veterans and military service members with chronic pain, the effectiveness of validated screening tools, and the role of staff education and translating evidence into consistent practice. The goal of this section is to critically appraise and integrate the existing evidence base, thereby providing the rationale for the design, implementation, and evaluation strategies used in the staff education intervention.

Practice-Focused Questions

The local problem addressed by this doctoral project was the absence of routine, standardized depression screening for veterans and active-duty service members with chronic pain at a specialty pain management clinic. Despite clear national guidelines recommending the use of validated screening tools such as the PHQ-9, no formal screening protocol was in place at the selected clinical site. This gap in nursing practice was primarily due to a lack of staff education and awareness regarding the importance and use of evidence-based screening tools. According to Leung et al. (2022), approximately 59.9% of veterans who preferred treatment with medication or psychotherapy remained undiagnosed and untreated, highlighting the significant risk for undetected depression in this population. The practice-focused question guiding this project was: *Was staff education on the importance of consistently using the PHQ-9 increase nursing knowledge and confidence in the link between screening for depression in chronic pain patients?*

The purpose of this doctoral project was to implement and evaluate a staff education intervention designed to enhance clinical staff's awareness, knowledge, and

confidence in the consistent use of the PHQ-9. The educational intervention designed to enhance clinical staff's awareness, knowledge, and confidence in the consistent use of the PHQ-9. The educational intervention was intended to bridge the gap in practice by equipping staff with the knowledge and tools necessary to identify patients at risk for depression, particularly within a high-risk, military-affiliated chronic pain population. The project directly aligned with the practice-focused question by measuring whether educational strategies could effectively improve staff competency and increase the likelihood of consistent screening practices. The ultimate goal was to support earlier detection of depression, timely referral and intervention-thereby improving patient outcomes and aligning care with established clinical guidelines.

For the purpose of this doctoral project, the following operational definitions were used:

Staff education: Structured instructional activities provided to clinical staff, to improve their knowledge, confidence, and competency in depression screening practices.

PHQ-9 (Patient Health Questionnaire-9): A validated nine-item screening tool used to systematically assess the severity of symptoms and guide appropriate follow-up actions.

Chronic pain patients: Individuals receiving ongoing care within the clinic for persistent pain, with a focus on veterans and active-duty service members who were statistically more likely to experience co-occurring depression.

These definitions served as the foundation for designing, implementing, and evaluating the intervention and its impact on clinical screening practices.

Sources of Evidence

The primary sources of evidence for addressing the practice-focused question included peer-review literature, current clinical guidelines, expert consultations, and pre- and post-knowledge assessments administered to clinical staff. Peer reviewed literature and current clinical guidelines from authoritative bodies such as the USPSTF (2023) and the U.S. Department of Veterans Affairs (n.d.) will provide foundational evidence supporting the necessity and effectiveness of standardized depression screening protocols. Expert consultations will offer context-specific validation and refinement of the educational materials developed for clinical staff. The pre- and post-knowledge assessments will be integral to evaluate changes in staff knowledge and the intended increase in consistent screening practices.

This evidence directly aligns with the project's stated purpose of enhancing clinical staff knowledge and consistent utilization for evidence-based depression screening tools. The collection and analysis of this evidence will provide a systematic approach to measuring the effectiveness of the staff education intervention. By analyzing pre- and post-intervention assessment data, the project will determine the extent to which the educational intervention addresses the practice-focused question and contributes to closing the identified gap in clinical practice. Thus, the collected evidence will validate the project's effectiveness in promoting improved clinical outcomes through early detection and intervention for depression among chronic pain patients.

Published Outcomes and Research

Databases and search engines used to find outcomes and research relevant to the practice problem included CINHALL Plus with Full Text, PubMed, MEDLINE, ProQuest Nursing and Allied Health Source, and the Cochrane Library. These databases were selected for their emphasis on peer-reviewed nursing, behavioral health, and clinical practice literature. Additional searches were conducted using Google Scholar to capture grey literature and government publications such as reports by the U.S. Department of Veterans Affairs and U.S. Department of Defense, 2022 addressing depression screening practices in military populations.

Key search terms included combinations such as “PHQ-9” AND “depression screening,” “chronic pain” AND “military service members,” “veterans” AND “mental health assessment,” and “staff education” AND “implementation program.” Boolean operators (e.g., AND, OR) were used to expand or refine results, for example, “veterans OR active-duty” and “chronic pain AND depression AND screening tools.” Additional search terms such as “nursing education,” “practice improvement,” and “ADDIE instructional design” were applied to identify evidence-based interventions relevant to the staff training component.

The scope of the literature review encompassed studies published between 2015 and 2024 to ensure inclusion of the most current evidence regarding depression screening and staff education practices. Peer-reviewed journal articles, systematic reviews, clinical guidelines, and organizational reports were included, while outdated or non-scholarly materials were excluded. Both quantitative and qualitative studies reviewed to provide a

balanced synthesis of measurable outcomes and experiential data related to implementing depression screening within military-affiliated healthcare settings.

The search was designed to be exhaustive and comprehensive by incorporating multiple databases, peer-reviewed and gray literature, and both national and local organizational sources. Reference lists of key articles were manually reviewed to identify additional relevant studies (a snowball technique). Inclusion and exclusion criteria were consistently applied, ensuring methodological rigor. Collectively, this process yielded a broad yet targeted body of evidence supporting the need for staff education and standardized depression screening using the PHQ-9 among veterans and service members with chronic pain.

Evidence Generated for the Doctoral Project

Participants

The participants in this project included stakeholders such as staff including nurses, physicians and medical assistants who administer the PHQ-9. Additionally, supervisors, leaders, and management involved in the pain management clinic participated in the staff education doctoral project. This staff education project involved participants from diverse backgrounds with diverse educational histories helping to ensure transferability

Procedures

Tools and/or techniques used to collect evidence included the use of pre- and post-knowledge assessments to collect data from clinical staff participants before and after the educational intervention. These surveys measured changes in knowledge,

competency, and confidence regarding the use of the PHQ-9 for depression screening in veterans and service members with chronic pain. The assessments aligned with the project's theoretical and instructional design framework (e.g., ADDIE model and Watson's theory of human caring) by directly mapping survey items to learn objectives (e.g., correct scoring, interpretation, and referral protocols). Data were collected electronically using the ProProfs Quiz platform, which standardized administration, preserved anonymity, and automated scoring to reduce human error.

The PHQ-9 is a widely accepted screening Instrument for depression, with substantial evidence supporting its psychometric properties. In the foundational validation study, the PHQ-9 demonstrated strong internal consistency (Cronbach's $\alpha \approx .89$) and criterion validity, with sensitivity = 88% and specificity = 88% for detecting major depression (Kroenke et al., 2001). The PHQ-9 items directly mirror DSM diagnostic criteria, bolstering its construct validity by correlation with functional impairment, healthcare utilization, and disability days (i.e. higher PHQ-9 scores associate with worse outcomes; Kroenke et al., 2001). The PHQ-9's single-factor structure is supported in diverse populations, further supporting its versatility and adaptability as a measure of depressive symptom severity (Gelaye et.al., 2013). In this project, no modifications were made to the PHQ-9 its self; the integrity of the instrument was retained to preserve its validity and reliability.

The pre- and post-knowledge assessments were newly developed for this project as were the staff education materials used on the ProProfs platform. Each assessment consisted of six multiple-choice questions, each mapped to a specific learning objective

(e.g., understanding scoring thresholds, interpreting severity levels, and linking results to referral protocols). To establish content validity, two SMEs (a physician and a registered nurse with mental-health screening experience reviewed the questions for relevance, clarity, and alignment with national guidelines (e.g., USPSTF, Department of Veterans Affairs mental health screening recommendations). For face validity, pilot testing was conducted with two nonparticipant nurses who provided feedback on wording and clarity; minor edits were made accordingly. Because these were knowledge tests rather than psychometric scales, formal reliability testing (e.g., Cronbach's alpha) was not feasible given the small number of items and participant sample size. Nevertheless, the questions were anchored in evidence-based standards and the validated PHQ-9 instrument, lending implicit validity to the assessments.

Together, the PHQ-9 (as the clinical instrument) and the project-design knowledge assessments provided a coherent and rigorous method to determine whether the staff education intervention increased provider knowledge and competence in administering depression screening. The data collected directly addressed the project's practice outcome question, that is, whether education would lead to improved capability and confidence in administering the PHQ-9 screening in the target population.

Protections

To ensure protection of the participants, anonymity was ensured by providing users with a randomly generated code for the purpose of logging into the ProProfs software so this was not tied to a specific participant, allowing for randomization of the results collected. This information was also disseminated to staff without specifically

identifying subjects that participated by using the previously distributed codes.

Participants had access to all the information in the staff education program, pre- and post-knowledge assessments without issuing identifiable log in information.

Analysis and Synthesis

The evidence for this DNP project was generated through a pre- and post-knowledge assessment administered to clinical staff at the selected pain management clinic. The assessments (see Appendix), developed and distributed through the ProProfs Platform, included structured multiple-choice questions designed to evaluate knowledge and confidence regarding the use of the PHQ-9 for depression screening. Administering the staff education sessions immediately before and after the staff education session allowed for direct comparison of baseline knowledge with knowledge gained following the intervention. This ensured that the data collected directly reflected the impact of the educational intervention on staff knowledge and competency in applying standardized depression screening practices (Jeffery et al., 2015; Patel, 2018).

Systems utilized for recording, tracking, organizing, and analyzing evidence include ProProfs, An online educational and assessment platform, and Microsoft. ProProfs was specifically employed to administer and collect pre- and post-education Knowledge assessments, ensuring ease of data capture and anonymity. The collected data was securely exported into Microsoft for systematic organization, tracking, when did the men analysis data descriptive statistics, including frequency distributions, means, and standard deviations, thereby enabling a clear assessment of educational impact and changes in staff knowledge and practice behaviors. All data management processes

adhered strictly to ethical guidelines approved by the Walden Institutional Review Board (IRB), ensuring confidentiality and secure data retention.

To ensure the integrity of the evidence generated from this project, multiple processes were implemented. First, anonymity and confidentiality were preserved by using unique identification codes rather than a personal identifier, preventing linkage of assessment data to individual participants. This approach supported unbiased responses and protected participants' privacy (Lattie et al., 2021). Second, data management protocols included secure storage and export of ProProfs results into Microsoft systems for analysis, with restricted access to ensure compliance with IRB requirements. Third, all datasets were reviewed for completeness and accuracy before analysis. Responses with missing or incomplete data were excluded from the final analysis to preserve the integrity of pre- and post-knowledge assessment outcomes. A methodological approach required outliers to be contextually evaluated and retained only if consistent with plausible educational outcomes. Collectively, these strategies ensured accuracy, rigor, and transparency in the evidence generated.

Comparative and descriptive analyses were employed to evaluate the data generated through pre- and post-knowledge assessments. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarize staff performance on each assessment. The Wilcoxon Signed-Rank Test—a nonparametric statistical test appropriate for small sample sizes and non-normally distributed data—was applied to measure the differences between pre- and post-assessment scores (Sherry et al., 2023). The results demonstrated a statistically significant improvement in staff knowledge

following the educational intervention ($Z = 0.0, p = .0013$), confirming the effectiveness of the staff education program in addressing the identified gap in practice. The combination of descriptive and comparative analyses provided a robust evaluation strategy, aligning with the projects' aim of determining whether targeted staff education improved knowledge and competency in depression screening for veterans and active-duty service members with chronic pain.

Summary

This section highlighted the systematic approach used to evaluate the implementation of a staff education project on the importance of depression screening in chronic pain patients, particularly among veterans and active-duty military personnel. The practice-focused questions explored whether staff education on PHQ-9 would increase nursing knowledge and confidence in identifying depression in this high-risk population. The staff education program, grounded in evidence-based guidelines, resulted in increased staff knowledge as evidenced by improved post-education assessment scores. The project aligned with current recommendations from the U.S. Department of Veterans Affairs, 2024 to improve patient safety and outcomes through early screening and intervention. Ideally, successful implementation would result in 100% of identified at risk patients being referred to behavioral health for further evaluation within 30 days. The DNP student served as an educational facilitator and data analyst to bridge the gap in practice, demonstrating that education can be a powerful tool to enhance patient care. The findings support broader adoption of this practice and lay the foundation for further research into standardizing PHQ-9 use in similar clinical settings. The systematic

collection, analysis and synthesis of evidence in Section 3 provided a rigorous foundation for evaluating the staff education intervention, thereby leading into Section 4 which presents the project's findings, implications and recommendations for practice.

Section 4: Findings and Recommendations

Introduction

The local problem addressed in this doctoral project was the absence of standardized depression screening practices for veterans and active-duty military service members with chronic pain at the selected pain management clinic. Despite national guidelines recommending routine screening for depression in high-risk populations, no such screening was being conducted, resulting in undetected and untreated depressive symptoms among this vulnerable group.

The identified gap in practice was the failure to implement evidence-based depression screening tools, such as the PHQ-9, during patient intake. The literature consistently reports that individuals with chronic pain are at increased risk for co-occurring depression (Lee et al., 2018; Stevens et al., 2020), and both the Department of Veteran's Affairs (2024) and the USPSTF (2023) recommended regular screening for such populations. The practice-focused question guiding this doctoral project was: Will staff education on the importance of consistently using the PHQ-9 increase nursing knowledge and confidence in the link between screening for depression in chronic pain patients? The purpose of this project was to implement a staff education program to enhance knowledge, confidence, and consistent application of the PHQ-9 tool, hereby closing the identified practice gap and supporting early identification and intervention for depression.

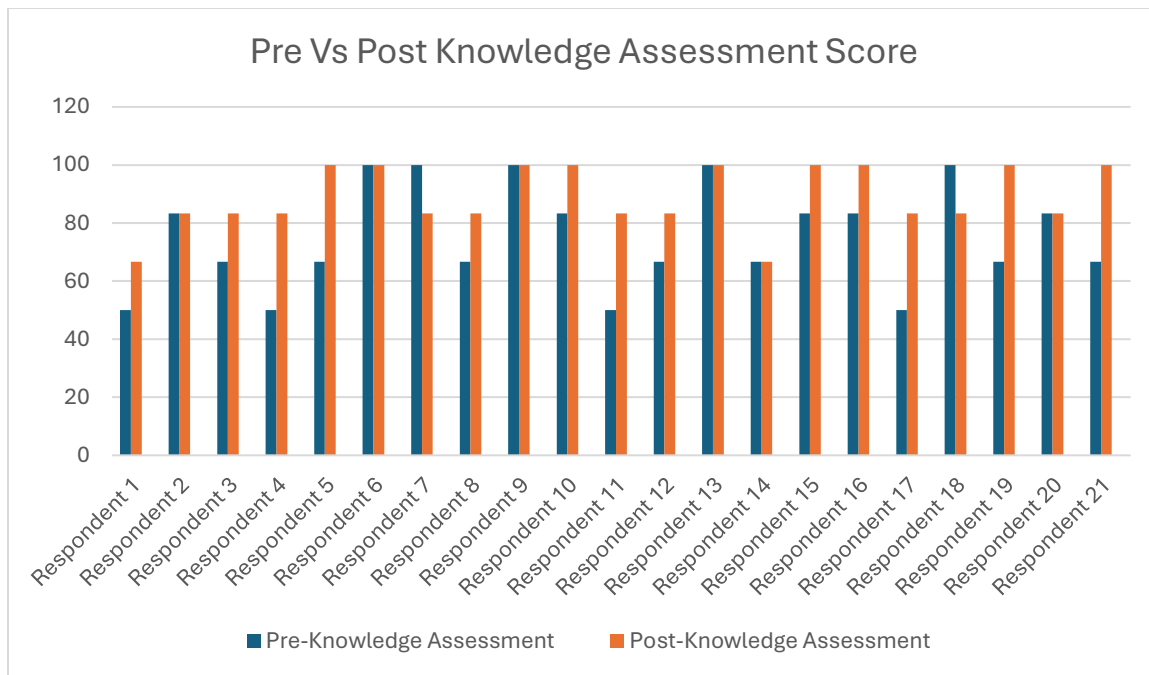
A comprehensive literature search was conducted through the Walden University Library. Databases searched included MEDLINE/PubMed, CINAHL, APA PsycInfo,

SocIndex, ScienceDirect, and others. Keywords used were combinations of “pain,” “military,” “veterans,” “PHQ-9,” and “depression screening.” This resulted in the identification of 1,095 articles, from which five primary studies were selected based on methodological rigor and relevance, and appraised using the Johns Hopkins EBP model.

The educational intervention was developed using the ADDIE instructional design model and delivered through a single, streamlined session incorporating inactive learning and pre-/post-assessments. To maintain anonymity and efficiency, the assessments and the educational module were administered simultaneously. Data analysis was performed using descriptive statistics and the Wilcoxon Signed-Rank Test to evaluate the significance of the pre- and post-knowledge score differences, determining the effectiveness of the educational intervention.

Findings and Implications

The analysis of the pre- and post-education knowledge assessments demonstrated that the staff education intervention resulted in a measurable improvement in participants' understanding and confidence regarding the use of the PHQ-9 depression screening tool. Pre-intervention data showed limited familiarity with depression screening protocols among clinic staff, particularly in relation to chronic pain patients in the military and veteran populations. Post-intervention scores indicated a statistically significant improvement in staff knowledge and confidence levels, supported by the Wilcoxon Signed-Rank Test results ($Z = 0.0, p = .0013$).

Figure 1*Pre vs. Post Knowledge Assessment Score*

Additionally, participant feedback suggested that the educational content fostered a greater awareness of the critical relationship between chronic pain and depression. The structured learning approach, based on the ADDIE model, contributed to high engagement and positive learning outcomes. These findings indicate that the intervention was effective in closing the identified practice gap and equipping staff with the tools necessary to support standardized depression screening.

Recommendations

The findings from this DNP staff education project support the following recommendations to address this gap in practice. First, policies and practice guidelines should be developed to formalize the routine use of the PHQ-9 as the standard of care for

all veterans and active-duty service members with chronic pain at the clinic.

Incorporating these guidelines into institutional protocols and staff competencies will help sustain knowledge gains and promote adherence to evidence-based practice. Second, integration of the PHQ-9 into the clinics electronic health records system is recommended to ensure consistent documentation, facilitate audits, and enable quality monitoring of screening adherence. Third, Leadership should establish referral standards and strengthen protocols that link positive depression screenings to timely behavioral health evaluation and treatment, thus bridging the current gap in resources. Fourth, staff education should be embedded into ongoing orientation, professional development, and annual training programs to ensure continuity and accountability. Finally, dissemination of this project's educational tools, pre- and post-knowledge assessments and screening audit instruments-provided in the appendices- offers practical resources that can be applied within the clinical setting and adapted for transfer to other outpatient or specialty practices. Collectively, these recommendations align institutional practice with federal guidelines (USPSTF, 2023; Department of Veterans Affairs, 2024), ensuring sustainable, standardized depression screenings and care outcomes for high-risk populations.

Strengths and Limitations of the Project

A major strength of this doctoral project was its direct alignment with evidence-based practice guidelines recommending routine depression screening for high-risk populations, including individuals with chronic pain and those with military service backgrounds. The project successfully addressed a meaningful gap in clinical care

through a focused and practical intervention—staff education—supported by validated evidence and an established instructional framework (i.e., the ADDIE model).

Another strength was the accessibility and scalability of the educational delivery. The use of the ProProfs online platform allowed for efficient dissemination of training and assessment, preserved participant anonymity, and enabled the rapid collection of pre- and post-intervention data. The intervention was designed to be easily replicable in similar outpatient or pain management settings with comparable staff roles and patient demographics.

The integration of quantitative outcome measures (pre- and post-knowledge assessments) and qualitative insights (staff feedback and engagement) enhanced the rigor of the findings and provided a comprehensive evaluation of learning outcomes.

Despite its strengths, the project had several limitations. First, the small sample size ($N = 21$) limited the generalizability of the findings. Although the participants represented key roles within the clinic, the absence of universal participation may have introduced response bias. Second, the scope of the project was limited to knowledge and confidence gains rather than behavioral outcomes or patient-level impacts. Due to clinic-level barriers, the PHQ-9 was not formally implemented into the clinical workflow during the project period. As such, the sustainability and long-term adoption of the screening practice were not assessed. Third, resource constraints, such as the lack of on-site behavioral health specialists and delayed integration of screening tools into electronic medical records—limited the ability to act on positive screening results, which may have affected staff motivation to maintain the screening practice.

Section 5: Dissemination Plan

Introduction

Plans to disseminate this work to the institution experiencing the practice problem include a formal presentation of findings to clinical leadership, and key stakeholders through a scheduled in-service. The final doctoral project report will be shared with organizational leadership, including a summary of recommendations and implications for policy and clinical practice. The presentation will focus on outcomes of the staff education initiative, changes in knowledge and practice and alignment with institutional quality improvement goals. Visual aids such as graphs and summary charts will be used to effectively communicate the impact of the project and to support ongoing staff engagement and adoption of depression screening as a standard of care.

Based on the nature of this staff education project, appropriate audiences for broader dissemination include nurse practitioners, nursing educators, clinical administrators, and interdisciplinary teams working in primary care, pain management, and behavioral health settings. Potential venues for dissemination include professional conferences such as the American Association of Nurse Practitioners (AANP) Annual Conference, and the American Society for Pain Management Nursing (ASPMN) Conference. Additionally, scholarly publication in peer-reviewed nursing journals such as the *Journal of the American Association of Nurse Practitioners* or the *Pain Management Nursing Journal* would provide an avenue to reach a wider professional audience. Sharing the project through poster presentations or webinars hosted by academic or

professional organizations will further extend the reach and impact of this doctoral project in promoting evidence-based practices across diverse clinical environments.

The completion of this doctoral project involved navigating several challenges, each of which provided valuable learning experiences. One challenge was coordinating participation and ensuring full completion of the education module among clinical staff. This was addressed by simplifying the process through a single-session format on the ProProfs platform and by providing ongoing communication and encouragement. Another challenge was the variability and baseline knowledge among clinical staff, which required additional clarification and review of depression screening protocols during the education session period to address this, the content was adjusted in real-time and included access to supplemental resources that were made available after the session to reinforce learning.

Insights gained throughout this scholarly journey include the importance of flexibility, persistence, and clear communication period leading this project enhanced my appreciation of the role of the DNP-prepared nurses in translating research into practice and influencing systems-level change. The project affirmed that even modest interventions, such as targeted staff education, can lead to measurable improvements and lay the groundwork for broader transformation in clinical practice. These experiences have deepened my confidence in contributing meaningfully to healthcare improvement and have provided a strong foundation for future leadership and scholarship.

Analysis of Self

An analysis of self in the roles of practitioner, scholar, and project manager reveals a transformation and professional identity through the process of developing and implementing this doctoral project. As a practitioner, I strengthened my clinical decision-making and commitment to delivering evidence-based, practice-centered care. This project emphasized the importance of early identification of mental health conditions, reinforcing the role of advanced practice nurse and holistic care for vulnerable populations. As a scholar, I refined my ability to critically appraise literature, synthesize findings, and applied theoretical frameworks such as ADDIE and the John Hopkins EBP Model to real-world clinical problems. As a project manager, I gained valuable experience in organizing timelines, developing educational content, navigating IRB requirements, and maintaining stakeholder engagement.

This project has not only contributed to my current practice but has also shaped my future professional goals. With the start of a new clinical role, I anticipate expanding my involvement in spinal cord stimulation (SCS) management and education, offering further opportunities for innovation in pain management. Additionally, I hope to transition into academia by teaching online nursing students, where I can continue to promote evidence-based practice and support the development of future nurse leaders. While achieving these professional goals will be a tall order, the extensive knowledge, mentorship, and scholarly discipline imparted by my doctoral degree coach and other mentors throughout this program have equipped me with the foundational tools, confidence, and commitment necessary to pursue them with intention and purpose.

Summary

The conclusion of this doctoral project highlights the successful implementation of a staff education intervention designed to improve the identification of depression in a high-risk population—veterans and active-duty service members with chronic pain. This project clearly demonstrated that education aligned with evidence-based practice guidelines can significantly improve staff knowledge and confidence in using the PHQ-9 screening tool. By addressing a locally identified practice gap, this project contributed to a larger movement in healthcare toward preventative, patient-centered mental health screening and intervention. The essential message of this doctoral project is that nurse-led educational initiatives grounded in evidence-based practice can drive meaningful changes in clinical care, enhancing interdisciplinary collaboration, and ultimately improve outcomes for vulnerable patient populations.

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Appendix: Pre/Post Knowledge Assessment

Pre-Knowledge Assessment

The development of the employee training services was completed using a software called Proprofs.

The evidence-based staff education provided clinic staff with the information needed to understand the high risk associated with this patient population, the importance of adopting a standardized screening tool, and the positive impact on early intervention for those who are identified as at risk.

Pre-knowledge assessment:

1. Why is it important for staff to receive education on consistently using the PHQ-9 screening tool?
2. Why is proper patient communication important when administering the PHQ-9?
3. What is the purpose of staff education in implementing the PHQ-9 screening tool?
4. Which of the following is an important aspect of proper questioning techniques when administering the PHQ-9 screening tool?
5. What is the first step in administering the PHQ-9 screening tool?
6. What PHQ-9 score indicates severe depression?

Post-Knowledge Assessment

1. Why is it important for staff to receive education on consistently using the PHQ-9 screening tool?
2. Why is proper patient communication important when administering the PHQ-9?
3. What is the purpose of staff education on implementing the PHQ-9 screening tool?
4. Which of the following is an important aspect of proper questioning techniques when administering the PHQ-9 screening tool?
5. What is the first step in administering the PHQ-9 screening tool?
6. What PHQ-9 score indicates severe depression?
7. Please provide any feedback you may have regarding the course.
8. On a scale of 0-10 would you recommend this course to your colleagues?