

## Stigmatizing beliefs: How leading patient medication education groups on an inpatient psychiatric unit impacts pharmacy learners

Ashley Hillman, PharmD, BCPS<sup>1,2</sup>; Lindsey Kennedy, PharmD, BCPP, BCPS<sup>1,2</sup>;  
 Shauna Garris, PharmD, BCPP, BCPS<sup>1,2</sup>; Jacqueline E. McLaughlin, PhD, MS<sup>3</sup>;  
 Denise H. Rhoney, PharmD, FCCP, FCCM, FNCS<sup>4</sup>

**How to cite** Hillman A, Kennedy L, Garris S, McLaughlin JE, Rhoney DH. Stigmatizing beliefs: how leading patient medication education groups on an inpatient psychiatric unit impacts pharmacy learners. *Ment Health Clin* [Internet]. 2015;5(4):162-8. DOI: 10.9740/mhc.2015.07.162.

### Abstract

**Introduction:** Stigma is an important challenge facing patients with mental illness. Stigmatizing attitudes may impact the quantity and quality of care patients receive. Interaction with these patients may reduce stigmatizing attitudes in pharmacy learners. Patient medication education groups (PMEGs) provide learners with an opportunity for this interaction. The objectives of the study were to evaluate pharmacy learner's attitudes toward patients with mental illness and their comfort and ability to provide pharmaceutical services to this population before and after leading a PMEG on an adolescent inpatient psychiatric unit and to evaluate the feasibility of a larger, future trial.

**Methods:** Third- or fourth-year student pharmacists or first-year pharmacy residents observed a postgraduate year-2 (PGY2) pharmacy specialty resident in psychiatry leading PMEGs on the adolescent unit of an inpatient psychiatric hospital. Then, they discussed their own ideas for design and delivery of a group (with feedback from the PGY2 resident) and, under observation of the PGY2, led their own group. The study used a mixed-methods approach consisting of a presurvey and postsurvey learning experience survey as well as reflective statements. The presurvey consisted of 2 previously validated measures that evaluate stigma toward people with mental illness—the Social Distance Scale (SDS) and the Opening Minds Scale for Health Care Providers (OMS-HC). The postsurvey also consisted of the SDS and OMS-HC and included program evaluation questions that examined the learners' impression of patients with mental illness, their ability and comfort with providing pharmaceutical services to patients with mental illness, and their reflections on the experience.

**Results:** Seven pharmacy learners participated, and 5 completed both the prelearning and postlearning experience survey for a 71% response rate. There was a median decrease in stigmatizing beliefs of 1 point on the SDS, and a median 5-point drop in the OMS-HC scale. The postintervention questions yielded results primarily of strongly agree or agree with the statements evaluating the other objectives, and the reflection statements brought up the additional value of the educational intervention. Finally, the feasibility and value of a larger trial were confirmed.

**Discussion:** The value of pharmacy learners teaching PMEGs on stigmatizing beliefs toward patients with mental illness was confirmed. The effectiveness of a model of observing, designing, and delivering a PMEG was also postulated and will be further examined with a larger trial. Future research will also focus on examining the impact of this model on patient outcomes.

**Keywords:** Patient Medication Education Groups, pharmacy education, mental health stigma

<sup>1</sup> (Corresponding author) Clinical Pharmacy Specialist in Psychiatry, University of North Carolina Medical Center, Chapel Hill, North Carolina, [adhillman01@gmail.com](mailto:adhillman01@gmail.com); <sup>2</sup> Clinical Pharmacy Specialist in Psychiatry, University of North Carolina Eshelman School of Pharmacy, Chapel Hill,

North Carolina; <sup>3</sup> Assistant Professor, Educational Innovation and Research Director, Office of Strategic Planning and Assessment, University of North Carolina Eshelman School of Pharmacy, Chapel Hill, North Carolina; <sup>4</sup> Ron and Nancy McFarlane Distinguished Professor and

## Introduction

Norman Sartorius, former director of the World Health Organization's Division of Mental Health and former president of the World Psychiatric Association, defined stigma as a negative attitude, based on prejudice and misinformation that is triggered by a marker of an illness.<sup>1</sup> Stigma varies from the insidious terminology perpetuating cultural beliefs to blatant discrimination. In its 2001 World Health Report, The World Health Organization stated that mental health stigma is the greatest impediment to the provision of effective mental health care in the community.<sup>2</sup> They quote the US surgeon general as saying "stigma deters the public from wanting to pay for care, and thus, reduces consumers' access to resources and opportunities for treatment and social services. A consequent inability or failure to obtain treatment reinforces destructive patterns of low self-esteem, isolation, and hopelessness. Stigma tragically deprives people of their dignity and interferes with their full participation in society."<sup>3</sup> In the World Health Organization's Mental Health Action Plan from 2013 to 2020, they call for a reduction in mental health stigma.<sup>2,3</sup>

Health care providers, including pharmacists, may hold these attitudes, and there are indications that this may affect patient care. In a study examining the experiences had by people with mental illness at community pharmacies, researchers reported that patients with mental illness appeared to receive fewer pharmacy services than those with cardiovascular disorders and that 25% of the patients with mental illness reported stigmatizing attitudes from their community pharmacists.<sup>4</sup> Although the pharmacists in these community pharmacies reported generally positive attitudes toward users of psychiatric medications, they reported feeling more uncomfortable talking about these medications than cardiovascular medications.<sup>4</sup> In a similar survey of community pharmacists in Belgium, researchers found that fulfilling the role of providing care to depressed patients was more difficult than for other medical conditions.<sup>5</sup> Stigmatizing attitudes were also found in a survey of Alabama pharmacists, which suggested that up to 20% of pharmacists were less able or less interested in providing services to those with mental illness than to those with other conditions.<sup>6</sup>

With literature demonstrating a need to improve pharmacists' attitudes and level of comfort with providing pharmaceutical services to patients with mental illness, a number of programs and opportunities have been

designed and implemented for pharmacy school students. A survey comparing third-year pharmacy students (who had yet to go through the mental health portion of their curriculum or participate in clinical rotations) with recent pharmacy school graduates (who had completed the program) found no significant differences on the Social Distance Scale (SDS), a measure of mental health stigma.<sup>7</sup> The authors concluded that lectures and clinical rotations do not reduce students' stigmatizing attitudes toward people with mental illness. However, interventions that include direct contact with this patient population, including guest speakers with mental illness, tours of psychiatric hospitals, and direct patient interviews, have resulted in significant improvements in stigmatizing attitudes,<sup>8-15</sup> confidence, ability, and interest toward providing pharmaceutical services to consumers with mental illness,<sup>8,10-12</sup> and a significant decrease in negative attitudes toward people with mental illness.

Although the literature has demonstrated that pharmacist-led patient medication education groups (PMEGs) in psychiatry can improve appropriate medication use in patients and decrease total drug costs,<sup>16</sup> there is a gap in the literature concerning the effect of teaching PMEGs on the educational outcomes of pharmacy students or residents who teach these groups. The purpose of this pilot study was to examine learner experiences with a PMEG on an adolescent inpatient psychiatric unit within the layered learning practice model (LLPM). Specifically, this study examined learners' stigmatizing attitudes toward people with mental illness and learner comfort and ability to provide education to this patient population. In addition, this study examined the feasibility of expanding the model across additional units.

## Methods

### Study Objectives

The study objectives were to evaluate pharmacy learners' attitudes toward patients with mental illness and their comfort and ability to provide pharmaceutical services to this population before and after leading a medication education group on an inpatient psychiatric unit and to determine the feasibility of expanding the model.

### Selection and Description of Participants

This study was approved by the University of North Carolina (UNC) institutional review board. Participants were recruited from fourth-year doctor of pharmacy students and postgraduate year-1 (PGY1) pharmacy residents on a psychiatric clinical rotation at the UNC Medical Center, and from third-year pharmacy students at the UNC Eshelman School of Pharmacy who had

completed the required psychiatry coursework and were members of the local College of Neurologic and Psychiatric Pharmacists (CPNP) student chapter. To implement the PMEGs, the UNC Medical Center, in conjunction with the UNC Eshelman School of Pharmacy, utilized the LLPM. The LLPM, based on the structure seen in medical education, integrates pharmacy clinical specialists, generalists, first- and second-year residents, students, and technicians into the interdisciplinary health care team in order to provide expanded patient care services and enhance the learning experience. An attending clinical pharmacy specialist in conjunction with other pharmacy professionals and learners creates many layers of learning, with each layer contributing knowledge, skills, and ability to the layers below and above. This model of teaching and learning was utilized in the training of the study participants.

## Procedures

Seven participants were selected to participate in this pilot study. Participants were asked to complete a presurvey prior to engaging in the PMEGs. The presurvey consisted of identifying the student's year in school or residency, whether the experience was a part of an assigned rotation, whether the student had previous experience working in a pharmacy, and whether the student had previous experience or interaction as a provider with patients with mental illness. The presurvey identified initial stigmatizing beliefs using an adaptation of a previously validated survey instrument, the Social Distance Scale (SDS), which is often used in evaluating pharmacy students' stigmatizing beliefs, and a reproduction of another previously validated instrument, the Opening Minds Scale for Health Care Providers (OMS-HC), which has also been used to assess pharmacy students' stigmatizing beliefs.<sup>17,18</sup>

Following the presurvey, all participants received training on how to lead a medication education group from the PGY2 psychiatric pharmacy specialty resident. The training included meeting with the study participants before the group to discuss basic safety on the unit as well as expectations and interests. The study participants then observed the PGY2 or other student leading the group and were frequently included in activities. Following the completion of the initial observation of a group, a group debrief was held with the study participants to discuss any thoughts they had about the group design, the patients' behaviors and attitudes, and any insights they had gained. At that time, the study participants were given access to the CPNP Web site containing resources for PMEGs and given directions to design a group of their own within specific parameters: focusing on either basic self-care topics that would promote good patient outcomes or on

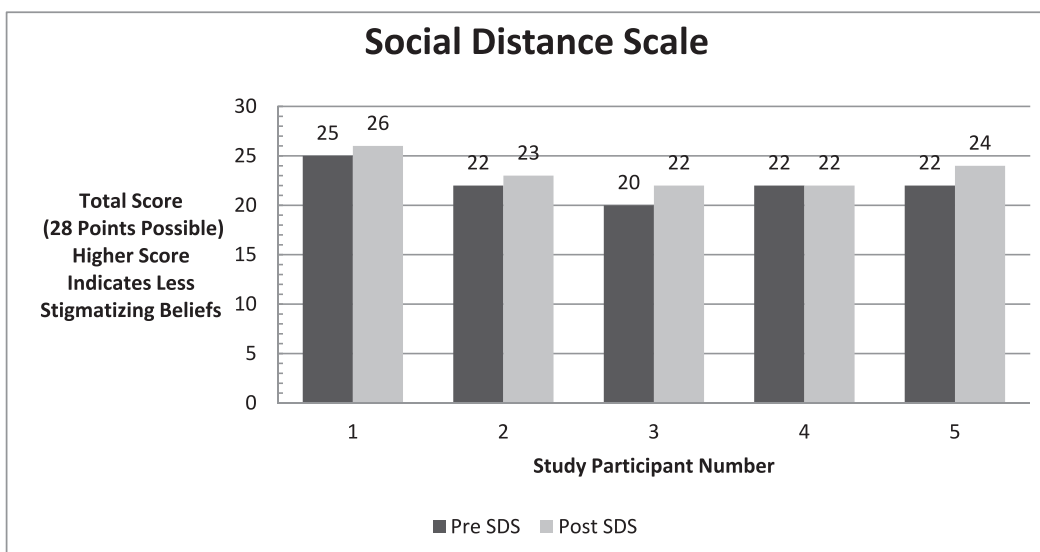
drug-specific information. Study participants were given a list of the medications being used on the unit with diagnosis codes to target their drug-specific education should they wish to utilize that modality. Study participants then drafted a plan for implementing a PMEG and submitted this to the PGY2 prior to leading the group; they were provided feedback. Each study participant was then scheduled to lead one group with the PGY2 resident present; a second resident at times attended depending on availability. Following the completion of the group, the PGY2 resident gave feedback to improve future patient interactions and discuss the interactions during the group. Following the delivery of the program, the study participants completed a postsurvey roughly 1 week to 1 month following the presurvey depending on whether they were on an assigned rotation or volunteers. The postsurvey repeated the adapted SDS and the OMS-HC and included several additional questions designed by the PGY2 resident to assess the effectiveness of the intervention on increasing students' comfort and ability to provide medication education to patients with mental illness. The postsurvey also included several reflection questions directed at capturing participant experiences. The full survey is available as supplemental material (See <http://dx.doi.org/10.9740/mhc.2015.07.162.s1>).

## Statistics

Descriptive statistics were utilized to describe study participant characteristics and responses. All analyses were performed using Microsoft Excel 2010 (Microsoft, Redmond, WA). The qualitative data from the reflection questions were analyzed by thematic coding. Eloquent quotes representing the identified categories were chosen and are reported below.

## Results

Seven total learners participated by observing one PMEG and leading one PMEG on the adolescent unit of the inpatient psychiatric hospital. Of the 7 learners, 5 completed both the prelearning and postlearning experience survey (71% response rate). The 2 learners who did not complete both surveys completed the presurvey but did not complete the postsurvey before the close of the study period, despite frequent e-mail requests to all study participants to complete the follow-up survey. Two of the learners were from an assigned rotation; of those, 1 was a fourth-year student and 1 was a first-year resident. The additional 5 were third-year students from the UNC Eshelman School of Pharmacy CPNP group. Four of the 7 (57%) had worked in a pharmacy before this experience, and none had had experience treating patients with mental illness or leading a PMEG. The results from the validated scales used to measure stigmatizing beliefs are

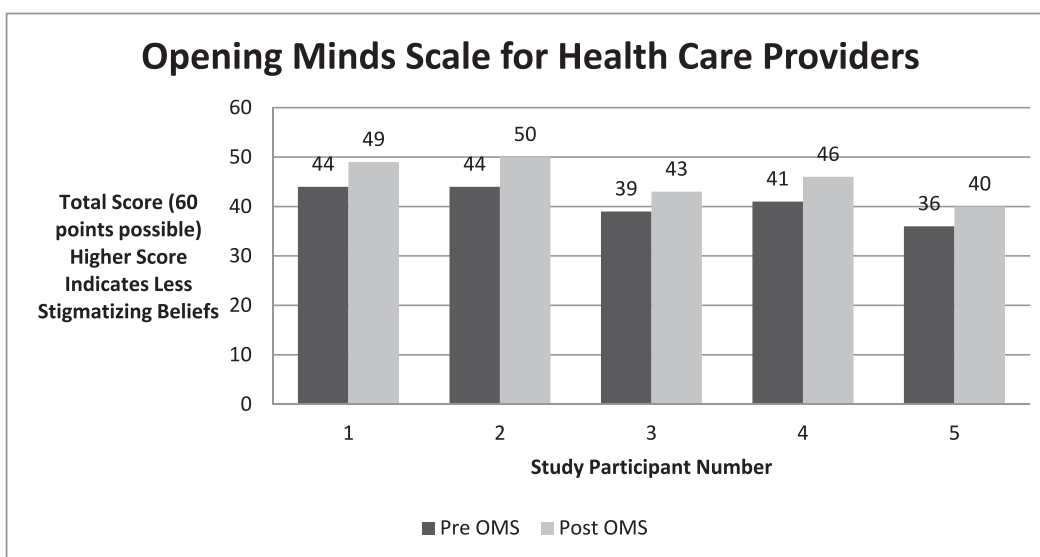


**FIGURE 1:** Social distance scale prescores and postscores

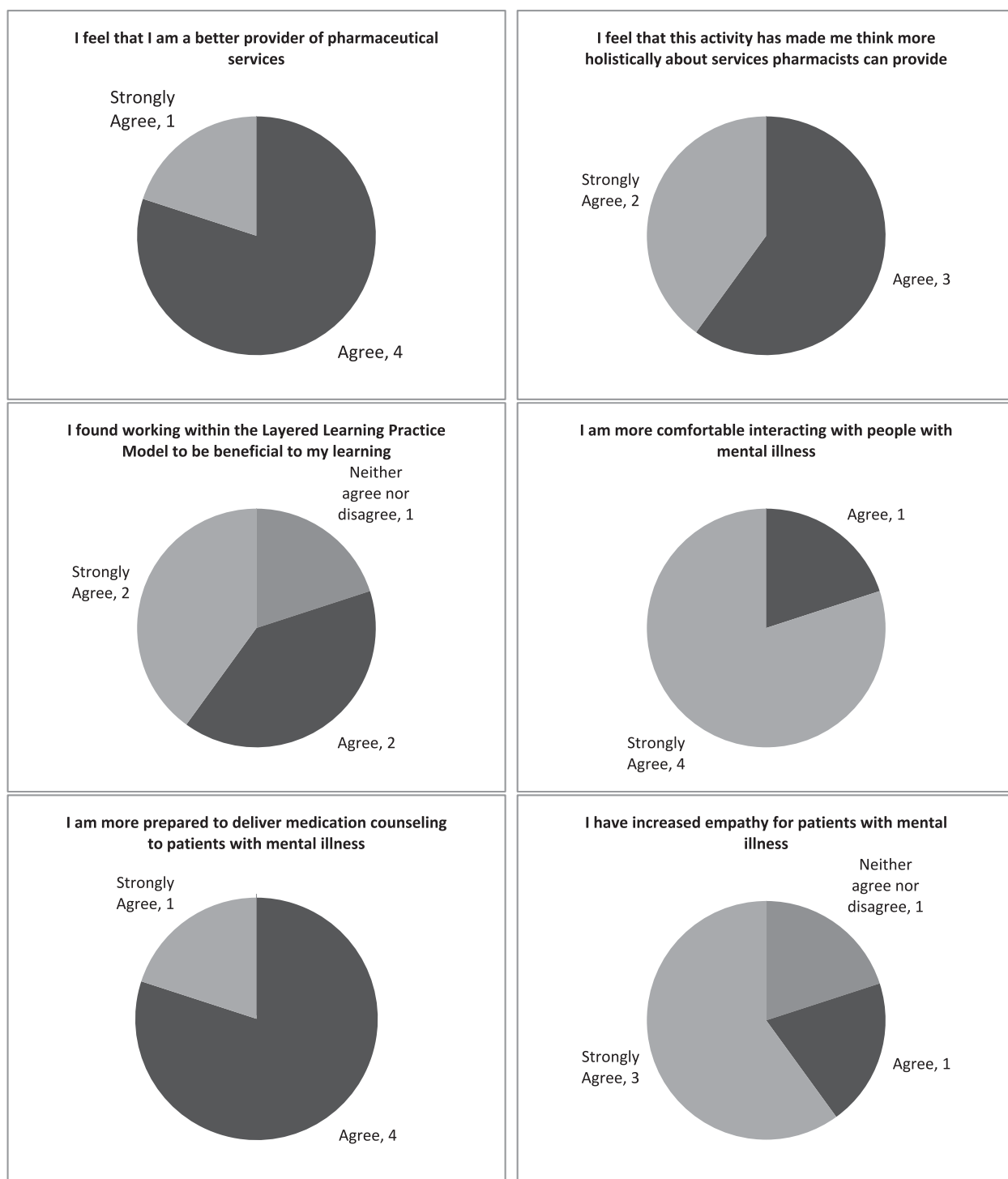
presented in Figure 1 (SDS) and Figure 2 (OMS-HC). For the 5 learners who completed the presurvey and postsurvey, there was a 0 to 2 point drop, with a median of 1 point in their SDS score and a 4 to 6 point drop, with a median of 5 points in their OMS-HC. The results of the additional questions evaluating the experience as a whole and the LLPM are presented in Figure 3. When assessing perceived improvement in counseling abilities, overall provision of health care services, and improved empathy for patients with mental illness, nearly all learners agreed or strongly agreed that this activity benefited them. When assessing the LLPM, all but one learner agreed or strongly agreed that the layered-learning approach improved their learning.

Finally, the results of the open-ended reflection pieces were consistent with the survey results. Identified themes included ideas about patients' familiarity with medications, the lack of differences between patients with mental illness and other patients, and how learner confidence in interacting with and providing counseling to patients had improved.

Some of the most frequent comments described an astonished attitude with how familiar the adolescents were with their medications. For example, a learner noted that their perceptions of people with mental illness were challenged "because these children were very well informed about their therapies," and the student would "give people [patients] more chances to



**FIGURE 2:** Opening Minds Scale for Health Care Providers (OMS-HC) prescores and postscores



**FIGURE 3:** Unvalidated postintervention survey question results

learn, instead of assuming that something will be ‘over their head.’”

The second most common observation by the learners was that the patients with mental illness were essentially like everyone else. The following in-depth answer exemplifies changed perceptions and describes what

changes the learner will make when interacting with patients with mental illness in the future:

“I think my biggest take-away from this experience is to think of these patients as regular people and treat them with the respect and attention they deserve.”

Another learner noted similar observations.

“I was pleasantly surprised to learn that even though these kids had mental issues to contend with, they were still kids. They enjoyed playing games and eating candy just like any other children would.”

Also common was an additional assertion of how confident the learners now felt with psychiatric medications and patients with mental illness in general. On the topic of learning more about the medications, one participant stated: “I learned a lot about the medications that these children were on, common side effects, and counseling points.”

## Discussion

There is a gap in the literature concerning the impact of teaching PMEGs on pharmacy learners.<sup>10</sup> Several studies have assessed the impact of various interventions for pharmacy school students utilizing the SDS and OMS-HC. One study evaluated the impact of an elective course in pharmacy school on students' attitudes toward persons with mental illness using the SDS as an outcome measure.<sup>14</sup> This study compared prescores and postscores on the SDS for 44 students enrolled in an elective course and compared the post-SDS scores of those students to 234 peers who did not. The elective included a history of psychiatric hospitals, media clips with online discussion, a National Alliance for the Mentally Ill (NAMI) guest speaker, activities focused on the rights of patients with mental illness, and a tour of a psychiatric hospital. The researchers found an average drop in stigmatizing beliefs amounting to 1.4 points on the SDS in students who completed the elective course. When comparing the SDS scores of students after the course with those of peers who did not take the course, there was a statistically significant difference of 3.1 points with students who had taken the course having less-stigmatizing attitudes. Another study of 53 third-year pharmacy students who had completed a 12-hour Mental Health First Aid training compared prescores and postscores on the SDS and found a drop of 2 points.<sup>8</sup> Research using the OMS-HC as an outcome measure, following a 60 to 90 minute contact session with a person with mental illness in their recovery process, demonstrated a roughly 4-point drop in the OMS-HC scale.<sup>23</sup>

Prior research results are fairly consistent with the results found in the present study. Overall, we found a drop of a median of 1 point on the SDS in most of the learners, which is marginally lower than the average 2-point drop found in the studies reviewed in the Introduction section. For the OMS-HC, we found a larger drop of a median of 5

points compared with the average 4-point drop described above. The moderate differences in results found in the present study are likely owing to the unique intervention described. The above interventions included educational activities and contact with patients with mental illness,<sup>8,13</sup> while the PMEG studied here allowed for direct patient contact in the context of teaching about medications in an informal, conversational setting. The direct patient contact time was similar with 1 to 2 hours; however, some of the elective courses described above<sup>8,13</sup> had specific targeting of lectures toward decreasing stigmatizing attitudes, possibly explaining the smaller drop in the SDS score found in the present study. The LLPM PMEG may have resulted in a larger drop in the OMS-HC as this scale is targeted toward health care providers, and the PMEGs are an activity that may have a larger impact on attitudes toward providing care than when in a social setting. The OMS-HC may also be more sensitive than the SDS to changing attitudes in health care providers that would have a direct impact on patient care.

There are several limitations to the present study. This was a nonrandomized group of learners with some interest in learning more about patients with mental illness and their treatment. They all had very low baseline stigmatizing attitudes toward people with mental illness, so finding a change following an intervention is more difficult. In addition, it was a very small sample, such that statistical calculations were difficult and impractical to perform on the survey data; however, the qualitative data collected and analyzed from the reflection statements provided rich support for findings from the presurvey and postsurvey. Although several of the questions from the presurvey and postsurvey were written by the researchers for programmatic assessment, the vast majority of survey questions were from previously validated measures of stigmatizing beliefs toward patients with mental illness. While there are some data limitations, this was a pilot study designed to examine the feasibility of expanding this model. The present study did validate the model of involving third-year pharmacy students through first-year pharmacy residents in the teaching of PMEGs and provided critical insights into the training of pharmacy learners.

This pilot study found that there were reductions, albeit small, in stigmatizing attitudes following pharmacy learners leading medication education groups on an adolescent, inpatient psychiatric unit. The investigators are currently expanding the scope of PMEGs to additional units of the psychiatric hospital with a larger cohort of pharmacy learners in order to more robustly evaluate the benefit of this type of learning for pharmacy students and its impact on stigmatizing attitudes. The investigators hope that this model decreases stigma in pharmacists and improves comfort and ability to provide education to

patients with mental illness. The overall end-goal of this is to improve access and quality of care for patients with mental illness.

## References

1. Sartorius N. Stigma and mental health. *Lancet*. 2007;370(9590):810-811. DOI: [10.1016/S0140-6736\(07\)61245-8](https://doi.org/10.1016/S0140-6736(07)61245-8).
2. World Health Organization [Internet]. The world health report 2001: mental health—new understanding, new hope. Geneva, Switzerland: World Health Organization; 2001 [cited 2013 May 1]. Available from: [http://www.who.int/whr/2001/en/whro1\\_en.pdf?ua=1](http://www.who.int/whr/2001/en/whro1_en.pdf?ua=1).
3. World Health Organization. Mental health action plan 2013-2020. Geneva, Switzerland: World Health Organization; 2013 [cited 2013 May 1]. Available from: [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R8-en.pdf?ua=1](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R8-en.pdf?ua=1).
4. Phokeo V. Community pharmacists' attitudes toward and professional interactions with users of psychiatric medication. *Psychiatr Serv*. 2004;55(12):1434-6. DOI: [10.1176/appi.ps.55.12.1434](https://doi.org/10.1176/appi.ps.55.12.1434).
5. Scheerder G, De Coster I, Van Audenhove C. Pharmacists' role in depression care: a survey of attitudes, current practices, and barriers. *Psychiatr Serv*. 2008;59(10):1155-60. DOI: [10.1176/appi.ps.59.10.1155](https://doi.org/10.1176/appi.ps.59.10.1155).
6. Cates ME, Burton AR, Woolley TW. Attitudes of pharmacists toward mental illness and providing pharmaceutical care to the mentally ill. *Ann Pharmacother*. 2005;39(9):1450-5. DOI: [10.1345/aph.1G009](https://doi.org/10.1345/aph.1G009). PubMed PMID: [15972325](https://pubmed.ncbi.nlm.nih.gov/15972325/).
7. Bell JS, Johns R, Chen TF. Pharmacy students' and graduates' attitudes towards people with schizophrenia and severe depression. *Am J Pharm Educ*. 2006;70(4):77. DOI: [10.5688/aj700477](https://doi.org/10.5688/aj700477).
8. O'Reilly CL, Bell JS, Kelly PJ, Chen TF. Impact of mental health first aid training on pharmacy students' knowledge, attitudes and self-reported behavior: a controlled trial. *Aust N Z J Psychiatry*. 2011;45:549-57.
9. Einat H, George A. Positive attitude change toward psychiatry in pharmacy students following an active learning psychopharmacology course. *Acad Psychiatry*. 2008;32(6):515-7. DOI: [10.1176/appi.ap.32.6.515](https://doi.org/10.1176/appi.ap.32.6.515).
10. Bell JS, Johns R, Rose G, Chen TF. A comparative study of consumer participation in mental health pharmacy education. *Ann Pharmacother*. 2006;40(10):1759-65. DOI: [10.1345/aph.1H163](https://doi.org/10.1345/aph.1H163). PubMed PMID: [16968823](https://pubmed.ncbi.nlm.nih.gov/16968823/).
11. Nguyen E, Chen TF, O'Reilly CL. Evaluating the impact of direct and indirect contact on the mental health stigma of pharmacy students. *Soc Psychiatry Psychiatr Epidemiol*. 2012;47(7):1087-98. DOI: [10.1007/s00127-011-0413-5](https://doi.org/10.1007/s00127-011-0413-5).
12. O'Reilly CL, Bell JS, Chen TF. Consumer-led mental health education for pharmacy students. *Am J Pharm Educ*. 2010;74(9):1-8.
13. Patten SB, Remillard A, Phillips L, Modgill G, Szeto ACH, Kassam A, et al. Effectiveness of contact-based education for reducing mental illness-related stigma in pharmacy students. *BMC Med Educ*. 2012;12(1):120. DOI: [10.1186/1472-6920-12-120](https://doi.org/10.1186/1472-6920-12-120).
14. Dipaula BA, Qian J, Mehdizadegan N, Simoni-Wastila L. An elective psychiatric course to reduce pharmacy students' social distance toward people with severe mental illness. *Am J Pharm Educ*. 2011;75(4):72. DOI: [10.5688/ajpe75472](https://doi.org/10.5688/ajpe75472).
15. Buhler AV, Karimi RM. Peer-level patient presenters decrease pharmacy students' social distance from patients with schizophrenia and clinical depression. *Am J Pharm Educ*. 2008;72(5):106. DOI: [10.5688/aj7205106](https://doi.org/10.5688/aj7205106).
16. Norman S, Davis E, Goldstone LW. Impact of pharmacist-led or co-led medication education groups on patient outcomes: a literature review. *Ment Health Clin [Internet]*. 2012;2(4):86-90. DOI: [10.9740/mhc.n117932](https://doi.org/10.9740/mhc.n117932).
17. Corrigan PW. Familiarity with and social distance from people who have serious mental illness. *Psychiatr Serv*. 2001;52(7):953-8. DOI: [10.1176/appi.ps.52.7.953](https://doi.org/10.1176/appi.ps.52.7.953).
18. Kassam A, Papish A, Modgill G, Patten S. The development and psychometric properties of a new scale to measure mental illness related stigma by health care providers: the opening minds scale for Health Care Providers (OMS-HC). *BMC Psychiatry*. 2012;12(1):62. DOI: [10.1186/1471-244X-12-62](https://doi.org/10.1186/1471-244X-12-62).