# Navigating mental health conversations: Student pharmacists complete Mental Health First Aid Training and apply it through experiential learning in a community pharmacy depression screening program

Shannon Habba, PharmD Candidate[1]; David Frond, PharmD Candidate[1]; Kyle Burghardt, PharmD[1*]; Brittany Stewart, RD, PharmD[1*]
[1]Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, Detroit, MI
[*]*Indicates co-senior authors*

**Abstract**

**Background:** Community pharmacies offer a unique and accessible opportunity to close the existing mental health care gap. Many pharmacists and student pharmacists, however, lack the confidence to effectively engage in conversations regarding mental health. The objective of this study was to assess student pharmacist confidence and knowledge in navigating mental health conversations after Mental Health First Aid (MHFA) training alone versus MHFA training paired with experiential learning opportunities through community pharmacy-based depression screening events.

**Methods:** Student pharmacists in their second through fourth years were recruited to participate in this study. All participants completed a pre-survey to assess baseline knowledge and confidence, underwent MHFA training, and were given the option to participate in community-based depression screenings. A post-survey was then given to assess changes in knowledge and confidence. Survey responses were compared between students who attended depression screening sessions and those who did not.

**Results:** Twenty students completed the study. Of these 20 students, 13 participated in the depression screenings. Students who completed both MHFA training and depression screening events showed greater improvement in mental health knowledge (P=0.03) and confidence (P=0.03) compared to those who completed MHFA training alone.

**Conclusion:** When paired with experiential learning opportunities, MHFA training significantly improves student pharmacists' knowledge and confidence in navigating mental health conversations.

**Keywords:** mental health, student pharmacist, community pharmacy, confidence, knowledge, experiential learning

## Introduction

Approximately 22% of adults in the United States live with a mental illness.[1] Despite its prevalence, however, diagnosis and treatment of mental health conditions are lacking. It is estimated that nearly two-thirds of patients with depression are undiagnosed.[2] Furthermore, of those with mental health conditions, only 50% receive treatment.[1] Left untreated, mental health conditions can be associated with poor psychosocial functioning, decreased ability to thrive, increased economic costs, and an increased risk of suicide.[3,4]

One strategy to reduce the risk of undiagnosed and untreated mental health conditions is through pharmacist-based interventions, which have been shown to improve mental health outcomes in various settings.[5] Despite these positive outcomes, pharmacist and student pharmacist knowledge and confidence in supporting patients' mental health needs can be low, potentially inhibiting the effect pharmacists can have in improving mental health outcomes.[6] Although the factors underlying this lack of confidence are likely multi-faceted, it may be driven by stigma and a lack of training beyond that provided in the classroom.

**Corresponding Author:**
Brittany Stewart
259 Mack Ave, Detroit, MI 48201
brittanystewart@wayne.edu

Two approaches to increasing pharmacist and student pharmacist confidence in addressing patients' mental health needs are didactic-based learning and experiential learning. The Mental Health First Aid (MHFA) training program has grown in popularity due to its ease of application and relatively minimal time requirement.[7] MHFA is an eight-hour didactic certification program, led by trained educators, that aims to equip learners with the skills needed to navigate various mental health scenarios. MHFA has been demonstrated to have positive effects on pharmacist and student pharmacist knowledge and confidence.[7-9]

In addition to didactic-based learning, experiential learning opportunities have traditionally been a key component to professional development and are consistently utilized in health profession education.[10] For pharmacy students, application of didactic mental health knowledge and skills is generally limited to fourth-year student pharmacist psychiatric rotations with advanced pharmacy practice experiences. Inclusion of mental health education in the pharmacy curriculum is essential in preparing practice-ready pharmacists, and the application of didactic knowledge is essential for confidence and skill development —the primary reason for fourth-year student pharmacist experiential rotation requirements.[11] Applied learning in mental health care scenarios has demonstrated positive effects on student

pharmacist perceptions of stigma and on student confidence.[12,13]

Given the high prevalence of mental health conditions in the population and the need to improve pharmacists' and student pharmacists' ability to address these conditions, we sought to evaluate the impact of MHFA training, with and without experiential learning, on student pharmacists' knowledge and confidence in navigating mental health conversations. Experiential learning was achieved through a community-pharmacy based depression screening program. The goal of this work was to identify the impact of MHFA training alone versus MHFA training paired with experiential learning experiences on student pharmacist knowledge and confidence regarding mental health. These interventions of MHFA training and experiential learning are intended to prepare future pharmacists to address this unmet mental health need in practice.

## Methods

### *Study Population*

The study was performed at the Wayne State University Eugene Applebaum College of Pharmacy and Health Sciences and included student pharmacists from second (P2) to fourth (P4) year. Students were recruited through an email invitation and student organization list servs that described the nature of the study and participation by the student. Interested students responded to the email and were given further information. Any currently enrolled P2 to P4 student pharmacist was eligible for the study. Students who decided to participate completed informed consent prior to any involvement in the study. The consent process and all study procedures were approved by Wayne State University's Institution Review Board.

### *Study Design and Intervention*

This study was an observational cohort study with pre- and post-intervention knowledge and confidence surveys. All participating student pharmacists completed the pre-survey prior to participating in the MHFA training in May 2023.

The MHFA training was taught by a certified MHFA instructor. During the training, student pharmacists learned about recognizing the symptoms and warning signs of a variety of mental health conditions, and created patient action plans for crisis and non-crisis situations. Student pharmacists also practiced administering and interpreting the Patient Health Questionnaire-9, the depression screening tool used during the experiential learning portion of the study.

After successful completion of the MHFA training, students could opt to participate in a depression screening program (as the experiential learning portion, herein referred to as depression screening events or depression screening group) at a local community pharmacy, which ran from June to July 2023. As this study was considered a feasibility study, we did not randomize the students to participate in the experiential learning portion of the study, but rather allowed students to self-select. A total of 12 depression screening events were held, during which the student pharmacists screened 70 patients for depression and provided education and referral resources. All participating students retook the pre-survey as the post-survey in July 2023, regardless of whether they participated in the depression screening program.

The knowledge survey included 16 true/false questions, while the confidence survey included eight questions rated on a five-point Likert scale from "very unconfident" to "very confident." The knowledge and self-rated confidence surveys were developed and validated by the creators of the MHFA training course and used in previously published studies.[14-17] The mean knowledge composite score is the average knowledge survey score across all 16 true/false knowledge statements for all student pharmacists in each group. The total confidence score is the sum of the Likert ratings across all survey item responses (very unconfident = 1, unconfident = 2, neutral = 3, confident = 4, very confident = 5). The cumulative composite score is the difference in total confidence scores between pre- and post-surveys, and gives an idea of the increase in confidence scores from pre- to post-survey.

### *Statistical Methods*

All data is summarized with means and standard deviations. Continuous variables were tested for normality by Shapiro-Wilk. All tested variables had a Shapiro-Wilk p-value >0.05 and therefore were not found to deviate from normality. Dichotomous variables (individual true/false knowledge questions) were analyzed between groups with the Fishers Exact. Within-group changes for individual knowledge questions were described by percentage change due to a small sample size, making statistical testing unreliable. Within-group cumulative knowledge survey data was analyzed with paired Student's t-tests. Confidence survey data was analyzed with Mann-Whitney U for paired data tests. Pre- and-post survey data comparisons were made between groups using t-tests and Mann-Whitney U tests, controlling for pre-survey values.

## Results

Twenty student pharmacists consented to participate and completed the study. Four were P2 students, 14 were P3 students, and two were P4 students. Thirteen participated in at least one depression screening event, one student participated in two screening events, and two students participated in three screening events. All 20 students completed both the pre- and post- knowledge and confidence surveys.

### *Knowledge Assessment*

The composite pre-survey knowledge score was not significantly different between groups (P=0.2), but did trend


DOI: https://doi.org/10.24926/iip.v16i2.6452

toward a higher score in the depression screening group at the endpoint (P=0.05) (Table 1). The total composite score demonstrated a small improvement in the depression screening group (70.7% to 75.5% correct), while the MHFA training group who did not participate in depression screenings showed a decrease in score (77.7% to 66.1% correct). One question regarding intoxication with alcohol was significantly different on the pre-survey, with a higher percentage correct in depression screening group. Additionally, the question pertaining to suicide was significantly different between groups at endpoint, with a higher percentage correct in the depression screening group. When comparing pre- to post-survey change between groups, a significant difference was identified for the question on how to deal with individuals who have delusions (P=0.04) and for the total composite score (P=0.03).

***Confidence Survey***

For the confidence pre-survey, the two groups of students did not show any significant differences in survey responses (Table 2). Students in the depression screening group showed significantly increased confidence ratings for all questions except for the statement "Listen and interact without judgment". In contrast, students in the group who did not participate in depression screenings only showed a significant increase in confidence for the statement "Ask a person if they were having suicidal thoughts".

For pre-to-post comparisons between the groups, only the statement "Offer information and support about mental health problems" was significantly different. For this statement, while both groups showed increased confidence, the increase was greater in the depression screening group.

Finally, when comparing the cumulative composite change in confidence Likert scores across all questions, the depression screening group had a significantly greater average composite change (6.9 versus 3.4, P=0.03). This indicates that in the depression screening group the total confidence score across all survey questions increased on average by 6.9 points, while the total confidence score in the group that did not participate in depression screenings increased by 3.4 points.

**Discussion**

These findings suggest that didactic training in mental health paired with experiential learning opportunities may have a greater effect on student pharmacist knowledge and confidence as compared to didactic training in mental health alone. Student pharmacists who participated in both MHFA training and a depression screening event at a local community pharmacy had a significant increase in mental health knowledge compared to those who completed MHFA training alone. Furthermore, students completing MHFA training alone had a significant decrease in knowledge scores. Similarly, when comparing a cumulative composite for the confidence survey, students who participated in the depression screening events showed a significantly greater increase in confidence (mean cumulative increase of 6.9 Likert points) compared to students who only completed mental health training (mean cumulative increase of 3.4 Likert points). While MHFA training provides a strong framework for learning that can increase student pharmacist confidence, pairing the training with experiential learning opportunities appears to be important for further increasing student knowledge retention and confidence.

Studies have indicated that PharmD programs are lacking in mental health education and training and, furthermore, that community pharmacists are not comfortable providing these services.[18,19] MHFA training equips practitioners with the skills and confidence to navigate mental health conversations in community-based settings. MHFA training has demonstrated a positive impact on student pharmacist outcomes, including lowered stigma and increased knowledge and confidence.[7,20,21] A study by O'Reilly and colleagues, for example, compared student pharmacists who completed MHFA training to those who did not, and identified a significantly lower rate of stigmatizing attitudes, higher knowledge abilities of mental health, and a higher rate of self-confidence scores in the students who underwent MHFA training compared to those that did not.[20] Our findings here indicate that MHFA training alone did increase confidence scores, but to a lesser degree when compared to students who also underwent experiential learning opportunities through a depression screening event.

Although the difference in knowledge scores between the groups was driven by a significant 11.6% decrease in the group who did not participate in screening, no single question reached statistical significance for a decrease from pre- to post-survey within that group. Explanations for this change in knowledge score between the groups could include the possibility that experiential learning opportunities through depression screening events served as a refresher for previously learned content, or that these findings could reflect a bias toward those desiring to apply their knowledge-based skills in a real-world setting through screening events. Further research should seek to randomize students into two groups to minimize such biases and further understand the effects of MHFA training alone versus paired with experiential learning opportunities.

In contrast to the knowledge scores, the depression screening group's confidence ratings increased significantly for all but one of the confidence questions, while only one confidence question increased significantly in the non-depression screening group. For the six survey questions in the depression screening group, 100% of students indicated that they were confident or very confident at follow-up; for the two remaining questions, 92.3% of students rated themselves confident or very confident. Within the MHFA training group

(no screening events), no survey question at follow-up had 100% of students rating themselves confident or very confident, and the highest number of students rating confident or very confident on a question was 85.7%. Despite these differences, only one question demonstrated a statistically significant group difference; three questions, however, did show a trend (P<0.1). The lack of individual question difference between the groups may have been due to the small sample size per group in the analysis.

Some strengths of our study include the use of an innovative, experiential learning opportunity conducted in a community pharmacy setting utilizing student pharmacists, and completion rates of pre- and post-surveys of 100% for students completing the study. Some limitations to our study include a small sample size and the convenience group selection process, which limits the generalizability of our findings. Non-randomization could lead to bias, with students completing the depression screening events being more interested, wanting to apply their skills, or believing they required practice by applying their skills. Future work should confirm our findings with randomization. Finally, this study did not include a control group that did not undergo any training (i.e., no MHFA training), but only experiential application with the depression screenings. Future work should consider comparing the effect of depression screening on student confidence with and without MHFA training.

**Conclusion**

Pairing MHFA training with experiential learning through a depression screening program may improve student pharmacists' mental health knowledge and confidence, demonstrating the importance of real-world application in community settings. This approach has broad implications for reducing the gap in mental health care, as it better equips student pharmacists to engage in effective patient conversations and interventions. Future studies should aim to expand on these findings with larger, randomized, and controlled cohorts to evaluate the long-term impact on patient outcomes.

**Acknowledgements:** The authors thank the following people for their support and collaboration in this project: Patricia Dixon, Michelle Baker, Kyle Metz, Eleonora Huskey, Joy Fakhouri, Greg Glowacki, Joseph Fava, Lorden Kassab, and Brian Reed.

**Funding:** This project was grant funded by the District IV National Associations of the Boards of Pharmacy/American Association of the Colleges of Pharmacy Future Pharmacists Award.

**Conflicts:** We declare no conflicts of interest or financial interests that the authors or members of their immediate families have in any product or service discussed in the manuscript, including grants (pending or received), employment, gifts, stock holdings or options, honoraria, consultancies, expert testimony, patents, and royalties.
**Disclaimer:** The statements, opinions, and data contained in all publications are those of the authors.

**References**

1. Health NIoM. Mental Health Treatment — AMI. Accessed October 18, 2024, https://www.nimh.nih.gov/health/statistics/mental-illness#part_2540
2. Handy A, Mangal R, Stead TS, Coffee RL, Jr., Ganti L. Prevalence and impact of diagnosed and undiagnosed depression in the United States. *Cureus*. Aug 2022;14(8):e28011. doi:10.7759/cureus.28011
3. Henriksen CA, Stein MB, Afifi TO, Enns MW, Lix LM, Sareen J. Identifying factors that predict longitudinal outcomes of untreated common mental disorders. *Psychiatr Serv*. Feb 1 2015;66(2):163-70. doi:10.1176/appi.ps.201300564
4. Taylor HL, Menachemi N, Gilbert A, Chaudhary J, Blackburn J. Economic burden associated with untreated mental illness in Indiana. *JAMA Health Forum*. Oct 6 2023;4(10):e233535. doi:10.1001/jamahealthforum.2023.3535
5. Werremeyer A, Bostwick J, Cobb C, et al. Impact of pharmacists on outcomes for patients with psychiatric or neurologic disorders. *Ment Health Clin*. Nov 2020;10(6):358-380. doi:10.9740/mhc.2020.11.358
6. Murphy AL, Phelan H, Haslam S, Martin-Misener R, Kutcher SP, Gardner DM. Community pharmacists' experiences in mental illness and addictions care: a qualitative study. *Subst Abuse Treat Prev Policy*. Jan 28 2016;11:6. doi:10.1186/s13011-016-0050-9
7. McKeirnan KC, MacCamy KL, Robinson JD, Ebinger M, Willson MN. Implementing Mental Health First Aid training in a Doctor of Pharmacy program. *Am J Pharm Educ*. Aug 2023;87(8):100006. doi:10.1016/j.ajpe.2023.01.001
8. Frick A, Osae L, Ngo S, et al. Establishing the role of the pharmacist in mental health: Implementing Mental Health First Aid into the doctor of pharmacy core curriculum. *Curr Pharm Teach Learn*. Jun 2021;13(6):608-615. doi:10.1016/j.cptl.2021.01.027
9. Crespo-Gonzalez C, Dineen-Griffin S, Rae J, Hill RA. Mental health training programs for community pharmacists, pharmacy staff and students: A systematic review. *Res Social Adm Pharm*. Nov 2022;18(11):3895-3910. doi:10.1016/j.sapharm.2022.06.006
10. Yardley S, Teunissen PW, Dornan T. Experiential learning: transforming theory into practice. *Med Teach*. 2012;34(2):161-4. doi:10.3109/0142159x.2012.643264
11. Parker WM, Donato KM, Cardone KE, Cerulli J. Experiential education builds student self-confidence in delivering medication therapy management. *Pharmacy (Basel)*. Jul 11 2017;5(3) doi:10.3390/pharmacy5030039

12. Tran AR, Patel SA, Loera LJ, Smith T, Catanzano S. The impact of early direct-contact experiences on reducing mental health stigma among student pharmacists: A pilot study. *Ment Health Clin*. Feb 2024;14(1):73-78. doi:10.9740/mhc.2024.02.073
13. Zolezzi M, Ghanem R, Elamin S, Eltorki Y. Opinions and experiences on the provision of care to people with mental illnesses: a qualitative study with Doctor of Pharmacy graduates after a rotation in psychiatry. *Int J Clin Pharm*. Oct 2023;45(5):1223-1230. doi:10.1007/s11096-023-01646-1
14. Kitchener BA, Jorm AF. Mental health first aid training for the public: Evaluation of effects on knowledge, attitudes and helping behavior. *BMC Psychiatry*. Oct 1 2002;2:10. doi:10.1186/1471-244x-2-10
15. Ashoorian D, Albrecht KL, Baxter C, et al. Evaluation of Mental Health First Aid skills in an Australian university population. *Early Interv Psychiatry*. Oct 2019;13(5):1121-1128. doi:10.1111/eip.12742
16. Bond KS, Jorm AF, Kitchener BA, Reavley NJ. Mental health first aid training for Australian medical and nursing students: an evaluation study. *BMC Psychol*. 2015;3(1):11. doi:10.1186/s40359-015-0069-0
17. Dulellari S, Vesey M, Mason NA, Marshall VD, Bostwick JR. Needs assessment and impact of mental health training among doctor of pharmacy students. *Curr Pharm Teach Learn*. Jun 2022;14(6):729-736. doi:10.1016/j.cptl.2022.06.003
18. Goodman CS, Smith TJ, LaMotte JM. A survey of pharmacists' perceptions of the adequacy of their training for addressing mental health-related medication issues. *Ment Health Clin*. Mar 2017;7(2):69-73. doi:10.9740/mhc.2017.03.069
19. Akour A, Halloush S, Nusair MB, Barakat M, Abdulla F, Al Momani M. Gaps in pharmaceutical care for patients with mental health issues: A cross-sectional study. *Int J Clin Pharm*. Aug 2022;44(4):904-913. doi:10.1007/s11096-022-01391-x
20. O'Reilly CL, Bell JS, Kelly PJ, Chen TF. Impact of mental health first aid training on pharmacy students' knowledge, attitudes and self-reported behaviour: a controlled trial. *Aust N Z J Psychiatry*. Jul 2011;45(7):549-57. doi:10.3109/00048674.2011.585454
21. Vickery PB, Wick K, McKee J. Evaluating the perceptions of a required didactic Mental Health First Aid training course among first-year pharmacy students. *Curr Pharm Teach Learn*. Sep 2023;15(9):824-828. doi:10.1016/j.cptl.2023.07.014

**Table 1.** Knowledge Assessment

| Knowledge Question | % Correct (Pre-Survey) | | % Correct (post-survey) | | % Correct Change | | P-value Between Group Pre-Survey to Post-Survey |
|---|---|---|---|---|---|---|---|
| | Depression Screening Group (n=13) | MHFA Training Alone (n=7) | Depression Screening Group (n=13) | MHFA Training Alone (n=7) | Depression Screening Group (n=13) | MHFA Training Alone (n=7) | |
| If a person who is depressed does not want to seek professional help, it is important to force them if you can | 92.3 | 85.7 | 92.3 | 85.7 | 0 | 0 | 1 |
| Exercise can help relieve depressive and anxiety disorders | 92.3 | 100 | 100 | 100 | 7.7 | 0 | 0.45 |
| Recovery from anxiety disorders requires facing situations | 92.3 | 100 | 69.2 | 85.7 | -23.1 | -14.3 | 0.64 |
| Antidepressant medications can be an effective treatment for most anxiety disorders | 100 | 100 | 92.3 | 57.1 | -7.7 | -42.9 | 0.06 |
| When interacting with a person with psychosis, it is best not to offer them choices on how you can help them because it can add to their confusion | 53.8 | 85.7 | 38.5 | 42.9 | -15.3 | -42.8 | 0.54 |
| A person with a psychotic illness is less likely to relapse if they have a good relationship with their family | 61.5 | 85.7 | 84.6 | 57.1 | 23.1 | -28.6 | 0.16 |
| A good way to help a person with a drug or alcohol problem is to let them know that you strongly disapprove of their substance use | 84.6 | 85.7 | 76.9 | 100 | -7.7 | 14.3 | 0.52 |
| People with mental illness are much more likely to be smokers | 69.2 | 85.7 | 53.8 | 42.9 | -15.4 | -42.8 | 0.18 |
| It is not a good idea to ask someone if they are feeling suicidal in case you put the idea in their head | 84.6 | 85.7 | 100 | 57.1[a] | 15.4 | -28.6 | 0.09 |
| If a person is cutting themselves to cope with emotional distress, you should avoid expressing a strong negative reaction to the self-injury | 76.9 | 100 | 69.2 | 85.7 | -7.7 | -14.3 | 0.44 |
| It is best to get someone having a panic attack to breathe into a paper bag | 15.4 | 14.3 | 92.3 | 57.1 | 76.9 | 42.8 | 0.34 |
| If someone has a traumatic experience, it is best to make them talk about it as soon as possible | 69.2 | 85.7 | 69.2 | 85.7 | 0 | 0 | 0.55 |
| It is best not to try to reason with people having delusions | 53.8 | 71.4 | 61.5 | 28.6 | 7.7 | -42.8 | 0.04 |
| If a person is intoxicated with alcohol, it is not possible to make them sober up more quickly by giving them strong coffee, a cold shower, or taking them for a walk | 69.2 | 14.3[a] | 61.5 | 42.9 | -7.7 | 28.6 | 0.30 |
| If a person becomes unconscious after taking drugs, it is best to lay them on their side rather than on their back | 92.3 | 100 | 100 | 100 | 7.7 | 0 | 0.45 |
| If a mentally ill person becomes aggressive, they will generally calm down if spoken to firmly | 23.1 | 42.9 | 46.2 | 28.6 | 23.1 | -14.3 | 0.40 |
| **Composite Knowledge Score** | **70.7** | **77.7** | **75.5** | **66.1** | **4.8** | **-11.6** | **0.03** |

[a] Significant difference between groups at given timepoint.

**Table 2.** Confidence Survey

| Confidence Statement | % Confident or Very Confident (Pre-Survey) | | % Confident or Very Confident (Post-Survey) | | P-value Between Group Pre-Survey to Post-Survey |
|---|---|---|---|---|---|
| | Depression Screening Group (n=13) | MHFA Training Alone (n=7) | Depression Screening Group (n=13) | MHFA Training Alone (n=7) | |
| Recognize signs of mental health problems | 53.8 | 71.4 | 100.0[b] | 85.7 | 0.07 |
| Approach someone experiencing a mental health problem | 30.8 | 28.6 | 92.3[b] | 57.1 | 0.3 |
| Ask a person if they were having suicidal thoughts | 38.5 | 14.3 | 92.3[b] | 85.7[b] | 0.4 |
| Listen and interact without judgment | 92.3 | 100.0 | 100.0 | 85.7 | 0.3 |
| Offer information and support about mental health problems | 69.2 | 57.1 | 100.0[b] | 71.4 | 0.01 |
| Encourage a person to seek appropriate professional help | 69.2 | 85.7 | 100.0[b] | 85.7 | 0.06 |
| Encourage a person to seek other support | 92.3 | 85.7 | 100.0[b] | 85.7 | 0.06 |
| Recognize and correct misconceptions about mental health problems | 69.2 | 85.7 | 100.0[b] | 71.4 | 0.4 |
| **Total Survey Score** | **29.3 ± 4.0** | **29.9 ± 5.6** | **36.2 ± 3.5** | **33.2 ± 5.6** | **0.03** |
| **Composite Survey Score Mean Change** | **N/A** | **N/A** | **6.9** | **3.4** | **0.03** |

[a] Significant difference between groups at given timepoint. [b] Significant difference within group from pre-survey to post-survey.

[b]Total Survey Score is reported as Mean ± standard deviation