

1-6-2025

## **Structured Staff Education on Incorporating Social Determinants of Health into PHQ-9 Depression Screening for Improved Patient Outcomes**

Gbemisola Elizabeth Mojelope  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Nursing

This is to certify that the doctoral study by

Gbemisola Elizabeth Mojelope

has been found to be complete and satisfactory in all respects, and  
that any and all revisions required by  
the review committee have been made.

Review Committee

Dr. Anna Hubbard, Committee Chairperson, Nursing Faculty

Dr. David Sharp, Committee Member, Nursing Faculty

Chief Academic Officer and Provost Sue  
Subocz, Ph.D.

Walden University  
2024

Executive Summary: Staff Education Project

Structured Staff Education on Incorporating Social Determinants of Health into PHQ-9

Depression Screening for Improved Patient Outcomes

by

Gbemisola Elizabeth Mojelope MSN, CRNP, PMHNP

MSN, Walden University, 2018

BSN, University of Maryland, 2003

Executive Summary Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2024

## Summary

This doctor of nursing (DNP) project addressed a significant practice gap in an outpatient community healthcare setting, where staff lacked knowledge related to patient health questionnaire (PHQ-9) depression screening. The project's focus question addressed whether staff education increased knowledge pertaining to the PHQ-9 depression screening. The initiative aimed to equip healthcare providers with the skills needed to incorporate social determinants of health in routine depression screenings, enhancing early identification of depressive symptoms and supporting targeted interventions. Fifteen healthcare workers voluntarily participated in the education. The in-person education initiative highlighted the importance of integrating social determinants of health (SDoH) into PHQ-9 assessments to ensure patient-centered care, promote early detection, and improve diagnostic accuracy in depression. This proactive approach to mental health management aimed to bolster provider competence in recognizing both depressive symptoms and unmet social needs that influence mental health. Pre- and post-intervention knowledge assessments, along with statistical analysis using statistical package for the social sciences (SPSS 27), revealed significant knowledge gains among participants, with a 7.5% increase in post-intervention score. The project produced a training curriculum and updated screening protocols, underscoring the importance of SDoH in depression assessments. Findings support ongoing training to sustain provider competence, advancing nursing practice by fostering health equity in mental health care. These changes promote a positive social impact by advocating inclusiveness, reducing health disparities, and acknowledging the broader spectrum of factors affecting patients' mental well-being.

## **Background**

The high prevalence of depression in the United States (US), particularly among adults 18 years and older, highlights the need for enhanced screening practices. Approximately 22% of US adults reported depression in 2022, with major depressive disorder (MDD) being the most common. Symptoms like persistent low mood and loss of interest contribute to adverse health outcomes, including higher risks of respiratory diseases, diabetes, and cardiovascular issues (World Health Organization, 2023). These impacts emphasize the necessity for early detection and treatment. However, in a Maryland community health center, inconsistent use of the Patient Health Questionnaire-9 (PHQ-9) with integrated social determinants of health (SDoH), alongside limited staff training shows a significant practice gap that impedes effective depression management.

This project focused on addressing the following question: Will educating staff on the PHQ-9 depression screening increase knowledge? The project aimed to equip healthcare staff with training to consistently utilize the PHQ-9 with SDoH considerations, thereby enhancing early identification and promoting individualized management and improved patient outcome. The purpose of the project was to bridge the identified practice gap, and ultimately improve patient outcomes through early identification and targeted interventions.

Extensive evidence supports the integration of SDoH in depression screening. Organizations such as the American Psychological Association (APA), Centers for Disease Control (CDC), and National Institute of Mental Health (NIMH), Substance Abuse and Mental Health Services Administration (SAMHSA) and World Health Organization (WHO) advocate for incorporating SDoH into mental health practices and

screening to address major depressive disorder comprehensively as studies show that untreated depression carries significant economic burden and negative health outcomes (Alon et al., 2024; Beswick et al., 2022; Greenberg et al., 2023). Greenberg et al. (2023) reported that MDD related treatment costs in United States (US) rose from \$236 billion in 2010 to \$326 billion by 2018. Figueroa et al. (2020) projected the continued increase in economic burden of depression during the next decade. The financial impacts of the economic burden of depression is compounded by the increased risk of chronic illnesses from untreated depression, further underscoring the importance of consistent depression screening. Available evidence also highlights that standardized screening like PHQ-9 is effective across various demographics and enhances screening reliability, even in low-resource settings (Carroll et al, 2020; Beswick et al, 2022). Targeted training improves adherence to screening guidelines, facilitating early detection, and appropriate management (Gómez-Gómez et al., 2022; Ford et al., 2020). Moreover, integrating SDoH into PHQ-9 depression screening offers a holistic approach that can reduce health disparities by addressing unmet social needs (Neshan et al., 2024; Kammer-Kerwick et al., 2024). The strength of available evidence is further substantiated by the alignment of findings with the United States Preventive Services Task Force (USPSTF) recommendations supports for the value of this intervention in outpatient settings.

In summary, this project's educational approach to PHQ-9 and SDoH integration offers a structured way to close a critical gap in practice, ultimately enhancing the quality of mental healthcare and promoting equitable, personalized care with improved patient desired outcomes.

## **Staff Education Project Development**

The project involved multiple phases including, identification of practice gap, site appropriateness and approval, identification of current practice and need for improvement, review of literature/literature search, development of GANTT chart, stakeholder readiness assessment, identification and approval of needed resources, setting timelines, identification of participants for staff education, presentation to stakeholders, stakeholder buy-in/approval, technology requirements, development of staff education materials, staff knowledge assessment, structured staff education, post training staff knowledge assessment, pilot testing of the incorporated SDoH into PHQ-9 depression screening, statistical analysis comparing staff competence, staff adherence with implemented practice change, presentation to stakeholders and patient outcomes assessment.

### **Participants Identification**

The staff education participants comprised 15 individuals, including (1) one physician, four (4) family nurse practitioners, one (1) psychiatric nurse practitioner, two (2) therapists, one (1) care navigator, three (3) nurses, and three (3) allied health care staff from a community health care center. The participants were selected based on their essential roles within the healthcare center, rendering them the most appropriate candidates for the implementation and utilization of integrated SDoH and PHQ-9 tools for depression screening. Each participant received a detailed briefing on the study's objectives and goals, which aimed to enhance patient outcomes by reinforcing the use of the PHQ-9 depression screening through the incorporation of SDoH screening to mitigate staff resistance, foster cooperation, and reduce staff opposition. The selected subjects are

optimal candidates for implementing and utilizing the PHQ-9 tool for depression screening due to their roles within the healthcare facility. All participants engaged in the project voluntarily, no consent forms required since this is a staff education project approved by the management team, yet adherence to ethical standards was ensured. The education material was tailored to meet their professional and personal backgrounds and experiences while addressing the specific needs of the healthcare center.

### **Development and Implementation**

The development and implementation transpired through a sequence of essential steps for this project. The initial phase required obtaining authorization from the healthcare center's administration via a site agreement, which indicated their consent for the project's implementation, followed by the completion of the Walden Ethics pledge which establishes ethical standards that safeguard participant rights and uphold data integrity. An assessment of a quality report from the healthcare center identified a significant shortcoming in the skilled and efficient use of the PHQ-9 tool to achieve the intended patient outcomes. In light of the identified gap, the development of a 45-minute educational module for staff training was essential.

The staff education module was developed as a PowerPoint presentation to improve participants' comprehension and proficiency in using the PHQ-9 tool with integrated social determinant of health (SDoH) screening. Furthermore, the significance of SDOH was recognized, as available evidence highlights their role in the treatment of mental health conditions. Ten (10) multiple-choice pretest questions were administered before the educational session, while ten posttest assessments evaluated participants' knowledge acquisition/improvement on SDOH integration with PHQ-9 depression

screening tool. One month after the intervention, the sustained effectiveness of the education module on integration of SDoH into PHQ-9 tool for depression screening and the participants' confidence in its application was evident through increased participants mean score on the post-test assessment.

The Iowa Evidence-Based Practice Model informed the development and implementation of this project, ensuring an evidence-based approach to enhance clinical practice. This model addresses the increasing need for the incorporation of SDoH into mental health assessments, as highlighted by Alqahtani & Alhusseini (2023) and Bradywood et al. (2021), who support a comprehensive approach to enhance patient outcomes. The project sought to address identified gaps and utilize the professional experience team members to enhance depression-screening practices, which may result in improved mental health outcomes for patients at the community health center.

### **Procedure**

The evidence collection for the project was performed by a thorough review of academic literature using the databases PubMed, CINAHL, Google Scholar, and the University Library. The keywords for the retrieval included "PHQ-9 usage," "depression screening," "staff education training," and "social determinants of health.". From an initial pool of 780 articles, 60 were selected for relevance, of which 10 met the specific research criteria for inclusion into the project. This study evaluated the effectiveness of the PHQ-9 tool and made recommendations for improving staff knowledge and competence in depression screening to improve patient outcomes.

The data collection included outcomes of the pre-test and post-test staff knowledge assessment evaluation that included ten multiple-choice questions aimed at

assessing the participant's knowledge about the PHQ-9 tool before and after the training that aimed at measuring the participant's level of understanding of the application of the tool in screening for depression. Herrera et al. (2019) in an outcome of their study recommend the integration of Social Determinants of Health (SDoH) screening into routine clinical practices, such as using the PHQ-9 for depression screening, to provide a more comprehensive understanding of patients' social contexts. Ford et al. (2020) further emphasize that patient interactions during the administration of the PHQ-9 are critical for improving depression management outcomes. The findings suggest that incorporating SDoH screening into depression screening can lead to more effective and personalized depression care by addressing both social and interpersonal factors that influence mental health; while enhancing clinician-patient interactions through targeted training,

The evidence analysis utilized a simple trend analysis to reflect the difference from the pre-and post-test knowledge assessment, which reflected the knowledge and confidence of participants in the PHQ-9 tool. Data analysis showed a trend in how participants utilized the PHQ-9 tool before and after the educational module. Findings from the literature review have been integrated into the module, reinforcing evidence-based practices involving the utilization of the PHQ-9 with integrated SDoH in the early identification and treatment of depression.

Follow-up included both short-term and long-term assessments: first, pre-and post-test scores were compared as a measure of the short-term success of the education intervention in improving knowledge and confidence. The noticeable improvement in post-test scores proved that the module effectively achieved its primary goals. Subjects were followed up after one month to reassess retention of knowledge and continued use

of the integrated SDoH with PHQ-9 depression screening tool for adherence to change and sustainability of this training outcome. Gagnon et al. (2022) in their scoping review to identify the facilitators, barriers, and strategies for implementing social determinants of health (SDOH) screening, referral, and follow-up in the U.S. healthcare system emphasized the importance of continuous follow-up to ensure that identified social needs are addressed effectively and sustainably. The authors suggested integrating standardized protocols within electronic health records (EHRs) to track outcomes, professional/staff adherence to protocols, foster professional collaboration are crucial steps for determining sustainability and effectiveness of interventions aimed at improving social and health outcomes.

Evidence from the outcomes assessment demonstrated evidence that the educational intervention significantly enhanced participants' confidence and knowledge about the usage of PHQ-9, which has also met the aims of this project. Since the project included both immediate and follow-up assessments, it ensured that education would make a difference in clinical practice for a more extended period, as recommended by various works about implementing sustainable changes within healthcare settings (Herrera et al., 2019; Karran et al., 2023).

### **Education Module Development**

The education program consisted of a 45-minute PowerPoint presentation to increase the healthcare providers' knowledge and confidence level when administering the PHQ-9 screening tool while addressing the existing gap. The educational program content was developed through recommendations from healthcare management, and the project team agreed. This was followed by drafting the questionnaires, which were

reviewed for appropriateness, clarity, style, and format before the final draft was completed. The PHQ-9 tool development was adapted from Primary Care Evaluation of Mental Disorders, and its development was done by Kroenke et al. (2010) using the Pfizer Inc. educational grant. Hence, the tool has no permission for PHQ-9 tool reproduction, translation, displaying, and distribution. The PHQ-9 tool has been proven to have an 88 percent for both specificity and sensitivity when screening major depressive disorder, thus proving its reliability and validity during depression screening (Cassiani-Miranda et al., 2021). The PHQ-9 for the project incorporated ten (10) pre- and post-test questions to test the participants' knowledge in utilizing the PHQ-9 tool. The question involved ten multiple-choice questions aimed at probing the participants to express their opinions on their experience with the PHQ-9 depression screening. The pre and post-tests were in the form of multiple-choice questionnaires where the participants were able to make their decision known through available options closest to their decisions. Later on, the project team used the same questionnaire to collect data from the participants after one month to assess the effectiveness of the structured staff education program. Accordingly, 15 identified healthcare staff participated in the pre and post-test data collection, adding reliability and validity to the project. All results remained confidential until the project was disseminated to avoid interfering with the accuracy of the results, and no identifiers were included in the disseminated results.

## **Results**

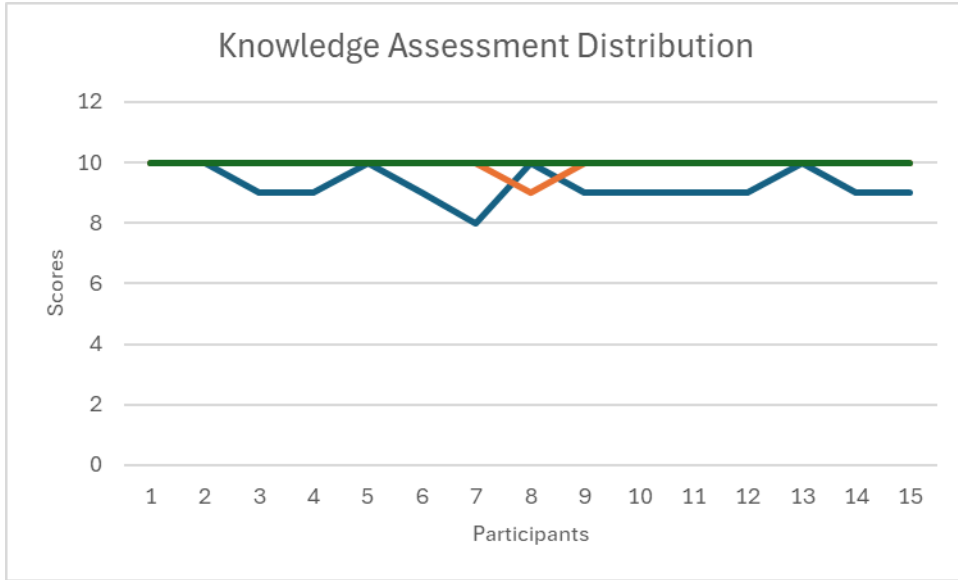
The stakeholders (internal) were presented with the pre-test and post-test data results after the educational intervention, during which a descriptive analysis was conducted. The project team used SPSS 27 while the mean differences were assessed

using the paired t-test, and the results were reported using pie charts, descriptions, and tables. The standard deviation and P-value were assessed using the paired t-test with the significance level ( $p$ ) set at 0.5. Also, to assess the education program effectiveness, the participants' mean score was  $\mu = 9.27$  before the implementation and  $\mu = 9.93$  after the intervention. The formula for calculating the pre- /post-tests mean score was: (percentage change = (New-old mean)/ old mean x100). The attained mean score average was 9.73 across the three tests – pre-test, post-test and one (1) month post-test, and these participants recorded a 7.12 percent increase in participant knowledge from pre- to post-test. The paired t-test was also used to evaluate the p-value where  $p = .005$  was statistically significant with alpha ( $\alpha$ ) set at .05. Hence, since  $p < \alpha$ , it proved the intervention's success. One month after implementation, the mean score increased to 10, and the p-value was recorded at .002, showing more improvement in knowledge as reflected by the outcome of multiple-choice assessment questionnaire. Also, the project assessed the participants' confidence and consistency in using the integrated SDoH with PHQ-9 depression screening tool, as expressed in (Table 1 and Figure 1 below).

**Table 1**  
**Knowledge Assessment Scores**

	<b>Pre-Test Scores</b>	<b>Post-Test Scores</b>	<b>Post-Test Scores (1 Month)</b>
<b>Participant 1</b>	10	10	10
<b>Participant 2</b>	10	10	10
<b>Participant 3</b>	9	10	10
<b>Participant 4</b>	9	10	10
<b>Participant 5</b>	10	10	10
<b>Participant 6</b>	9	10	10
<b>Participant 7</b>	8	10	10
<b>Participant 8</b>	10	9	10
<b>Participant 9</b>	9	10	10
<b>Participant 10</b>	9	10	10
<b>Participant 11</b>	9	10	10
<b>Participant 12</b>	9	10	10
<b>Participant 13</b>	10	10	10
<b>Participant 14</b>	9	10	10
<b>Participant 15</b>	9	10	10
<b>Mean</b>	9.27	9.93	10

Figure 1



## Conclusions

The structured staff education on the integration of SDoH and PHQ-9 depression screening tools greatly enhanced the knowledge and confidence of healthcare providers in identifying and managing depression. The project has made possible the early identification and treatment of depression by developing gaps in the screening processes, thereby enhancing patient outcomes. Yet, small samples and the brief period during which data was collected were several limitations in generalizing this finding. Indeed, evidence supports the critical role that the SDoH has played in mental health care; this is essentially in this process to make a difference in depression screening and management. For example, this is supported by Berkowitz et al., 2021; Blackstone et al., 2022. Yet, these developments notwithstanding, more needs to be continuously done to better the process of screening for depression across varied health settings-a fact iterated in recent studies by Bradywood, Watters, & Blackmore, 2021; and Browne et al., 2021).

## References

- Alon, N., Macrynika, N., Jester, D. J., Keshavan, M., Reynolds, I. C. F., Saxena, S., ... & Jeste, D. V. (2024). Social Determinants of Mental Health in Major Depressive Disorder: Umbrella Review of 26 Meta-analyses and Systematic Reviews. *Psychiatry Research*, 115854. <https://doi.org/10.1016/j.psychres.2024.115854>
- Alqahtani, A., & Alhusseini, N. (2023). Assessing Social Determinants of Health Among Patients With Depression at Primary Healthcare Centers in Riyadh City. *Cureus*, 15(11). <https://doi.org/10.7759/cureus.48854>
- Arias, D., Saxena, S., & Verguet, S. (2022). Quantifying the global burden of mental disorders and their economic value. *EClinicalMedicine*, 54. <https://doi.org/10.1016/j.eclinm.2022.101675>
- Berkowitz, R. L., Bui, L., Shen, Z., Pressman, A., Moreno, M., Brown, S., ... & Azar, K. M. (2021). Evaluation of a social determinants of health screening questionnaire and workflow pilot within an adult ambulatory clinic. *BMC family practice*, 22(1), 256. <https://doi.org/10.1186/s12875-021-01598-3>
- Beswick, E., Quigley, S., Macdonald, P., Patrick, S., Colville, S., Chandran, S., & Connick, P. (2022). The Patient Health Questionnaire (PHQ-9) as a tool to screen for depression in people with multiple sclerosis: a cross-sectional validation study. *BMC Psychology*, 10(281), 281. <https://doi.org/10.1186/s40359-022-00949-8>
- 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>

- Bradywood, A., Watters, R., & Blackmore, C. (2021). Implementing screening for social determinants of health using the Core 5 screening tool. *BMJ open quality*, 10(3), e001362. <https://doi.org/10.1136/bmjog-2021-001362>
- Browne, J., Mccurley, J. L., Fung, V., Levy, D. E., Clark, C. R., & Thorndike, A. N. (2021). Addressing social determinants of health identified by systematic screening in a Medicaid accountable care organization: a qualitative study. *Journal of Primary Care & Community Health*, 12, 2150132721993651. <https://doi.org/10.1177/2150132721993651>
- Califf, R. M., Wong, C., Doraiswamy, P. M., Hong, D. S., Miller, D. P., Mega, J. L., & Baseline Study Group. (2022). Importance of social determinants in screening for depression. *Journal of General Internal Medicine*, 37(11), 2736-2743. <https://doi.org/10.1007/s11606-021-06957-5>
- Carroll, H. A., Hook, K., Perez, O. F. R., Denckla, C., Vince, C. C., Ghebrehiwet, S., ... & Henderson, D. C. (2020). Establishing reliability and validity for mental health screening instruments in resource-constrained settings: systematic review of the PHQ-9 and key recommendations. *Psychiatry research*, 291, 113236. <https://doi.org/10.1016/j.psychres.2020.113236>
- Cassiani-Miranda, C. A., Cuadros-Cruz, A. K., Torres-Pinzón, H., Scoppetta, O., Pinzón-Tarrazona, J. H., López-Fuentes, W. Y., Paez, A., Cabanzo-Arenas, D. F., Ribero-Marulanda, S., & Llanes-Amaya, E. R. (2021). Validity of the Patient Health Questionnaire-9 (PHQ-9) for depression screening in adult primary care users in Bucaramanga, Colombia. *Revista Colombiana de Psiquiatría (English Ed.)*, 50(1), 11–21. <https://doi.org/10.1016/j.rcpeng.2019.09.002>

- Center for Disease Control (CDC). (2023). FastStats - Depression. Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/fastats/depression.htm>
- Figueroa, J. F., Phelan, J., Orav, E. J., Patel, V., & Jha, A. K. (2020). Association of Mental Health Disorders With Health Care Spending in the Medicare Population. *JAMA Network Open*, 3(3), e201210. <https://doi.org/10.1001/jamanetworkopen.2020.1210>
- Fink-Samnick, E. (2021). The social determinants of mental health: Assessment, intervention, and wholistic health equity: Part 2. *Professional Case Management*, 26(5), 224-241. <https://doi.org/10.1097/NCM.0000000000000518>
- 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>
- Gagnon, K., Ortiz-Siberón, Á., Patel, N. D., James, R., Hawk, M., Damian, A. J., & Beidas, R. (2022). Identifying facilitators, barriers, and strategies to implement social determinants of health screening, referral, and follow-up in the US: a scoping review protocol. *JBHI evidence synthesis*, 20(6), 1568-1577. <https://doi.org/10.11124/JBIES-21-00161>
- Global Burden of Diseases 2019 Mental Disorders Collaborators. (2022). Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet Psychiatry*, 9(2), 137-150. [https://doi.org/10.1016/S2215-0366\(21\)00395-3](https://doi.org/10.1016/S2215-0366(21)00395-3)

- Gómez-Gómez, I., Benítez, I., Bellón, J., Moreno-Peral, P., Oliván-Blázquez, B., Clavería, A., Zabaleta-del-Olmo, E., Llobera, J., Serrano-Ripoll, M. J., Tamayo-Morales, O., & Motrico, E. (2022). Utility of PHQ-2, PHQ-8 and PHQ-9 for detecting major depression in primary health care: a validation study in Spain. *Psychological Medicine*, 53(12), 1–11.  
<https://doi.org/10.1017/s0033291722002835>
- Greenberg, P. E., Fournier, A.-A., Sisitsky, T., Simes, M., Berman, R., Koenigsberg, S. H., & Kessler, R. C. (2021). The Economic Burden of Adults with Major Depressive Disorder in the United States (2010 and 2018). *Pharmacoeconomics*, 39(6). <https://doi.org/10.1007/s40273-021-01019-4>
- Guilamo-Ramos, V., Johnson, C., Thimm-Kaiser, M., & Benzekri, A. (2023). Nurse-led approaches to address social determinants of health and advance health equity: A new framework and its implications. *Nursing outlook*, 71(6), 101996.  
<https://doi.org/10.1016/j.outlook.2023.101996>
- Herrera, C. N., Brochier, A., Pellicer, M., Garg, A., & Drainoni, M. L. (2019). Implementing social determinants of health screening at community health centers: clinician and staff perspectives. *Journal of primary care & community health*, 10, 2150132719887260. <https://doi.org/10.1177/2150132719887260>
- Kammer-Kerwick, M., Cox, K., Purohit, I., & Watkins, S. C. (2024). The role of social determinants of health in mental health: An examination of the moderating effects of race, ethnicity, and gender on depression through the all of us research program dataset. *PLOS Mental Health*, 1(3), e0000015.  
<https://doi.org/10.1371/journal.pmen.0000015>

- Karran, E. L., Cashin, A. G., Barker, T., Boyd, M. A., Chiarotto, A., Dewidar, O., ... & Moseley, G. L. (2023). The ‘what’ and ‘how’ of screening for social needs in healthcare settings: a scoping review. *PeerJ*, 11, e15263.  
<https://doi.org/10.7717/peerj.15263>
- Kroenke, K., Spitzer, R. L., Williams, J. B. W., & Löwe, B. (2010). The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: a systematic review. *General Hospital Psychiatry*, 32(4), 345–359.  
<https://doi.org/10.1016/j.genhosppsy.2010.03.006>
- Mangione, C. M., Barry, M. J., Nicholson, W. K., Cabana, M., Chelmow, D., Coker, T. R., Davidson, K. W., Davis, E. M., Donahue, K. E., Jaén, C. R., Kubik, M., Li, L., Ogedegbe, G., Pbert, L., Ruiz, J. M., Silverstein, M., Stevermer, J., & Wong, J. B. (2022). Screening for Depression and Suicide Risk in Children and Adolescents. *JAMA*, 328(15), 1534. <https://doi.org/10.1001/jama.2022.16946>
- National Institute of Mental Health. (2023, July). Major Depression. National Institute of Mental Health. <https://www.nimh.nih.gov/health/statistics/major-depression>
- Neshan, M., Padmanaban, V., Tsilimigras, D. I., Obeng-Gyasi, S., Fareed, N., & Pawlik, T. M. (2024). Screening tools to address social determinants of health in the United States: A systematic review. *Journal of clinical and translational science*, 1-25. <https://doi.org/10.1017/cts.2024.506>
- World Health Organization. (2023, March 31). Depressive disorder (depression). World Health Organization; World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/depression>

## Appendix A

### Integrating Social Determinants of Health (SDoH) into PHQ-9 Screening

**Pretest/Post-Test Assessment: Date \_\_\_\_\_ Initial: \_\_\_\_\_**

1. What are Social Determinants of Health (SDoH)? (a) Biological factors that affect health outcomes (b) Economic and social conditions influencing health outcomes (c) Genetic predispositions affecting mental health (d) Personal lifestyle choices
2. How familiar are you with integrating SDoH into PHQ-9 screenings? (a) Not familiar (b) Somewhat familiar (c) Moderately familiar (d) Very familiar
3. Which of the following is not a domain of SDoH? (a) Economic Stability (b) Genetic Predisposition (c) Education Access and Quality (d) Social and Community Context
4. Do you currently use SDoH screening tools in your practice? (a) Yes, regularly (b) Yes, occasionally (c) No, but planning to (d) No, not at all
5. How confident are you in addressing social factors when interpreting PHQ-9 scores? (a) Not confident (b) Somewhat confident (c) Moderately confident (d) Very confident
6. Does the PHQ-9 tool, currently used address a patient's social and environmental context (a) Yes, completely (b) Yes, to some extent (c) No, not at all (d) Unsure
7. Do you think that assessing SDoH during a depression screening could improve treatment outcomes (a) Yes, definitely (b) Yes, somewhat (c) No, not likely (d) Unsure
8. Do you have access to resources / referrals for patients with social challenges that may affect their mental health? (a) Yes, I use them regularly (b) Yes, but I rarely use them (c) No, but I know where to find them (d) No, I do not have access
9. How often do you encounter patients whose social situations affect their mental health outcomes? (a) Very often (b) Sometimes (c) Rarely (d) Never
10. How will addressing SDoH improve your care for patients with depression? (a) Unsure (b) Provides a more holistic view (c) Focuses more on social services (d) May not have much