Lakeridge Health Opening Minds Evaluation Report

Stephanie Knaak, Allison Potts, & Scott Patten

1   OPENING MINDS: CHANGING HOW WE SEE MENTAL ILLNESS

As part of its 10-year mandate, The Mental Health Commission of Canada (MHCC) embarked on an anti-stigma initiative called Opening Minds (OM) to change the attitudes and behaviours of Canadians towards people with a mental illness. OM is the largest systematic effort undertaken in Canadian history to reduce the stigma and discrimination associated with mental illness. OM is taking a targeted approach, initially reaching out to healthcare providers, youth, the workforce, and media. OM's philosophy is not to reinvent the wheel, but rather to build on the strengths of existing programs from across the county. As a result, OM has actively sought out such programs, few of which have been scientifically evaluated for their effectiveness. Now partnering with over 80 organizations, OM is conducting evaluations of the programs to determine their success at reducing stigma. OM's goal is to replicate effective programs nationally. A key component of programs being evaluated is contact-based educational sessions, where target audiences hear personal stories from and interact with individuals who have recovered or are successfully managing their mental illness. The success of contact-based anti-stigma interventions has been generally supported throughout international studies as a promising practice to reduce stigma. Over time, OM will add other target groups.

2   BACKGROUND

OM is partnering with programs in Canada reaching out to its initial target groups: youth, healthcare providers, the workforce and news media. One of the partners for healthcare providers is the Lakeridge Health Opening Minds project, led by Ms. Allison Potts, Concurrent Disorders System Integration Lead for Lakeridge Health.

This program was designed specifically for staff working in the emergency department. The program was developed in response to findings from a needs assessment[1] which indicated a desire and interest amongst emergency department staff to learn more about mental illness and stigma.

While the Lakeridge Health program has multiple components, its main content emphasis is that of contact-based education, which has been shown internationally to be successful at reducing stigma (1-2). Contact-based education involves an individual with a mental illness sharing his/her personal story with the audience and then answering questions.

The program is a 45-minute workshop. The workshop consists of three elements: a facilitator-led exercise aimed at promoting thought amongst emergency department staff regarding the particular issue of stigma and mental illness; a personal story of mental illness and recovery provided by a person with lived experience (approximately 10 to 12 minutes); and a question and answer discussion.

In order to support the ongoing impact of the project message, sustainability components were also developed. Specifically, an intranet-based portal with printable downloads, as well as links to information on mental illnesses, addiction, stigma, and videos was developed. Additionally, hard copies of a booklet developed for the project – which reviews key messaging, non-stigmatizing language, information about prevalence, and services available – were disseminated to staff. These sustainability components were provided through the delivery of a booster session, delivered two to three months following the initial intervention. In addition to orientation to the intranet site and the resource booklet, the booster session consists of a short video-recorded presentation featuring a variety of professionals and persons with lived experience with mental illness talking about stigma and stigma experiences, and an individual follow-up discussion with the project lead.[2] While the booster session was intended to be delivered as a group session, scheduling difficulties required offering the booster sessions individually instead of as a group session.

---

[1] Surveys were administered to emergency department staff in the fall of 2010. The needs assessment asked respondents to indicate the extent to which they felt knowledgeable about mental health and addiction, as well as their comfort level in working with individuals with mental health and addiction concerns. 72% of staff responded that they believe stigma about mental health and addiction exists in the emergency department. 23.6% rated "strategies to reduce stigma amongst health professionals" as being of greatest value in supporting their work.

[2] One of the aims of the Lakeridge Health program is to foster a belief amongst emergency department staff that, despite the fact that their contact with patients with mental illness is likely to be short and sporadic, they still have a role in recovery and in instilling hope in people with mental illness. The project's key branding message is "I have a role in recovery."

The Lakeridge Health Opening Minds program was adapted from an existing anti-stigma program, *Mental Illness and Addictions: Understanding the Impact of Stigma,* developed by Ontario's Central Local Health Integration Network (LHIN). Previous evaluations of this intervention – which was implemented at multiple sites in Ontario and British Columbia – have shown it to have a positive incremental impact in reducing stigma amongst hospital staff (3-4).[3]

The Lakeridge program was developed specifically with the needs of emergency departments in mind. Shift work and operational demands can make participation and delivery of educational initiatives a challenge. A shorter program was thus believed to be more suitable, given staff schedules, limited resources, and competing demands on staff time (i.e., in terms of patient care and competing educational course needs). As such, the main difference between the Central LHIN and Lakeridge Health programs is that the Lakeridge Health Opening Minds program is delivered in a shorter period of time (45 minutes versus 1.5 hours), and has additional sustainability components.[4] The Lakeridge Health program was also designed from a concurrent disorders capable perspective. As such, it included substance use and addiction as a key component along with mental illness. Speakers who shared their lived experiences discussed both mental health and substance use concerns.

OM conducted an evaluation of the Lakeridge Health anti-stigma program, which was delivered to approximately 80 emergency room staff at Lakeridge Hospital throughout the months of April to November 2011 (initial session), with the delivery of the booster sessions in early 2012. Further details on the methodology used for this evaluation are provided below.

3 EVALUATION METHODS

In order to assess attitude change towards mental illness amongst emergency department staff, study participants were given a questionnaire package at three different time-points. The first survey was completed before the initial intervention (pre-workshop). The second questionnaire was given to participants immediately following the completion of the initial 45-minute anti-stigma intervention (post-workshop). The final survey was administered following the completion of the short booster session, which was delivered three months after the initial intervention (post-booster).

The pre-workshop survey package contained the 20-item Opening Minds Scale for Health Care Providers (OMS-HC), questions pertaining to experiences with mental illness, and demographic questions (age, gender, training, and professional status). At the post-workshop and post-booster session time periods,

---

[3] In Ontario, the Central LHIN program was delivered to various healthcare provider groups. In British Columbia, the program specifically targeted emergency department staff.

[4] These sustainability components were developed because previous evaluation findings from the initial Central LHIN program suggested a need for booster sessions to help sustain the anti-stigma message over time.(2)

participants completed the 20-item OMS-HC again, so that changes over time could be measured and assessed.

The OMS-HC is a 20-item questionnaire that measures healthcare providers' stigmatizing attitudes towards people with a mental illness. To complete the scale, participants are asked the extent to which they agree or disagree with each item. Items are rated on a 5-point scale: *strongly agree, agree, neither agree nor disagree, disagree,* or *strongly disagree*. To create a total scale score for the OMS-HC, all 20 items are summed for each participant. Total scores can range from 20 to 100, with lower scores indicating less stigmatizing attitudes. (A copy of the OMS-HC scale is included as **Appendix A**.)

For this particular study, Cronbach's alphas were .72 at pre-workshop, .83 at post-workshop, and .85 at follow-up (after the booster session), indicating an acceptable level of internal consistency.

Paired t-tests were used to analyze total scale scores. Lower scores indicate less stigma. Also, by grouping certain questions from the scale together, the OMS-HC can be used to examine two main dimensions of stigma: attitudes towards people with mental illness, and attitudes about disclosure of mental illness. A threshold was also created to measure success, defined as the proportion of respondents who obtained 80% or more correct (non-stigmatizing) responses on the post-test.

4 RESULTS

Approximately 130 emergency room staff were eligible to participate in the program. Of this, 80 participants volunteered for the program, indicating a solid level of interest and uptake.

These 80 participants completed the pre-workshop survey. However, despite providing survey return envelopes, tokens of thanks, and electronic reminders, only 34 of the 80 participants also completed one or both subsequent surveys (for a 42.5% response). Twelve participants completed all three surveys; 24 participants completed both the pre-test survey and the first post-test survey; and 23 participants completed the pre-test survey and the second (post-booster session) follow-up survey.

With only 42.5% of respondents completing the pre-test plus at least one or both of the subsequent surveys, the results should be interpreted with caution, given the high rate of attrition.

4.1 Demographic
Table 1 displays the demographic characteristics of the respondents. As shown in the table, nearly three quarters (73.5%) of those who completed the pre-test survey as well as at least one of the post-test surveys were ER nurses. Only 12% were other emergency department staff, most of whom were clerical, porters, and other service/support staff.

By contrast, of the participants who did <u>not</u> complete one or more post-test questionnaire, nearly 4 in 10 (37%) identified their profession as something other than nursing (most of these respondents indicated their roles as clerical or service and support roles).

The vast majority of respondents who completed at least two of the three surveys were women (82.4%). On average, survey respondents had been practicing in their profession for 12.5 years. Nearly three quarters (73.5%) reported knowing a family member or close friend with a mental illness and 17.6% indicated that they themselves had been treated for mental illness at some point in their lives.

Measures of association revealed that the demographic characteristics of those who completed only the pre-test were not significantly different from those who completed more than one survey. There was one exception: nurses were more likely than other emergency department staff to complete at least one of the post-test surveys. Given that the analysis of survey results and program impact is based on matched data (i.e., participants who completed the pre-test and a post-test and/or follow-up test), the findings reported here are likely to be most reflective of the attitudes and opinions of nurses (as compared to other emergency department staff).

Table 1. Demographic Characteristics of Respondents

Demographic variables	Pre-test + some post (n=34)	Pre-test only (n=46)
Sex		
▪ Female	82.4% (28)	80.4% (37)
▪ Male	2.9% (1)	13.0% (6)
▪ Did not report	14.7% (5)	6.5% (3)
Age group		
▪ 18-29	20.6% (7)	28.3% (13)
▪ 30-39	17.6% (6)	32.6% (15)
▪ 40-49	17.6% (12)	17.4% (8)
▪ 50-59	11.8% (4)	17.4% (8)
▪ Did not report	14.7% (5)	4.3% (2)
Professional status		
▪ Nurse	73.5% (25)	58.7% (27)
▪ Other	11.8% (4)	37.0% (17)
▪ Did not report	14.7% (5)	4.3% (2)
Years in practice (average)	12.5 yrs	13.8 yrs
Ever been treated for a mental illness?		
▪ Yes	17.6% (6)	13.0% (6)
▪ No	64.7% (22)	73.9% (34)
▪ Did not report	17.6% (6)	13.0% (6)
Know family member or close friend with mental illness?		
▪ Yes	73.5% (25)	63.0% (29)
▪ No	8.8% (3)	23.9% (11)
▪ Did not report	17.6% (6)	13.0% (6)

4.2 Baseline

In general, baseline responses (i.e., respondents' total pre-test OMS-HC scores) did not differ according to respondents' gender, age, profession, or years in practice. **Table 2** shows these results.

Table 2. Baseline OMS-HC Score by Demographic Characteristics

Demographic variables	Total Score OMS-HC (baseline)
Sex	
▪ Female	48.5 *(n=64)*
▪ Male	48.3 *(n=7)*
▪ Not stated/missing	51.1 *(n=9)*
Age group	
▪ 18-29	50.4 *(n=20)*
▪ 30-39	49.8 *(n=21)*
▪ 40-49	46.7 *(n=19)*
▪ 50-59	48.2 *(n=12)*
▪ Not stated/missing	50.4 *(n=8)*
Profession	
▪ Nurse	49.0 *(n=52)*
▪ Other	48.7 *(n=20)*
▪ Not stated/missing	50.4 *(n=8)*
Had been treated for a mental illness?	
▪ No	49.0 *(n=55)*
▪ Yes	46.8 *(n=12)*
▪ Not stated/missing	53.6 *(n=13)*
Know close family member or friend with mental illness?	
▪ No	46.1 *(n=14)*
▪ Yes	49.6 *(n=53)*
▪ Not stated/missing	49.7 *(n=13)*
Respondent type	
▪ Completed pre-test plus one or more post-test	49.4 *(n=34)*
▪ Completed pre-test only	48.7 *(n=46)*

Baseline OMS-HC scores were also compared based on whether respondents had a close family member or friend with a mental illness, or whether they themselves had been treated for a mental illness. As depicted in **Table 2**, the average baseline score among respondents who indicated they had been treated for a mental illness was 46.8. For those who had not been treated for a mental illness, their average baseline score was higher, at 49.0.
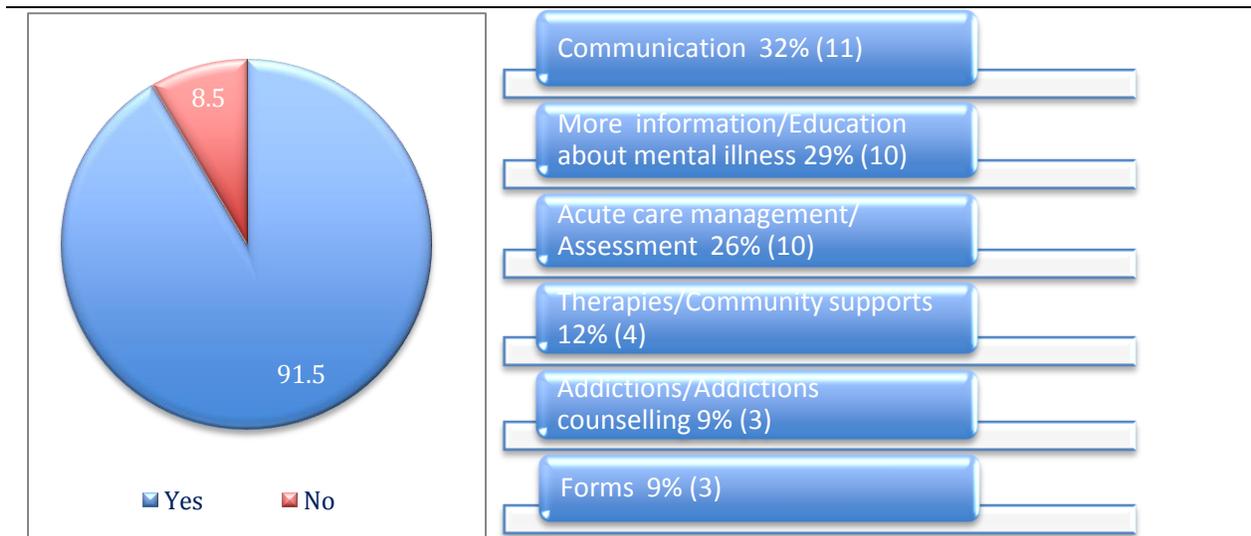
Further, the average baseline score on the OMS-HC for respondents who knew a close family member or friend with a mental illness was 49.3; 6.3% higher than the baseline score (46.1) for those who did not

know a close family member or friend with a mental illness. This difference was not found to be statistically significant.

Figure 1 shows the percentage of participants reporting whether or not they would value more training in the mental health field. The overwhelming majority (90%) said they would.

Of those who provided details on the types of training they desired to have, 32% said they would value more training in the area of communication (i.e., how to communicate and interact with patients with mental illness; how to help them by knowing what to say). Other commonly mentioned areas for more training included more information/education/knowledge about mental illness (29%), and more training in acute care management and assessment (26%).

Figure 1. Number of Participants Indicating whether or not they would value Additional Training in the Mental Health Field, with Types of Training Mentioned

Communication 32% (11)

More information/Education about mental illness 29% (10)

Acute care management/ Assessment 26% (10)

Therapies/Community supports 12% (4)

Addictions/Addictions counselling 9% (3)

Forms 9% (3)

n=71 (n=34 for respondents specifying training; totals add to more than 100% due to multiple response)

### 4.3 Pre Intervention to Post Intervention
Ideally, analysis to assess the incremental impact of the Lakeridge Health anti-stigma program would be completed using only surveys matched across all three time-points (pre, post, and follow-up). However, given that only 12 participants completed all three surveys – too few to get a reliable measure of the incremental impact of the anti-stigma intervention and/or booster session – program impact was measured by conducting analysis on the 24 matched surveys from pre-test to post-test, and again on the 21 matched surveys from pre-test to follow-up. However, the 24 matched surveys from pre-test to post-test, and the 21 matched surveys from pre-test to follow-up, still represent only a fraction of the 80 participants who actually completed the program. Given this high rate of attrition, results should be interpreted with caution.

4.3.1 Overall Change

Total scores on the OMS-HC changed from 49.0 at baseline to 48.0 post-workshop, to 47.2 at the time of follow-up. This represents a 3.7% improvement in scores from the pre-test to the follow-up survey. However, paired samples t-tests showed that these changes in scores were not statistically significant.[5]

In total, 65% of respondents improved their score on the OMS-HC from the time of the pre-test to the time of the follow-up survey. As highlighted in **Figure 2**, this is considerably more than the proportion of respondents whose scores worsened (35%) or did not change at all (0%). As noted, however, this change was not found to be statistically significant.

Figure 2. OMS-HC 20 Item Stigma Scale: Direction of Change of Respondents' Responses
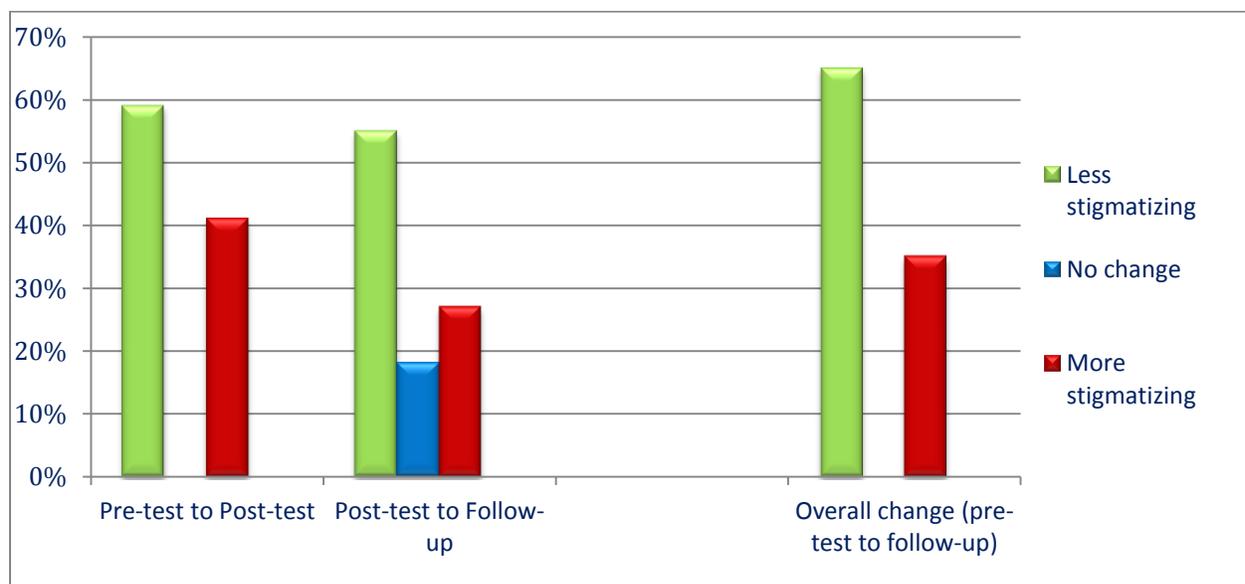
n=20 pre-test to follow-up; n=22 pre-test to post-test; n=11 post-test to follow-up

4.3.2 Dimensions of Stigma

The OMS-HC scale contains within it two main content areas, each measuring a specific dimension of stigma. The first dimension is healthcare providers' inclinations towards disclosure of a mental illness. Attitudes towards disclosure can be used to provide an indication of the stigma healthcare providers believe exists due to having a mental illness and how this would impact seeking help. The specific OMS-HC items used to measure this dimension of stigma are as follows:

- *Q4. If I were under treatment for a mental illness, I would not disclose this to any of my colleagues*
- *Q5. I would be more inclined to seek help for a mental illness if my treating healthcare provider was not associated with my workplace*

---

[5] Using matched data, total changes on the OMS-HC scale were measured from pre- to post-test (after initial workshop), and again from baseline (pre-test) to follow-up (post-booster) survey (t=1.15; p=.26, n=22 for pre-test to post-test; t=1.22; p=.24, n=19 for pre-test to follow-up).

- *Q6. I would see myself as weak if I had a mental illness and could not fix it myself*
- *Q7 I would be reluctant to seek help if I had a mental illness*
- *Q10. If I had a mental illness, I would tell my friends*

The second dimension is that of 'attitudes towards people with mental illness' and includes the following statements from the survey:
- *Q1. I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness*
- *Q2. If a person with a mental illness complains of physical symptoms (e.g. nausea, back pain or headache), I would likely attribute this to their mental illness*
- *Q12. Despite my professional beliefs, I have negative reactions towards people with a mental illness*
- *Q13. There is little I can do to help people with mental illness*
- *Q14. More than half of people with mental illness don't try hard enough to get better*
- *Q18. Healthcare providers do not need to be advocates for people with mental illness*
- *Q20. I struggle to feel compassion for a person with a mental illness*

Total scores for these two dimensions were created by summing the score for each item in the content area.

A summary of changes in attitude for these two content areas is provided in **Table 3**. The table shows total score changes from pre- to post-workshop, as well as from baseline to follow-up across each of these two dimensions. As noted in the table, the dimension of 'attitude towards people with mental illness' showed a statistically significant improvement from pre-test to follow-up.[6]

Table 3. Stigma Content Areas: Changes in Respondents' Responses

Content Area	Pre-test	Post-test	% change	Pre-test	Follow-up	% change
Attitude towards people with mental illness	17.42	16.38	6.0%	16.56	14.78	**10.8%***
Disclosure / help-seeking	15.74	15.39	2.2%	15.95	15.29	4.1%

*Pre-post n=24; pre-post booster n=23*
* paired samples t-test revealed change from pre-test to follow-up session to be statistically significant (t=3.09 p=.005; n=23)

---

[6] It was indicated by the program lead that not all participants had received the booster session by the time of the follow-up survey. Although this was the initial intention, given the difficulty of reaching staff individually, the timing of the delivery of the booster session was not monitored directly in accordance with the administration of the follow-up survey. Follow-up surveys were sent to staff, and booster sessions were arranged on an ad hoc basis depending on when staff were available. Given this, the significant change observed from the time the pre-test to the time of the follow-up is less suggestive of the possibility of a cumulative effect of both the intervention and the booster, and more reflective of the possibility of a contagion or sustained effect over time.

The dimension of disclosure did not show a statistically significant improvement from pre-test to post-test, or from pre-test to follow-up.

Further details on changes in participants' responses along the dimension 'attitudes towards people with mental illness' are highlighted in **Figure 3**. As shown in the figure, 68% of respondents became less stigmatizing in their responses regarding attitudes towards people with mental illness, as compared to 27% whose responses became more stigmatizing and 5% whose responses did not change.

Figure 3. Stigma Dimension 'Attitudes towards People with Mental Illness' Direction of Change in Respondents' Responses
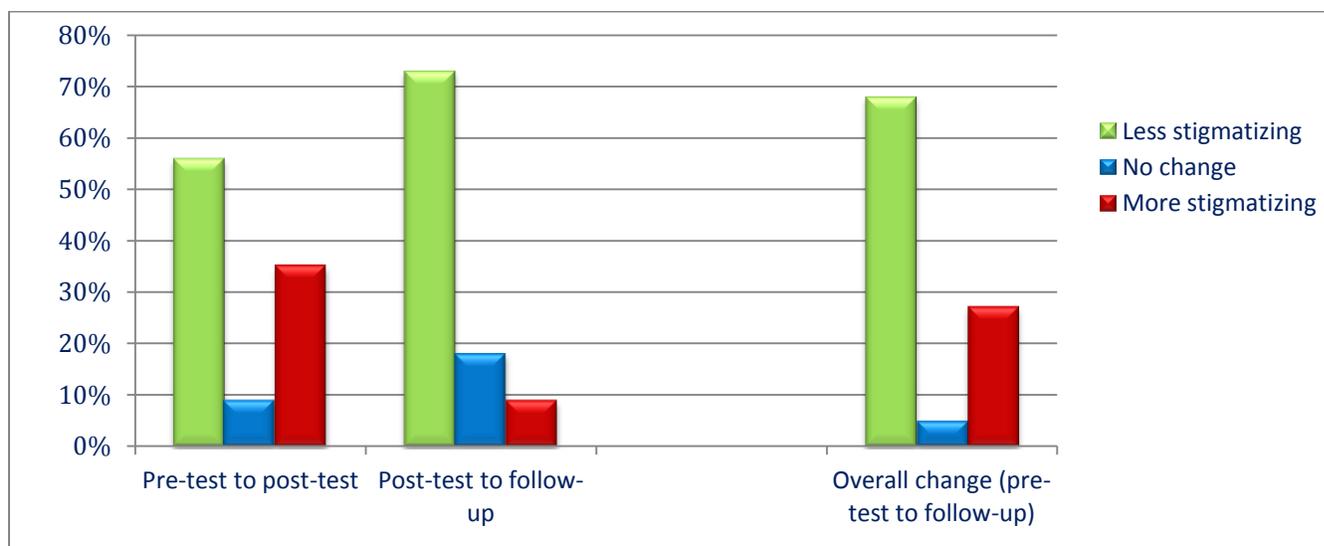
n=23 pre to post; n=11 post-test to follow-up; n=23 pre-test to follow-up

Changes in participants' responses along the dimension of disclosure are highlighted in **Figure 4**. As shown in the figure, just over half (55%) of respondents became less stigmatizing in their responses regarding attitudes towards disclosure and help-seeking, as compared to 25% whose responses became more stigmatizing and 20% whose responses did not change.
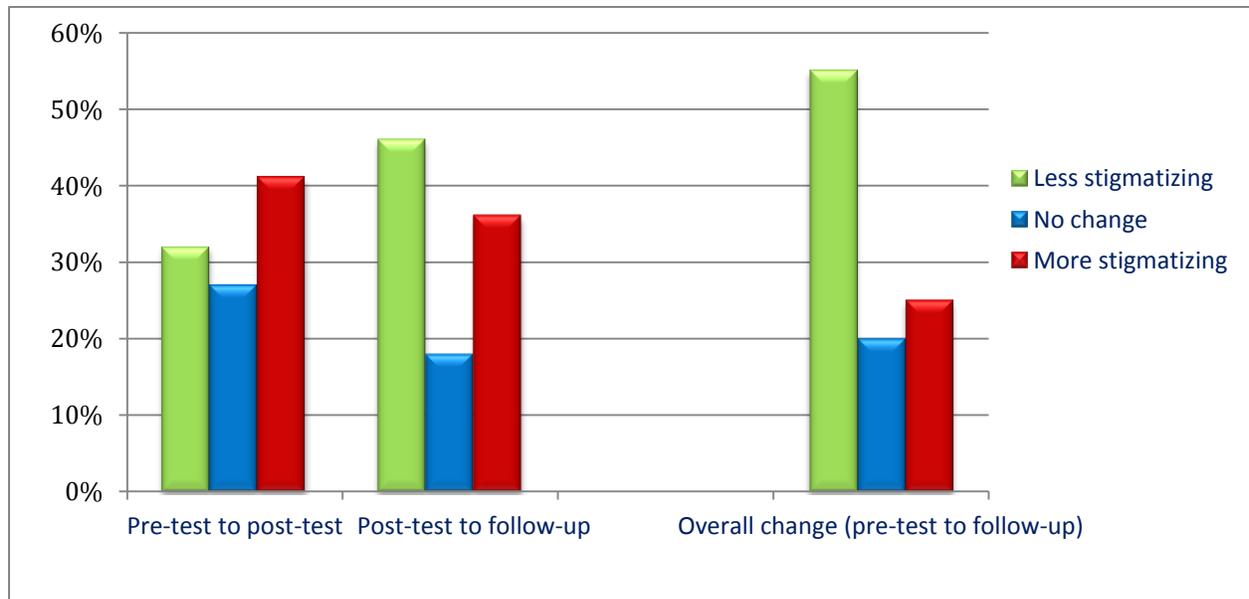
Figure 4. Stigma Dimension 'Disclosure of a Mental Illness:' Direction of Change in Respondents' Responses

n=22 pre to post; n=11 post-test to follow-up; n=20 pre-test to follow-up

4.3.3 Individual Item Changes

Using matched data, individual item changes on the OMS-HC scale were measured from pre- to post-test (after initial workshop), and again from baseline (pre-test) to follow-up (post-booster) survey. The statement, "Despite my professional beliefs, I have negative reactions towards people with mental illness" showed a statistically significant improvement from baseline to the time of the follow-up survey.

There were also two statements that showed significant improvements from pre- to post-workshop, but that were not sustained through to the time of the follow-up survey. They are:

- Q13. *There is little I can do to help people with mental illnes*s; and
- Q19*. I would not mind if a person with a mental illness lived next door to me*

There were also two statements that demonstrated (statistically significant) increases in stigma over time. Both statements were related to notions of social distance and competence:

- Q3. *If a colleague with whom I worked told me they had a managed mental illness, I would be as willing to work with him*/her (this statement showed an increase in stigma *only* from pre-test to post-test.)
- Q17. *I would not want a person with mental illness, even if it were appropriately managed, to work with children*

Appendix B provides more details on changes in respondents' responses from pre-test to follow-up for individual scale items.

4.3.4 80% Threshold

Figure 5 shows the cumulative percentages of participants who had non-stigmatizing responses for each possible score out of 20 at pre-workshop and post-workshop. This figure was derived by recoding each participant's response on the attitude scale to represent a stigmatizing or non-stigmatizing response.

For example, "I would see myself as weak if I had a mental illness and I could not fix it myself" was recorded as non-stigmatizing if the respondent selected *strongly disagree* or *disagree,* and recoded as stigmatizing if the respondent chose *neither agree nor disagree*, *agree*, or *strongly agree*.

A threshold of 80% (or at least 16 out of 20 "correct" – i.e., non-stigmatizing – answers) was used as an indication of success on the OMS-HC. Prior to the workshop, 18% of participants were across this 80% threshold of success on the OMS-HC. After the workshop (post-test survey), the number had increased slightly, to 21%. However, by the time of the follow-up survey, the proportion had dropped back to 15%.

**Figure 5. Cumulative Percent of Non-Stigmatizing Responses on OMS-HC for Pre-test, Post-test, and Follow-up**
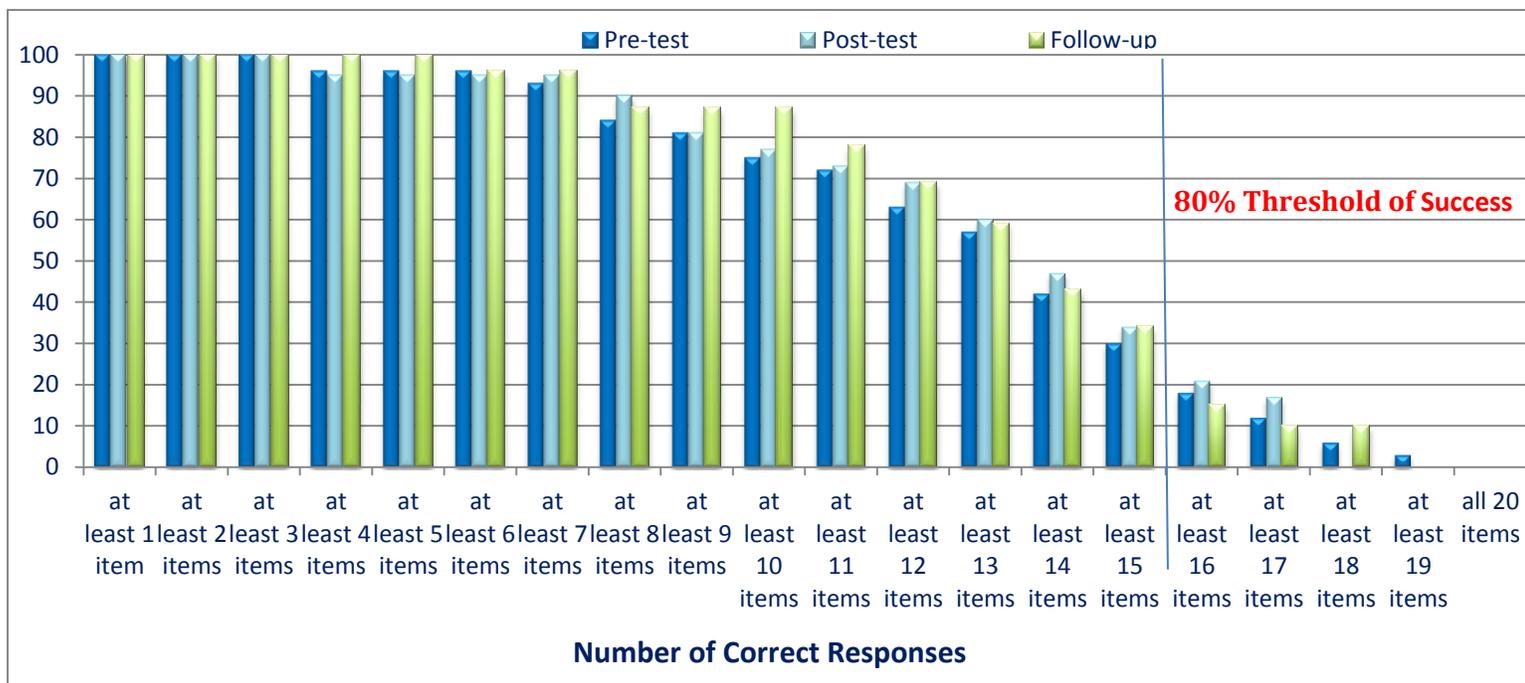
n=33 for pre-test; n=23 for post-test; n=21 for follow-up survey

4.4 Participant Feedback

In addition to measuring the impact of the anti-stigma intervention using quantitative techniques (i.e., changes in attitude as measured by the OMS-HC), respondents were also asked to provide their opinions on a number of qualitative questions in regards to the utility of the program. They were asked what they liked best about the program, what improvements they would like to see, their opinion about the utility of the intervention in reducing prejudice and discrimination against people with mental illness, and whether they felt their behaviour toward people with mental illness would change as result of the workshop. A summary of participants' responses is provided below.

As highlighted in **Figure 6**, nearly eight in ten participants (79%) felt the program was useful at reducing prejudice and discrimination against people with mental illness.

Figure 6. Proportion of Respondents who find Program useful at reducing Discrimination and Prejudice against People with Mental Illness
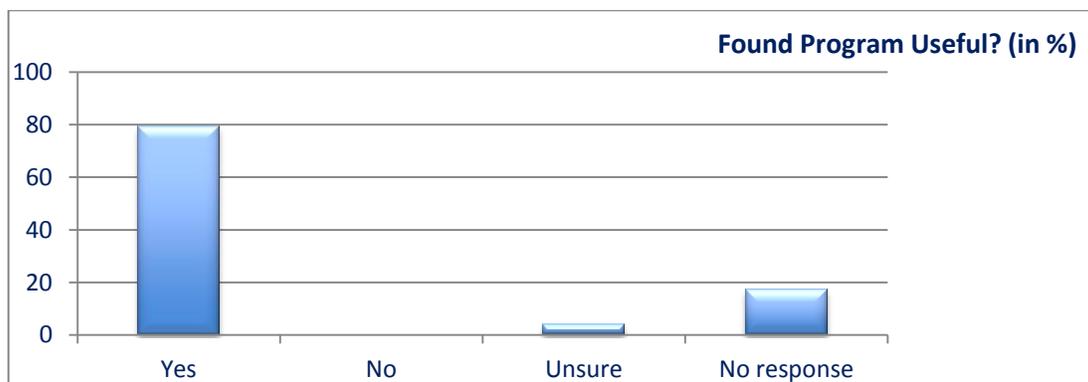
n=24

Secondly, when asked what they liked best about the program, virtually all the respondents who answered this question (19 of 20) described the contact-based portion of the program as the component they enjoyed most (i.e., guest speaker sharing his/her personal story of mental illness and recovery).

Respondents further commented that they enjoyed the positivity of the speaker, that they enjoyed hearing a personal story of successful recovery, that the personalized aspect allowed them to put a face to the problem, and that hearing a personal story allowed them to gain some insight and perspective from the patient's point of view. This suggests that the training and support of speakers is a key component of the utility of, and satisfaction with, the program.

As well, most respondents (58%) felt that their behaviour towards people with mental illness would change as a result of the workshop (see **Figure 7**). Specific forms of behaviour change included such

things as: becoming more compassionate and understanding towards patients with mental illness, monitoring personal language usage, and becoming less judgemental.

Some comments from respondents are as follows:

- *"Yes, I'm more inclined to acknowledge the reasons for why they are suffering."*
- *"I have found myself using 'frequent flyer' label in the past. I will watch my language more carefully."*
- *"Yes, I hope to be more open minded and more patient when looking for the bottom line."*
- *"Yes, as a reminder or wake-up to say 'hey, we're people too, give us a smile as you would anyone.'"*
- *"I will try to be non-judgemental and more emphatic."*
- *"No, I don't feel my behaviour will change because I have always been aware of the stigma people with mental illness face as I have many close friends and family who suffer mental illness. I continue to feel empathetic and want to support them."*

As suggested by the comment directly above, participants who indicated that their behaviour would not change as a result of the program typically reported that they already treated patients with mental illness with compassion, empathy and understanding and would continue doing so.

Figure 7. Would Behaviour change as a Result of the Program?
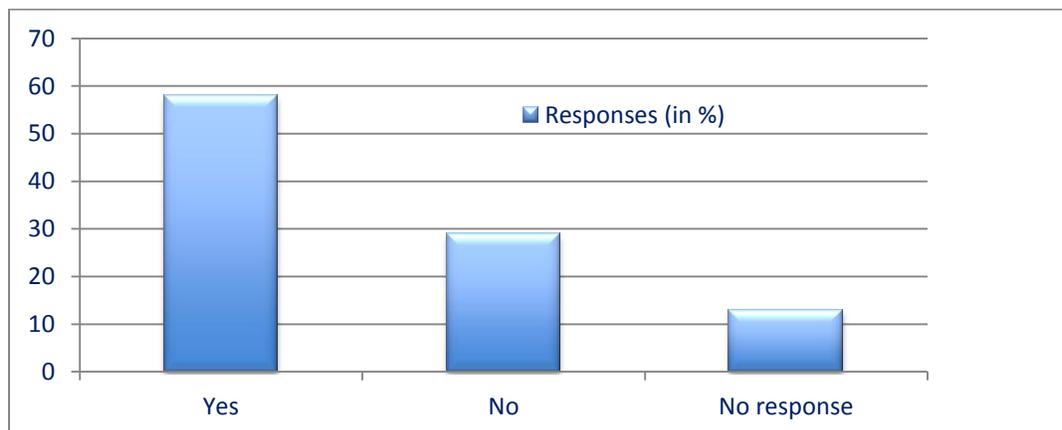
n=24

In terms of improvements for the program, 13 participants had specific suggestions. As shown in **Figure 8**, by far the most common recommendation was that more stories be shared – and that the program be made longer so this could be accommodated. This opinion was expressed by nine of the 24 participants who completed the post-test (38%).

Figure 8. Suggestions for Program Improvements

No response / no recommendations 38% (9)

More stories / more time 38% (9)

Communication skills / practical tools / case scenarios 13% (3)

Emergency numbers / community resources 13% (3)

n=24

Other suggestions for improvement included: providing communication skills/case scenarios/ practical interventions for helping patients with mental illness (3), and providing emergency contact numbers/community resources (presented on a simple paper or card) that staff can use to refer patients (3).

5   SUMMARY AND CONCLUSIONS

The results of the evaluation of the Lakeridge Health Opening Minds program suggest that while results were modest, the program has potential as a model for effectively combating the stigma associated with mental illness. On one hand, while overall scores on the OMS-HC did not change significantly from pre-test to post-test (or from pre-test to the time of the follow-up survey), the evaluation results did indicate a positive impact for one major dimension of stigma: that of 'attitudes towards people with mental illness.' From pre-test to the time of follow-up, participants' total scores improved nearly 11% (from 16.56 to 14.78), and 68% of respondents improved their scores along this dimension (compared to only 32% whose scores either became more stigmatizing or did not change at all).

Additionally, while the proportion of respondents who passed the designated 80% threshold of success did not improve over the course of the workshop and/or the booster session, 79% of participants still said they found the program useful at reducing prejudice and discrimination among people with mental illness, and over half (58%) said they would change their behaviour as a result of what they learned and heard.

Of particular importance in interpreting these results, however, is the high rate of attrition from baseline to post-test and follow-up (only 34 of the 80 participants who completed the pre-test also completed a post-test or follow-up survey). This remains the major limitation of the study and the main reason that the evaluation results must be interpreted with caution. Low response rates (through the effects of participation bias) can threaten the validity and reliability of the data. As such, replication with larger samples and with less attrition of participants is necessary before any firm conclusions can be made about this program. That said, given the resource constraints being faced by many healthcare facilities – and given the pace and care needs in emergency departments in particular – further investigation and investment in shorter, sustained interventions could build on the model utilized in this project.[7]

As this program emphasized a focus on concurrent disorders, speakers shared personal stories that included addiction as well as mental illness. However, the OM tool used in this evaluation explicitly addressed attitudes towards mental illness. Future evaluation might include questions sensitive enough to identify stigma towards mental illness and addiction, to provide additional insight into staff attitudes towards concurrent disorders and the potential for change. As well, evaluations might consider in more depth the possibility of heightened, additional and/or more persistent stigma associated with having both substance use and mental health problems (5).

As mentioned, the operational demands of emergency departments can make participation and delivery of educational initiatives a challenge. The same is true for the evaluation of such initiatives. It is possible that a shorter survey would increase response rates (many program participants expressed dissatisfaction with the length of the survey), and/or that large group provision of the intervention may also improve opportunities to collect follow-up data en masse. To this end, the main recommendation for the future delivery and evaluation of this program would be that the completion of the pre- and post-tests be included as part of the workshop agenda (i.e., participants complete the evaluation surveys in the workshop room immediately before and after the intervention). This way, higher response rates, and therefore more valid and reliable results, can be obtained. In as much as resource constraints and competing demands on time remain key challenges for emergency department staff (and therefore in-service program delivery), this is a recommendation that may require additional resources and/or supports in order to be implemented successfully.

---

[7] For example, an outgrowth of the Lakeridge Health anti-stigma program was the development of a leadership training program for managers within Lakeridge Health and Rouge Valley Health System. Specifically, a mental health training session was developed for managers that included the exercise and speaker component from the anti-stigma intervention. Although the leadership training session has not been formally evaluated, there is the potential for systemic change regarding values related to mental illness, addiction, and stigma when targeting both front line staff and managers.

References

(1) Couture, S.M., & Penn, D.L. Interpersonal contact and the stigma of mental illness: A review of the literature. *Journal of Mental Health* 2003; 12(3), 291-305.

(2) Pinfold, V., Thornicroft, G., Huxley, P., & Farmer, P. Active ingredients in anti-stigma programmes in mental health. *International Review of Psychiatry* 2005; 17, 113-23.

(3) Mental Health Commission of Canada. *British Columbia's Interior Health Authority's Usage of the Ontario Central LHIN Anti-Stigma Training Program*. Calgary: Author, 2011.

(4) Mental Health Commission of Canada. *Quantitative Analysis of the 'Mental Illness and Addictions: Understanding the Impact of Stigma' Program*. Calgary: Author, 2010.

(5) Health Canada. *Best Practices – Concurrent Mental Health and Substance Use Disorders*. Ottawa: Author, 2002. Located at http://www.hc-sc.gc.ca/hc-ps/pubs/adp-apd/bp_disorder-mp_concomitants/index-eng.php

OMS-HC 20 Item Scale

Opening Minds Scale for Health Care Providers (OMS-HC)					
	Strongly Disagree	**Disagree**	**Neither**	**Agree**	**Strongly Agree**
1. I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness.	☐	☐	☐	☐	☐
2. If a person with a mental illness complains of physical symptoms (e.g., nausea, back pain or headache), I would likely attribute this to their mental illness.	☐	☐	☐	☐	☐
3. If a colleague with whom I work told me they had a managed mental illness, I would be just as willing to work with him/her.	☐	☐	☐	☐	☐
4. If I were under treatment for a mental illness I would not disclose this to any of my colleagues.	☐	☐	☐	☐	☐
5. I would be more inclined to seek help for a mental illness if my treating healthcare provider was not associated with my workplace.	☐	☐	☐	☐	☐
6. I would see myself as weak if I had a mental illness and could not fix it myself.	☐	☐	☐	☐	☐
7. I would be reluctant to seek help if I had a mental illness.	☐	☐	☐	☐	☐
8. Employers should hire a person with a managed mental illness if he/she is the best person for the job.	☐	☐	☐	☐	☐
9. I would still go to a physician if I knew that the physician had been treated for a mental illness.	☐	☐	☐	☐	☐
10. If I had a mental illness, I would tell my friends.	☐	☐	☐	☐	☐
11. It is the responsibility of health care providers to inspire hope in people with mental illness.	☐	☐	☐	☐	☐
12. Despite my professional beliefs, I have negative reactions towards people who have mental illness.	☐	☐	☐	☐	☐
13. There is little I can do to help people with mental illness.	☐	☐	☐	☐	☐
14. More than half of people with mental illness don't try hard enough to get better.	☐	☐	☐	☐	☐
15. People with mental illness seldom pose a risk to the public.	☐	☐	☐	☐	☐
16. The best treatment for mental illness is medication.	☐	☐	☐	☐	☐
17. I would not want a person with a mental illness, even if it were appropriately managed, to work with children.	☐	☐	☐	☐	☐
18. Healthcare providers do not need to be advocates for people with mental illness.	☐	☐	☐	☐	☐
19. I would not mind if a person with a mental illness lived next door to me.	☐	☐	☐	☐	☐
20. I struggle to feel compassion for a person with mental illness.	☐	☐	☐	☐	☐

Data Tables

Table B1. OMS-HC Frequency Distributions for Pre-test, Post-test and Follow-up
(for respondents who completed pre-test plus at least one post-test)

Item	Pre-workshop (n=34)			Post-workshop (n=24)			Post booster session (n=25)		
	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree
1. I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness.	17.7% (6)	26.5% (9)	55.9% (19)	16.7% (4)	16.7% (4)	66.7% (16)	20% (5)	40% (10)	40% (10)
2. If a person with a mental illness complains of physical symptoms (e.g., nausea, back pain or headache), I would likely attribute this to their mental illness.	70.6% (24)	20.6% (7)	8.9% (3)	75% (18)	25% (6)	0% (0)	56% (14)	28% (7)	16% (4)
3. If a colleague with whom I work told me they had a managed mental illness, I would be as willing to work with him/her. (reverse)	2.9% (1)	5.9% (2)	91.2% (31)	0% (0)	12.5% (3)	87.5% (21)	0% (0)	4% (1)	96% (24)
4. If I were under treatment for a mental illness I would not disclose this to any of my colleagues.	14.7% (5)	20.6% (7)	64.7 (22)	16.7% (4)	29.1% (7)	54.2% (13)	20% (5)	20% (5)	60% (15)
5. I would be more inclined to seek help for a mental illness if my treating healthcare provider was not associated with my workplace.	5.9% (2)	0% (0)	94.1% (32)	16.7% (4)	0% (0)	83.3% (20)	0% (0)	12% (3)	88% (22)
6. I would see myself as weak if I had a mental illness and could not fix it myself.	50% (17)	26.5% (9)	23.5% (8)	54.2% (13)	33.3% (8)	12.5% (3)	64% (16)	28% (7)	8% (2)
7. I would be reluctant to seek help if I had a mental illness.	57.6% (19)	9.0% (3)	33.3% (11)	58.3% (14)	12.5% (3)	29.2% (7)	62.5% (15)	20.8% (5)	16.7% (4)
8. Employers should hire a person with a managed mental illness if he/she is the best person for the job. (reverse)	0% (0)	0% (0)	100% (34)	0% (0)	4.2% (1)	95.8% (23)	0% (0)	0% (0)	100% (25)
9. I would still go to a physician if I knew that the physician had been treated for a mental illness. (reverse)	8.9% (3)	20.6% (7)	70.6% (24)	0% (0)	25% (6)	75% (18)	12% (3)	12% (12)	76% (19)

Item	Pre-workshop (n=34)			Post-workshop (n=24)			Post booster session (n=25)		
	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree	Neither Agree nor Disagree	Agree/ Strongly Agree
10. If I had a mental illness, I would tell my friends. (reverse)	20.6% (7)	26.5% (9)	52.9% (18)	25% (6)	12.5% (3)	62.5% (15)	28% (7)	24% (6)	48% (12)
11. It is the responsibility of health care providers to inspire hope in people with mental illness. (reverse)	0% (0)	20.6% (7)	79.4% (27)	0% (0)	25% (6)	75% (18)	4% (1)	16% (4)	80% (20)
12. Despite my professional beliefs, I have negative reactions towards people who have mental illness.	61.8% (21)	20.6% (7)	17.7% (6)	58.3% (14)	16.7% (4)	25% (6)	76% (19)	20% (5)	4% (1)
13. There is little I can do to help people with mental illness.	67.7% (23)	20.6% (7)	11.8% (4)	79.2% (19)	20.8% (5)	0% (0)	80% (20)	20% (5)	0% (0)
14. More than half of people with mental illness don't try hard enough to get better.	52.9% (18)	38.2% (13)	8.8% (3)	54.2% (13)	45.8% (11)	0% (0)	64% (16)	26% (9)	0% (0)
15. People with mental illness seldom pose a risk to the public. (reverse)	5.9% (2)	35.2% (12)	58.8% (20)	0% (0)	25% (6)	75% (18)	4% (1)	24% (6)	72% (18)
16. The best treatment for mental illness is medication.	61.8% (21)	29.4% (10)	8.8% (3)	58.3% (14)	37.5% (9)	4.2% (1)	48% (12)	40% (10)	12% (3)
17. I would not want a person with a mental illness, even if it were appropriately managed, to work with children.	67.7% (23)	20.6% (7)	11.8% (4)	45.8% (11)	41.7% (10)	12.5% (3)	44% (11)	48% (12)	8% (2)
18. Healthcare providers do not need to be advocates for people with mental illness.	100% (34)	0% (0)	0% (0)	95.8% (23)	4.2% (1)	0% (0)	96% (24)	4% (1)	0% (0)
19. I would not mind if a person with a mental illness lived next door to me. (reverse)	8.9% (3)	17.7% (6)	73.5% (25)	0% (0)	4.2% (1)	95.8% (23)	8% (2)	24% (6)	68% (17)
20. I struggle to feel compassion for a person with a mental illness.	82.4% (28)	8.9% (3)	8.9% (3)	75% (18)	12.5% (3)	12.5% (3)	79.2% 19)	20.8% (5)	0% (0)

Table B2. OMS-HC: Direction of Change in Respondents' Responses *(matched surveys)*

Item	Pre-test to post-test (n=23)			Post-test to follow-up (n=11)			Overall (pre-test to follow-up) (n=22)		
	Less stigma-tizing	No change	More stigma-tizing	Less stigma-tizing	No change	More stigma-tizing	Less stigma-tizing	No change	More stigma-tizing
1. I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness.	30% (7)	57% (13)	13% (3)	45% (5)	18% (2)	36% (4)	41% (9)	32% (7)	27% (6)
2. If a person with a mental illness complains of physical symptoms (e.g. nausea, back pain or headache), I would likely attribute this to their mental illness.	13% (3)	61% (14)	26% (6)	27% (3)	36% (4)	36% (4)	32% (7)	41% (9)	27% (6)
3. If a colleague with whom I work told me they had a managed mental illness, I would be as willing to work with him/her. (reverse)	0% (0)	74% (17)	26% (6)	45% (5)	55% (6)	0% (0)	32% (7)	45% (10)	23% (5)
4. If I were under treatment for a mental illness I would not disclose this to any of my colleagues.	39% (9)	48% (11)	13% (3)	27% (3)	36% (4)	36% (4)	36% (8)	41% (9)	23% (5)
5. I would be more inclined to seek help for a mental illness if my treating healthcare provider was <u>not</u> associated with my workplace.	17% (4)	78% (18)	4% (1)	18% (2)	64% (7)	18% (2)	27% (6)	59% (13)	14% (3)
6. I would see myself as weak if I had a mental illness and could <u>not</u> fix it myself.	30% (7)	48% (11)	22% (5)	27% (3)	36% (4)	36% (4)	27% (6)	55% (12)	18% (4)
7. I would be reluctant to seek help if I had a mental illness.	17% (4)	48% (11)	30% (7)	27% (3)	64% (7)	9% (1)	27% (6)	41% (9)	23% (5)
8. Employers should hire a person with a managed mental illness if he/she is the best person for the job. (reverse)	9% (2)	65% (15)	26% (6)	18% (2)	73% (8)	9% (1)	32% (7)	59% (13)	9% (2)
9. I would still go to a physician if I knew that the physician had been treated for a mental illness. (reverse)	13% (3)	74% (17)	13% (3)	18% (2)	73% (8)	9% (1)	18% (4)	77% (17)	5% (1)

Item	Pre-test to post-test			Post-test to follow-up			Overall (pre-test to follow-up)		
	Less stigma-tizing	No change	More stigma-tizing	Less stigma-tizing	No change	More stigma-tizing	Less stigma-tizing	No change	More stigma-tizing
10. If I had a mental illness, I would tell my friends. (reverse)	22% (5)	57% (13)	22% (5)	18% (2)	64% (7)	18% (2)	23% (5)	59% (13)	18% (4)
11. It is the responsibility of health care providers to inspire hope in people with mental illness. (reverse)	13% (3)	74% (17)	13% (3)	27% (3)	45% (5)	27% (3)	18% (4)	55% (12)	27% (6)
12. Despite my professional beliefs, I have negative reactions towards people who have mental illness.	13% (3)	65% (15)	22% (5)	55% (6)	45% (5)	0% (0)	64% (14)	32% (7)	5% (1)
13. There is little I can do to help people with mental illness.	43% (10)	44% (10)	13% (3)	18% (2)	73% (8)	9% (1)	32% (7)	55% (12)	14% (3)
14. More than half of people with mental illness don't try hard enough to get better.	26% (6)	65% (15)	9% (2)	36% (4)	45% (5)	18% (2)	32% (7)	55% (12)	14% (3)
15. People with mental illness seldom pose a risk to the public. (reverse)	30% (7)	61% (14)	9% (2)	27% (3)	64% (7)	9% (1)	23% (5)	64% (14)	14% (3)
16. The best treatment for mental illness is medication.	9% (2)	78% (18)	13% (3)	9% (1)	64% (7)	27% (3)	14% (3)	64% (14)	23% (5)
17. I would not want a person with a mental illness, even if it were appropriately managed, to work with children.	9% (2)	74% (17)	17% (4)	0% (0)	82% (9)	18% (2)	5% (1)	64% (14)	32% (7)
18. Healthcare providers do not need to be advocates for people with mental illness.	17% (4)	74% (17)	9% (2)	18% (2)	% (8)	9% (1)	18% (4)	77% (17)	5% (1)
19. I would not mind if a person with a mental illness lived next door to me. (reverse)	83% (19)	13% (3)	4% (1)	9% (1)	18% (2)	73% (8)	27% (6)	55% (12)	18% (4)
20. I struggle to feel compassion for a person with a mental illness.	35% (8)	48% (11)	17% (4)	36% (4)	45% (5)	18% (2)	41% (9)	45% (10)	14% (3)

24

Table B3. OMS-HC: Mean Scores from Pre-test to Follow-up; with subscales indicated *(matched surveys)*

Qn	Dimension	Item	Mean score		Pair Samples T-Test (n=22)	
			Pre-test	Follow-up	T-value	P-value
1	**Attitude**	I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness.	3.41	3.27	0.55	.589
2	**Attitude**	If a person with a mental illness complains of physical symptoms (e.g. nausea, back pain or headache), I would likely attribute this to their mental illness.	2.27	2.31	-0.18	.852
3		If a colleague with whom I work told me they had a managed mental illness, I would be as willing to work with him/her.	1.63	1.50	0.77	.451
4	**Disclosure**	If I were under treatment for a mental illness I would not disclose this to any of my colleagues.	3.59	3.45	0.57	.576
5	**Disclosure**	I would be more inclined to seek help for a mental illness if my treating healthcare provider was <u>not</u> associated with my workplace.	4.41	4.18	1.31	.203
6	**Disclosure**	I would see myself as weak if I had a mental illness and could <u>not</u> fix it myself.	2.41	2.31	0.49	.628
7	**Disclosure**	I would be reluctant to seek help if I had a mental illness.	2.60	2.50	0.27	.789
8		Employers should hire a person with a managed mental illness if he/she is the best person for the job.	1.81	1.59	1.74	.096
9		I would still go to a physician if I knew that the physician had been treated for a mental illness.	2.41	2.23	1.44	.162

Qn	Dimension	Item	Mean Score		Pair Samples T-Test (n=22)	
			Pre-test	Follow-up	T-value	P-value
10	Disclosure	If I had a mental illness, I would tell my friends.	2.63	2.77	-0.62	.544
11		It is the responsibility of health care providers to inspire hope in people with mental illness.	1.86	2.0	-0.83	.418
12	Attitude	Despite my professional beliefs, I have negative reactions towards people who have mental illness.	2.50	1.95	3.46	.002
13	Attitude	There is little I can do to help people with mental illness.	2.09	1.86	1.42	.171
14	Attitude	More than half of people with mental illness don't try hard enough to get better.	2.41	2.13	1.55	.137
15		People with mental illness seldom pose a risk to the public.	2.04	1.86	1.07	.296
16		The best treatment for mental illness is medication.	2.41	2.59	-1.07	.296
17		I would not want a person with a mental illness, even if it were appropriately managed, to work with children.	2.14	2.45	-2.31	.031
18	Attitude	Healthcare providers do not need to be advocates for people with mental illness.	1.59	1.45	1.47	.186
19		I would not mind if a person with a mental illness lived next door to me.	2.27	2.32	-.21	.833
20	Attitude	I struggle to feel compassion for a person with a mental illness.	2.23	1.86	1.89	.073