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<u>Walden University</u>

College of Nursing

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Elizabeth Ezeamaka

has been found to be complete and satisfactory in all respects,
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Walden University
2025

Executive Summary: Staff Education Project

Staff Education to Improve PHQ-9 Depression Screening and Management in Primary Care

by

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BS, Grand Canyon University, 2021

Executive Summary Submitted in Partial Fulfillment

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Summary

This Doctor of Nursing Practice staff education project aimed to improve staff knowledge and enhance the consistency in administering and interpreting the Patient Health Questionnaire-9 (PHQ-9) within a mental health clinical setting. The practice problem was significant because variability in PHQ-9 use resulted in unreliable depression screening data, potentially leading to missed detection of depression or suicidal ideation, which undermines patient safety and quality of care. The guiding practice-focused question was: Among healthcare staff administering the PHQ-9, what effect does an educational program have on their knowledge related to the administration, documentation, and interpretation of depression screening? The purpose of the project was to implement an evidence-based education program to enhance staff knowledge and standardize depression screening practices, thereby improving reliability of depression detection and subsequent interventions. Analytical strategies included administering pretests and posttests to measure knowledge gains, along with a program evaluation survey to assess participants' confidence and intent to change practice. Findings indicated that participants demonstrated increased knowledge and confidence, reported satisfaction with the program, and expressed clear intent to apply best practices. Recommendations include expanding the education program across all staff, integrating PHQ-9 reminders into the electronic health record, and providing mentorship in suicide risk management. Implications for nursing practice include equipping clinicians to provide consistent, evidence-based care. Broader social change impacts include promoting equity, reducing untreated depression, and advancing diversity and inclusion in mental health outcomes.

Background

Depression is a prevalent and serious mental health condition that often goes undetected in clinical settings, resulting in poor outcomes when left untreated (Faisal-Cury et al., 2022). The PHQ-9 screening tool plays a vital role by offering a quick, standardized, and evidence-based approach to identifying depressive symptoms, evaluating their severity, and informing treatment decisions. This supports early intervention and enhances patient care (Ford et al., 2020). A key gap in practice at the practicum site was the lack of standardized training in PHQ-9 administration and interpretation, which has led to inconsistent use and unreliable data. Such variability increases the risk of misdiagnosis and the potential to overlook severe depression or suicidal ideation (Hawkins, 2023). This issue remains critical, even with robust electronic health record (EHR) integration, because accurate interpretation and appropriate clinical action depend heavily on human judgment. Research indicates that although technology can improve screening rates, clinical outcomes remain inconsistent without adequate staff training and competency (Jetelina et al., 2018; Littenberg et al., 2023). This underscores that screening alone is not enough; it must be paired with a well-trained clinical team to be truly effective.

The practice-focused question guiding this project was: Among healthcare staff administering the PHQ-9, what effect does an educational program have on their knowledge related to the administration, documentation, and interpretation of depression screening? The purpose of this project was to implement an evidence-based educational

program to enhance staff knowledge and standardize depression screening practices, thereby improving the reliability of depression detection and subsequent interventions.

A substantial body of evidence demonstrates that the implementation of standardized depression screening tools significantly increases identification rates. Multiple quality improvement Level III studies have consistently shown that integrating tools like the PHQ-9 into clinical workflows, particularly through EHR prompts and pre-visit digital screening, can dramatically increase screening adherence from negligible rates to over 90% (Blackstone et al., 2022; Blake, 2022; Dalal et al., 2023; Sattler et al., 2024). For instance, Sattler et al. (2024) found that asynchronous, web-based PHQ-9 screening before appointments significantly improved completion rates without compromising patient safety. Furthermore, structured protocols and clinician education have been shown to enhance follow-up care and treatment initiation, as demonstrated by Chavez et al. (2023), where the implementation of guidelines increased adolescent depression treatment rates from 60% to 90%. However, the effectiveness of these screening initiatives is highly dependent on the knowledge and consistency of the healthcare staff administering them.

The evidence supporting this practice change is substantial, consisting primarily of Level III quality improvement studies and one Level II quasi-experimental trial. The synthesized findings consistently highlight the benefits of integrating standardized workflows and educational interventions. Although the impact on long-term clinical outcomes, such as symptom reduction, was somewhat variable, the consistent achievement of accurate depression identification through standardized processes is a

critical first step. As such, the overall strength of the evidence is considered good, with reliable results that support education-focused strategies as best practice. These interventions help ensure that screening efforts, like those using the PHQ-9, translate into meaningful improvements in patient care (Chang et al., 2021; Hawkins, 2023).

Staff Education Project Development

The development of the education program followed the ADDIE model, a systematic instructional design framework. In the analysis phase, current practices were reviewed, gaps in staff knowledge and performance related to PHQ-9 administration were identified, and the learning needs and objectives for the intervention were established (see Appendix A). Participants included clinical staff such as nurses, physicians, and therapists, with three completing the full evaluation process. A total of 15 staff members participated in at least one session, although not all completed the posttest. The educational program was delivered through a PowerPoint presentation (see Appendix B) and a case study discussion. Implementation took place between August 25 and September 7, 2025. To ensure accessibility, the 1-hour session was offered five times in both in-person and virtual formats, providing multiple opportunities for participation. The content covered PHQ-9 administration, interpretation guidelines, case studies, and group discussion. Knowledge changes were assessed through a 10-question pretest and posttest administered as part of the evidence collection process (see Appendix C). At the end of the educational program, participants completed a survey evaluating their satisfaction, confidence, and intention to change their practice (see Appendix D). Data were analyzed

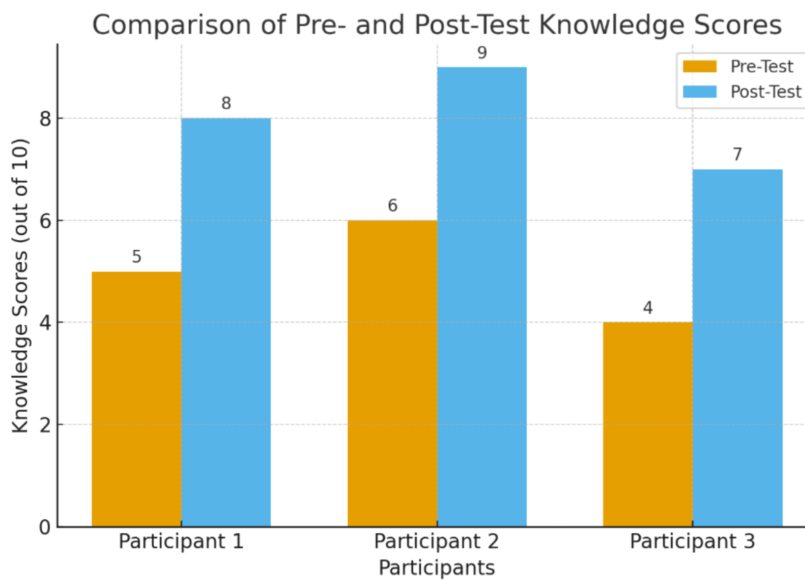
using descriptive statistics, and program evaluation results were triangulated with participant feedback to enhance validity.

Results

Postimplementation results demonstrated clear improvements in participant knowledge, confidence, and intent to integrate PHQ-9 best practices. Knowledge scores were measured using a 10-item assessment administered before and after participation in the PHQ-9 staff education program. Knowledge scores improved by an average of 30%, and all participants reported intent to reassess depression regularly, address suicidal ideation with safety plans, and improve privacy during screenings. Figure 1 displays the improvement in knowledge scores from pretest to posttest.

Figure 1

Comparison of Pretest and Posttest Knowledge Scores



Participant feedback was collected through a program evaluation survey completed following the staff education sessions. The results indicated strong overall satisfaction with the program, while also identifying key barriers such as time constraints and discomfort in managing suicidal ideation. When asked, “What changes do you intend to make in practice and performance?”, one participant responded, “The plan now is to begin integrating the PHQ-9 every 2–4 weeks for patients in active treatment, and I will make sure Item 9 is always addressed with a safety plan if indicated.” Another participant shared, “I will provide patients with more privacy when completing the PHQ-9 and ensure all items are explained clearly

Table 1 presents participant ratings of program quality, helpfulness, confidence, and intent to change practice.

Table 1

Staff Ratings of the PHQ-9 Education Program

	Participant 1	Participant 2	Participant 3	Average rating
Program quality	Excellent (4)	Excellent (4)	Good (3)	3.7 / 4 (Good–excellent)
Helpfulness of content	Strongly agree (5)	Strongly agree (5)	Agree (4)	4.7 / 5 (Strongly agree)
Confidence in using PHQ-9	4 / 5	5 / 5	4 / 5	4.3 / 5
Intent to change practice	Yes	Yes	Yes	Yes

The impact on the organization included reinforcing a culture of evidence-based care, improving awareness of suicide risk, and prompting leadership to consider integrating PHQ-9 reminders into the EHR. One limitation of the project was the small

number of participants who completed the posttest assessment. Without sufficient posttest data, it may be difficult to determine whether the educational program truly improved staff knowledge or influenced practice behaviors.

Beyond the local site, the project is important because it provides a replicable model for standardizing PHQ-9 administration in other primary care and behavioral health settings. Broader adoption could strengthen national depression screening efforts, reduce disparities, and improve early detection across diverse populations.

Conclusions

This Doctor of Nursing Practice project demonstrated that a standardized PHQ-9 education program effectively improved staff knowledge, confidence, and intent to apply best practices in depression screening. For the organization, the initiative provided a replicable framework for evidence-based education, fostered staff engagement, and reinforced patient safety by emphasizing the importance of suicide risk assessment. The findings also revealed a self-reported lack of confidence in managing suicide risk, highlighting the need for ongoing mentorship and additional training in this critical area. Recommendations include expanding the program to all staff, embedding PHQ-9 prompts into the EHR, and offering simulation-based training or mentorship for suicide risk management. Broader adoption beyond the local site can standardize depression screening practices, reduce inequities, and support national goals for improving mental health outcomes. For nursing practice, this project underscores the importance of equipping clinicians with standardized tools to provide safe, reliable, and equitable care. From a social change perspective, the project contributes to early detection of depression,

reduces the long-term burden of untreated illness, and ensures care delivery that reflects diversity, equity, and inclusion in mental health outcomes.

References

Blake, C. (2022). Depression screening implementation: Quality improvement project in a primary care clinic for first responders. *Workplace Health & Safety*, *70*(12), 543–550. https://doi.org/10.1177/21650799221119147

Blackstone, S. R., Sebring, A. N., Allen, C., Tan, J. S., & Compton, R. (2022). Improving depression screening in primary care: A quality improvement initiative. *Journal of Community Health*, *47*(3), 400–407. https://doi.org/10.1007/s10900-022-01068-6

Chang, D., Carlo, A. D., Khor, S., Drake, L., Lee, E. S., Avery, M., Unützer, J., & Flum, D. R. (2021). Transforming population-based depression care: A quality improvement initiative using remote, centralized care management. *Journal of General Internal Medicine, 36*(2), 333–340. https://doi.org/10.1007/s11606-020-06136-y

Chavez, B., Sullivan, J., & Portela, P. (2023). Improving adolescent depression in primary care: A quality improvement initiative. *The Journal for Nurse Practitioners: JNP*, *19*(3), Article 104503. https://doi.org/10.1016/j.nurpra.2022.11.013

Dalal, M., Holcomb, J. M., Sundaresan, D., Dutta, A., Riobueno-Naylor, A., Peloquin, G. D., Benheim, T. S., Jellinek, M., & Murphy, J. M. (2023). Identifying and responding to depression in adolescents in primary care: A quality improvement response. *Clinical Child Psychology and Psychiatry, 28*(2), 623–636. https://doi.org/10.1177/13591045221105198

Faisal-Cury, A., Ziebold, C., Rodrigues, D. M. de O., & Matijasevich, A. (2022). Depression underdiagnosis: Prevalence and associated factors. A population-based study. *Journal of Psychiatric Research*, *151*, 157–165. https://doi.org/10.1016/j.jpsychires.2022.04.025

Ford, J., Thomas, F., Byng, R., & McCabe, R. (2020). Use of the patient health questionnaire (PHQ-9) in practice: Interactions between patients and physicians. *Qualitative Health Research*, *30*(13), 2146–2159. https://doi.org/10.1177/1049732320924625

Hawkins, M. (2023). Improving the rates of objective monitoring of patients with depression with the PHQ-9 in an outpatient psychiatry clinic: A quality improvement initiative. *Joint Commission Journal on Quality and Patient Safety, 49*(3), 149–155. https://doi.org/10.1016/j.jcjq.2023.01.001

Jetelina, K. K., Woodson, T. T., Gunn, R., Muller, B., Clark, K. D., DeVoe, J. E., Balasubramanian, B. A., & Cohen, D. J. (2018). Evaluation of an electronic health record (EHR) tool for integrated behavioral health in primary care. *Journal of the American Board of Family Medicine: JABFM*, *31*(5), 712–723. https://doi.org/10.3122/jabfm.2018.05.180041

Littenberg, B., Clifton, J., Crocker, A. M., Baldwin, L.-M., Bonnell, L. N., Breshears, R. E., Callas, P., Chakravarti, P., Clark/Keefe, K., Cohen, D. J., deGruy, F. V., Eidt-Pearson, L., Elder, W., Fox, C., Frisbie, S., Hekman, K., Hitt, J., Jewiss, J., Kaelber, D. C., … van Eeghen, C. (2023). A cluster randomized trial of primary care practice redesign to integrate behavioral health for those who need it most:

Patients with multiple chronic conditions. *Annals of Family Medicine, 21*(6), 483–495. https://doi.org/10.1370/afm.3027

Sattler, A., Dunn, J., Albarran, M., Berger, C., Calugar, A., Carper, J., Chirravuri, L., Jawad, N., Zein, M., & McGovern, M. (2024). Asynchronous versus synchronous screening for depression and suicidality in a primary health care system: Quality improvement study. *JMIR Mental Health, 11,* Article e50192. https://doi.org/10.2196/50192

Appendix A: ADDIE Model

Analysis

- Reviewed current practices in PHQ-9 administration.
- Identified gaps in staff knowledge and performance.
- Determined learning needs and established objectives for the education program.
- Participants targeted: clinical staff (nurses, physicians, therapists).

Design

- Developed learning objectives focused on accurate PHQ-9 administration and interpretation.
- Chose PowerPoint presentation as the primary instructional method.
- Planned delivery as one-hour sessions, offered five times, with both in-person and virtual options.
- Designed pretest and posttest (10 questions) to measure knowledge changes.

Development

- Created PowerPoint slides with PHQ-9 content, guidelines, and case studies (Appendix B).
- Finalized pretest and posttest instruments (Appendix C).
- Developed program evaluation survey to assess satisfaction, confidence, and the intent to change practice (Appendix D).

Implementation

- Delivered five one-hour training sessions between August 25 and September 7, 2025.
- Fifteen staff members attended at least one session; three completed the full evaluation process.
- Content delivered: PHQ-9 administration procedures, interpretation guidelines, case studies, and group discussions.
- Hybrid format: available both in person and virtually.

Evaluation

- Collected pretest and posttest data to measure changes in knowledge.
- Administered program evaluation survey at the conclusion of the program.
- Analyzed data using descriptive statistics.
- Triangulated results with participant feedback to ensure validity.

Appendix B: PowerPoint Presentation

Use of the PHQ-9 Tool to Screen for Depression

Presented by

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DNP Student, Walden University

Objectives

- After this presentation, the participant will be able to:
  - 1. Describe the purpose and clinical significance of the PHQ-9 tool
  - 2. Identify the structure and scoring of the PHQ-9 tool
  - 3. Discuss how to use PHQ-9 scores to inform clinical decision-making, guide referrals, and tailor care plans for patients with depression symptoms
  - 4. Demonstrate correct administration of the PHQ-9 tool

Introduction to the PHQ-9

- What is the PHQ-9?
  - A 9-item self-report questionnaire derived from the full PHQ
  - Designed to screen, monitor, and measure the severity of depression
  - Based on DSM-5 criteria for Major Depressive Disorder (Cheung, 2023).
- Purpose:
  - Efficient, evidence-based tool for use in primary care and mental health settings

Why the PHQ-9 Matters Clinically

- Detects depressive symptoms early, facilitating timely intervention (Sun et al., 2022)
- Helps quantify symptom severity and track treatment progress
- Enhances communication between patients and providers
- Supports decision-making and documentation for quality care

PHQ-9 Structure

- 9 items, each reflecting a core symptom of depression (Lamela et al., 2020)
- Patients rate frequency over the past two weeks
- Response options:
  - 0 = Not at all
  - 1 = Several days
  - 2 = More than half the days
  - 3 = Nearly every day
- Maximum score: 27

Interpreting PHQ-9 Scores

Score	Depression Severity
0-4	None to Minimal
5-9	Mild
10-14	Moderate
15-19	Moderately Severe
20-27	Severe

(Maten et al., 2021)

Clinical Decision-Making with PHQ-9

Using scores to inform care:

- Mild (5-9): Watchful waiting, psychoeducation, lifestyle changes
- Moderate (10-14): Consider behavioral therapy or pharmacologic treatment
- Moderately Severe-Severe (15-27): Strong consideration for combination therapy and referral (Maten et al., 2021)
- Always assess for functional impact and suicide risk (Item 9)

Referral and Care Planning

- Use PHQ-9 to:
  - Guide mental health referrals and integrated care approaches
  - Initiate or adjust medication or therapy
  - Establish baseline for treatment monitoring
- Reassess regularly to evaluate response and modify the plan as needed

Administering the PHQ-9 Correctly

- Steps for accurate administration:
  - Explain the purpose and ensure privacy
  - Provide the form and give the patient time to respond independently
  - Review responses, score immediately, and interpret results
  - Engage the patient in discussing their score and next steps
  - Document findings in the medical record

Reassessment and Ongoing Monitoring

- Why Reassess?
  - Depression is dynamic symptoms may improve, worsen, or fluctuate over time
  - PHQ-9 helps track treatment response and adjust interventions as needed
- Best Practices:
  - Re-administer the PHQ-9 every 2-4 weeks during active treatment
  - Document trends to support clinical decisions and insurance requirements
  - Use changes in score to determine whether to continue, modify, or intensify treatment

Key Takeaways

- The PHQ-9 is a quick, validated tool for assessing depression
- Proper scoring identifies severity and helps tailor treatment
- Integrating PHQ-9 into routine care supports better mental health outcomes
- Accurate administration enhances patient trust and clinical reliability

Case Study

- Patient: J.L., 45-year-old male
- Symptoms: Fatigue, low mood, poor sleep, loss of interest
- PHQ-9 Use:
- Score: 18 – Moderately severe depression
  - Item 9: Passive suicidal thoughts
  - Actions Taken: Safety plan, SSRI started, referral to therapy
  - Tool Use: Administered privately, scored immediately, used to guide care
- Takeaway:
  - PHQ-9 supported diagnosis, risk assessment, referral, and care planning.

References

Cheung, R. Y. M. (2023). Patient health questionnaire-9 (PHQ-9). *In Handbook of Assessment in Mindfulness Research* (pp. 1-11). Springer International Publishing.

Lamela, D., Soreira, C., Matos, P., & Morais, A. (2020). Systematic review of the factor structure and measurement invariance of the patient health questionnaire-9 (PHQ-9) and validation of the Portuguese version in community settings. *Journal of Affective Disorders, 276*, 220-233. https://doi.org/10.1016/j.jad.2020.06.066

Maten, N., Kroehl, M. E., Loeb, D. F., Bhat, S., Ota, T., Billups, S. J., Schilling, L. M., Heckman, S., Reingardt, C., & Trinkley, K. E. (2021). An evaluation of clinical decision support tools for Patient Health Questionnaire-9 administration. *The Mental Health Clinician, 11(5)*, 267-273. https://doi.org/10.9740/mhc.2021.09.267

Sun, Y., Kong, Z., Song, Y., Liu, J., & Wang, X. (2022). The validity and reliability of the PHQ-9 on screening of depression in neurology: a cross sectional study. *BMC Psychiatry, 22*(1), 98. https://doi.org/10.1186/s12888-021-03661-w

Questions?

Appendix C: Pretest/Posttest

Unique identifier ______________________

1. **What is the primary purpose of the PHQ-9 in clinical practice?**
   a) To diagnose all mental health disorders
   b) To screen, diagnose, monitor, and measure the severity of depression
   c) To assess anxiety level
   d) To evaluate physical health conditions
   e) I am not sure

2. **Which of the following statements about the PHQ-9 scoring is correct**
   a) A total score of 5 indicates severe depression
   b) The PHQ-9 score ranges from 0 to 27, with higher scores indicating more severe depression
   c) Question 9 on the PHQ-9 does not relate to suicide risk
   d) The PHQ-9 is only administered once and cannot be repeated
   e) I am not sure

3. **A patient scores 12 on the PHQ-9. What is the MOST appropriate action?**
   a. Watchful waiting and lifestyle changes only
   b. Behavioral therapy or medication consideration
   c. Immediate hospitalization
   d. No intervention needed

4. **How should a clinician respond if a patient endorses "nearly every day" on Item 9 (suicidal thoughts)?**
   a) Document it and wait until the next visit
   b) Conduct an immediate safety assessment and create a plan
   c) Ignore it unless the patient appears distressed
   d) Reassure the patient it’s normal

5. **When reassessing depression with the PHQ-9, how often should it be repeated during active treatment?**
   a) Every 6 months
   b) Only at diagnosis
   c) Every 2–4 weeks
   d) When the patient requests it

6. A score of 18 on the PHQ-9 indicates:

a) Mild depression
b) Moderate depression
c) Moderately severe depression
d) No depression

7. What is a key step in administering the PHQ-9 correctly?

a) Have a family member complete it for the patient
b) Provide privacy and let the patient self-report
c) Skip Item 9 to avoid discomfort
d) Only use it for patients with severe symptoms

8. How can the PHQ-9 improve patient care?

a) By replacing all other mental health screenings
b) By quantifying symptoms and tracking progress to guide treatment
c) By diagnosing personality disorders
d) By eliminating the need for referrals

9. In the case study, what did the PHQ-9 score of 18 prompt the clinician to do?

a) Discharge the patient with no follow-up
b) Start an SSRI, refer to therapy, and create a safety plan
c) Order a brain scan
d) Advise the patient to "wait it out"

10. What is the MAXIMUM possible PHQ-9 score?

a) 9
b) 21
c) 27
d) 30

Appendix D: Staff Education Program Evaluation

1. On a scale of 1 to 4, how would you rate the overall educational quality of this education program? Please circle your response

.

Poor	Okay	Good	Excellent
1	2	3	4

Please briefly describe why you selected your response.

2. The content of this program is helpful for my practice or professional development. Please circle your response.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. As a result of your participation in this educational program, do you intend to make changes in your practice behaviors? Yes No Please circle your response.

4. If yes, what changes do you intend to make in practice and performance?

5. I am confident that I can make changes in my practice to improve the reliability of mental health screening data and reduce gaps in patient care.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

6. Please identify any barriers you perceive in implementing these changes.

Thank you for completing this evaluation.