Effects of Stigma and Discrimination Reduction Trainings Conducted Under the California Mental Health Services Authority

An Evaluation of the National Alliance on Mental Illness Adult Programs

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With funds from the Mental Health Services Act (Proposition 63), which levied a 1-percent tax on incomes over $1 million to expand mental health services, the California Mental Health Services Authority (CalMHSA) was created to oversee strategically targeted statewide prevention and early intervention (PEI) programs. Under its Stigma and Discrimination Reduction (SDR) initiative, CalMHSA funded the National Alliance on Mental Illness (NAMI) to deliver educational programs targeting several audiences aimed at changing negative attitudes, beliefs, and behaviors toward mental illness and treatment.

NAMI is a national mental health education, advocacy, research, and service organization. NAMI California has 67 affiliates that target populations statewide. CalMHSA funded the following four NAMI educational programs: In Our Own Voice (IOOV), Parents and Teachers as Allies (PTasA), Provider Education Program (PEP), and Ending the Silence (ETS). IOOV targets the community at large; PTasA targets teachers and educational staff; PEP targets service providers, such as mental health professionals, health care providers, and criminal justice personnel; and ETS targets high-school students. A key feature across all of the programs is the employment of presenters who provide not only educational information, but also share firsthand personal experiences of recovering from a mental illness. Such contact-based strategies have been associated with positive changes in attitudes toward people with mental illness (Corrigan et al., 2012, and Griffiths et al., 2014).

We evaluated a subset of the NAMI trainings using a survey that was administered to participants immediately before and after the training. The evaluation focused on whether participation in NAMI trainings resulted in decreased stigma (i.e., negative beliefs, attitudes related to mental illness), more-positive recovery beliefs, greater awareness of mental illness stigma and discrimination, and improved capacity to provide support for individuals experiencing mental health challenges. Findings for IOOV, PTasA, and PEP, which target adult populations, are provided in this

Summary of Findings

We evaluated three National Alliance on Mental Illness (NAMI) programs funded under the California Mental Health Services Authority's (CalMHSA's) Stigma and Discrimination Reduction initiative: In Our Own Voice (IOOV), Parents and Teachers as Allies (PTasA), and Provider Education Program (PEP). Our key findings are detailed below.

- All three NAMI programs yielded significant short-term improvements. In fact, IOOV and PTasA trainings resulted in desired pre-post changes across all outcomes assessed, including

    —reductions in the desire for social distance from, and in perceptions of the dangerousness of, individuals with mental health challenges
    —greater awareness of stigma
    —higher levels of confidence and intentions of being supportive of those affected by mental illness
    —decreases in intentions to delay treatment and to conceal a potential mental health problem from family, friends, coworkers, and peers
    —more positive recovery beliefs and treatment intentions.

- PEP effects were observed for a more limited set of outcomes, but this may have been due to the small sample size (making it harder for us to detect changes) and because most participants were mental health professionals, who started off at pre-test with lower levels of stigma in a number of domains relative to participants in IOOV and

Summary of Findings—*Continued*

PTasA. Still, PEP effectively addressed the most problematic attitudes among mental health providers, resulting in decreased desire for social distance from individuals with mental health challenges and increased confidence in how to be supportive.

- IOOV and PTasA worked particularly well for certain groups—Latinos, females, and individuals who do not have a family member with a mental illness; the small sample size for PEP did not allow for such group comparisons.

- Across all programs, the strongest effects were reductions in the desire for social distance—a key indicator of stigma directly relevant to CalMHSA's goal of increasing the social inclusion of persons experiencing mental health challenges.

- Findings highlight the strong potential of NAMI programs, which represent some of the most widely disseminated, grassroots-led, and contact-based stigma-reduction programs in the nation.

- Results indicate CalMHSA's investment in NAMI programs led to stigma reduction across broad and diverse groups. After participating in a NAMI program, key stakeholders were more socially inclusive and supportive of individuals experiencing mental health challenges and more positive about recovery and treatment. Such changes among these targeted audiences—in synergy with other CalMHSA efforts—could make significant inroads toward CalMHSA's goal of altering the landscape of California to be more supportive of individuals and families affected by mental health challenges.

report. A separate evaluation appropriate for youth populations was conducted for ETS (Wong et al., 2015b).

Our findings indicate that all three NAMI programs were effective in reducing stigma across a variety of domains and across a broad array of stakeholders. Although the specific focus and target audiences varied across programs, participants exhibited immediate changes in key areas of interest to CalMHSA. The magnitude of change was within the range of other previously examined stigma-reduction programs. Findings highlight the potential impact of NAMI programs, which represent some of the most widely disseminated, grassroots-led, and contact-based stigma-reduction programs in the nation.

Methods

Sample Characteristics

Table 1 provides a summary of the total number of presentations conducted and the total number of participants reached by each of the three programs. Only a subset of the presentations delivered by each of the programs was included in this evaluation. For each program, we include the number of presentations and participants included in the evaluation and the percentage of trainings and participants represented in the evaluation. Subsequent sections of the report for each of the programs provide more detailed descriptions of the samples and how they were selected.

Measures

Participants completed a survey immediately prior to (pre-test) and immediately after (post-test) attending a NAMI presentation. Survey measures were largely drawn from previous population-based studies and are described below.

Social distance, one of the most widely used indicators of stigma, is the degree to which one desires to distance oneself or avoid contact with a person experiencing mental health problems. It arguably has the greatest face validity among the many existing measures of mental illness stigma and has direct relevance to CalMHSA's goal of fostering social inclusion. Social distance was assessed by asking participants to rate their degree of willingness to "work closely on a job with," "spend an evening socializing with," or "move next door to" someone with a serious mental illness. The three social-contact situations were drawn from a larger set used in the U.S. General Social Survey (Pescosolido et al., 2010) and chosen to represent diverse kinds of interaction, as well as contact that was not particularly intimate and thus more likely to be changeable over time (to maximize our likelihood of observing pre-post changes). The original survey items used vignettes to describe individuals experiencing sets of symptoms associated with various mental health conditions (e.g., depression, schizophrenia). To keep the survey brief, we replaced the vignettes with the phrase "someone who has a serious mental

Table 1. Total Number of Participants and Presentations Conducted and the Percentage Represented in the Evaluation

	IOOV	PTasA	PEP
Total number of presentations conducted	1,276	81	31
Total number of participants	16,569	879	424
Number of presentations included in evaluation	150	16	8
Number of participants included in evaluation	2,700	275	73
Percentage of presentations represented in evaluation	12	20	26
Percentage of participants represented in evaluation	16	31	17

illness." This approach has been employed in other large-scale stigma-campaign evaluations and public-surveillance tools (Evans-Lacko, Henderson, and Thornicroft, 2013, and Kobau et al., 2010).

Perceived dangerousness, another commonly measured component of stigma, taps into beliefs about the dangerousness of people with mental health challenges (Jorm, Reavley, and Ross, 2012). To assess perceived dangerousness, participants were asked to rate the degree to which they agreed with the statement: "I believe a person with mental illness is a danger to others." This item is part of a brief instrument developed by the Substance Abuse and Mental Health Services Administration (SAMHSA)/ Centers for Disease Control and Prevention (CDC) Mental Illness Stigma Panel to monitor attitudes toward mental illness in the United States (Kobau et al., 2010).

Beliefs about recovery are often related to stigma (Barczyk, 2015) and are likely to influence treatment seeking and referral (key longer-term outcomes for CalMHSA PEI activities). To measure recovery beliefs, participants were asked to indicate their level of agreement with the following statements: "People who have had a mental illness are never going to be able to contribute to society much" and "I believe a person with mental illness can eventually recover" (Kobau et al., 2010, and Wyllie and Lauder, 2012).

Awareness of stigma refers to respondents' recognition of the negative attitudes, beliefs, and responses held by the general public toward people with mental health challenges. We assessed awareness of stigma with a single item, in which participants rated their degree of agreement with the statement: "People with mental illness experience high levels of prejudice and discrimination." This item was adapted from an evaluation of the Irish national stigma-reduction campaign, "See Change" (See Change, 2012).

Support for people with mental illness is related to CalMHSA's goals of creating more supportive environments and systems. We assessed participants' self-efficacy and intentions to support people with mental health problems with the following respective items: "I know how I could be supportive of people with mental illness if I wanted to be" (Wyllie and Lauder, 2012), and "I plan to take action to prevent discrimination against people with mental illness" (Burnam et al., 2014).

Concealment of a mental health problem may affect the degree to which individuals with mental health problems are able to garner support from others. To measure intentions to conceal a mental illness, participants were asked to imagine that they had a problem that needed to be treated by a mental health professional. They were then asked the following questions: "Would you deliberately conceal it from your friends or family?" and "Would you deliberately conceal it from coworkers or classmates?" (See Change, 2012). Response options ranged from 1 (definitely not) to 4 (definitely). Although PTasA and PEP target gatekeepers, such as educational staff and providers, rather than general audiences or those at risk for mental health problems, we expected that these programs would have a positive effect on responses

to potential personal experiences of a mental illness, given their focus on normalizing responses to being diagnosed with a mental illness and the importance of social support and treatment to the recovery process.

Treatment-seeking intentions were assessed with the following two items: "If you had a serious emotional problem, would you go for professional help?" (Mojtabai, 2007) and "Would you delay seeking treatment for fear of letting others know about your mental health problem?" (See Change, 2012). Response options ranged from 1 (definitely not) to 4 (definitely).

Participant characteristics were assessed to better understand who was reached by NAMI presentations and to test whether the trainings were more effective for certain groups than others. Participant characteristics included gender, age, race/ethnicity, and *stakeholder role*. Stakeholder role pertained to positions that could influence the lives of people with mental illness. Participants were asked to indicate if they served in any of the following roles: educator or staff at an educational institution, employer or human-resources staff, health care provider or staff, mental health service provider or staff, other health or mental health professional, justice system/corrections/law enforcement, lawyer or attorney, journalist or entertainment-media professional, landlord or property manager, policymaker/legislator, or representative of a community or faith-based organization. Each of these roles was a target group for one or more of the SDR program partners conducting educational trainings. Participants were also asked to indicate whether they or a family member had ever had a mental health problem using the following two yes-or-no questions: "Have you ever had a mental health problem?" and "Do you have a family member who has or has had a mental health problem?"

Contact with a person with a mental health challenge during the presentation was assessed by asking participants the following question: "Did today's presentation include a speaker (either in person or on video) who has personally experienced mental health challenges?"

Analysis Strategy

For each program, we examined whether participants' average scores changed significantly from pre- to post-test.[1] As is conventional in social-science research, a *p* value less than 0.05 (i.e., $p < 0.05$) is considered a statistically significant change from pre- to post-test. In addition, we calculated mean-effect sizes to assess the magnitude of significant changes. Generally, 0.2 is considered a small effect size, 0.5 a medium effect size, and 0.8 a large effect size (Cohen, 1988). As a frame of reference, average effect sizes for effective medical treatments (e.g., chemotherapy for certain cancers, surgery for coronary heart disease) typically fall below 0.5 (Lipsey and Wilson, 1993).

We also conducted analyses to examine whether responses to the presentation differed by various participant characteristics such as gender, ethnicity, personal or family member experience with mental illness, and stakeholder role. Only IOOV had a sufficiently large sample size to test for differences in responses

to the presentation by stakeholder role.[2] PTasA had insufficient sample sizes for a stakeholder analysis. The PEP sample size was too small to test for differences across *any* of the participant characteristics. We present findings only for those participant characteristics in which responses to the presentation significantly differed.

Our primary statistical tests assume that each participant is independent from all the others, but this assumption is violated when multiple participants attend a presentation given by the same person (creating statistical *clusters*), as is the case for NAMI programs. Unless accounted for in analyses, clustered data can make programs appear more effective than they actually are. Our analyses of IOOV data accounted for clustering by presenter. We also calculated the intra-class correlation (ICC, an index of the degree of clustering) for each outcome because this information is important to those who might design future trainings and evaluations. The number of different presenters for PTasA and PEP trainings was not sufficiently large to adjust for clustering.

In Our Own Voice (IOOV)

Description of IOOV

IOOV is a 60- to 90-minute educational presentation aimed at changing attitudes, stereotypes, and behaviors toward people living with mental illness. IOOV is conducted by two presenters who have experienced mental health challenges. All IOOV presenters undergo a two-day training conducted by trainers who are certified by the national NAMI office. The objectives of the training are to prepare presenters to share their personal story of recovery, to be ready to present to various audiences, to learn communication and facilitation skills that will aid the IOOV presentation, to gain confidence as a person with a unique and powerful story to share, and to learn to handle inappropriate or unexpected comments and questions from audience members (National Alliance on Mental Illness, 2012).

IOOV comprises six program segments that include an introduction and five stages of recovery: "Dark Days," "Acceptance," "Treatment," "Coping Skills," and "Successes, Hopes, and Dreams." Portions of a video that feature individuals from various backgrounds recounting their personal experiences with the recovery stage introduce each recovery stage. This segment is followed by presenters who share their own personal experiences with the corresponding recovery stage. Each segment ends with an open discussion to foster group interaction. The introductory segment introduces participants to presenters as people first (without mention of their mental illness), to NAMI as an organization and resources, and to the structure of the presentation. During the "Dark Days" segment, presenters share their diagnosis and difficult experiences with mental illness. During the "Acceptance" segment, presenters relay how they were able to accept their mental illness, and this often touches on themes such as stigma, education, and family and peer support. The "Treatment" section entails presenters discussing what types

of treatment assist in maintaining their mental health, including medication and therapy. "Coping Skills" involves presenters sharing their personalized set of strategies that has aided in their recovery, such as exercise, music, or other meaningful activities. In the final segment, presenters convey their own personal "Successes, Hopes, and Dreams," and send the message that recovery is possible when proper supports are intact.

IOOV has been evaluated in prior studies (Brennan and McGrew, 2013; Corrigan et al., 2010; Rusch et al., 2008; Wood and Wahl, 2006). Although these studies have documented positive outcomes for IOOV, they remain limited in scope. These studies have been primarily restricted to college students, small sample sizes, and a narrow set of outcomes. Two studies randomly assigned undergraduate students to IOOV or a control condition (e.g., psychoeducation, presentation about psychology careers) and found that IOOV significantly decreased participants' desire to socially distance themselves from people with mental health problems, relative to participants in the control condition (Rusch et al., 2008, and Wood and Wahl, 2006). In addition to social distance, Wood and Wahl (2006) developed two measures, one of knowledge and another of attitudes, anchored to the content covered in IOOV. They found that participants who took part in the presentation significantly improved in these domains compared with the control condition. Two studies only administered assessments following the IOOV presentation, limiting the ability to assess whether there were changes in levels of stigma before and after the presentation (Brennan and McGrew, 2013, and Corrigan et al., 2010). None of these studies investigated whether IOOV influenced treatment attitudes or support toward people with mental health needs. None corrected for clustering of data, presumably because most studies were limited to a single or small set of presenters.

The present study represents the most comprehensive evaluation of IOOV to date. This study includes IOOV presentations delivered by NAMI California affiliates in 18 counties in the state.[3] As such, this study provides an examination of IOOV as it is typically delivered in real-world settings across a wide range of presenters, settings, and participants. Importantly, this evaluation fills a major gap by assessing the effectiveness of IOOV in reducing stigma among targeted stakeholders who can have a significant impact on the lives of those with mental health needs (Corrigan et al., 2010). This study also assesses the impact of IOOV across an array of outcomes targeted by CalMHSA's PEI initiative, including stigma, recovery beliefs, support intentions, and treatment attitudes.

Trainings and Participants

According to power calculations that we conducted, a sample size of approximately 3,000 participants would be needed to ensure that, if any significant pre-post changes occurred, we would be able to adequately detect such effects while accounting for clustering effects. To maximize variation and generalizability, NAMI California approached its affiliates to take part in our evalua-

tion. Out of a total of 63 affiliates, 23 were anticipated to deliver IOOV presentations within the time frame of the evaluation period. NAMI invited all 23 affiliates to participate in the evaluation. Of these, seven affiliates did not take part in the evaluation for a variety of reasons (e.g., no IOOV presentations conducted, no longer conducting IOOV presentations for CalMHSA funding). This evaluation of IOOV covered 150 training sessions funded by CalMHSA, which occurred between September 26, 2013, and March 24, 2015. A total of 2,700 participants completed a survey administered immediately before the presentation (pre-test) and immediately after the presentation (post-test). Based on quarterly reports submitted by NAMI to CalMHSA, 1,276 IOOV trainings spanning 16,569 participants were conducted with CalMHSA funding as of January 2015. Thus, this evaluation represents 12 percent of the trainings delivered to 16 percent of all participants.

Nearly one-half of this study's participants were white (48 percent). The makeup of the rest of the participants was 26 percent Latino, 4 percent African-American, 9 percent Asian-American, 1 percent Hawaiian/Pacific Islander, less than 1 percent American Indian/Native American/Alaskan Native, 6 percent mixed race, and less than 2 percent other (i.e., another race/ethnicity). Three percent did not respond to the item. Sixty-three percent were female. Over one-third (36 percent) self-reported previously experiencing a mental health problem, and 69 percent had a family member who has experienced a mental health problem. These rates are higher than those found in the general California population using the same items (24 percent and 51 percent, respectively) (Collins et al., 2015), suggesting greater interest in or targeting of IOOV among individuals directly affected by mental illness.

The following is a breakdown of the percentage of participants who endorsed serving in stakeholder roles that were assessed in the survey: 14 percent educator/staff at an educational institution; 14 percent health care provider/staff; 13 percent mental health service provider/staff; 8 percent other health/mental health profession; 1 percent lawyer/attorney; 8 percent justice system/corrections/law enforcement; 6 percent community/faith-based organization; 5 percent employer/human-resources staff; 3 percent landlord/property manager; 2 percent journalist/entertainment media professional; and 1 percent policymaker/legislator.

Based on IOOV presentation guidelines, all IOOV presentations should have involved at least one speaker who had personally experienced mental health challenges. The vast majority of respondents (89 percent) indicated that the presentation included a speaker who has personally experienced mental health problems. Less than 1 percent (n = 10) reported that the presentation did not include a speaker with mental health challenges, and 11 percent (n = 299) were missing responses. It is unclear why the latter respondents did not indicate that the presentation involved such a speaker. It is possible that respondents did not hear or attend the portion of the presentation that indicated that the presenter had experienced mental health challenges.

Short-Term Outcomes of IOOV Trainings

Desire for social distance from people with mental health challenges significantly decreased after participating in IOOV. As seen in Figure 1, participants were significantly more willing to work closely on a job, spend an evening socializing, and move next door to a person with a serious mental illness after taking part in IOOV. Effect sizes (*ES*) ranged from 0.53 (work closely on job) to 0.56 (move next door).

Beliefs about the dangerousness and recovery of people with mental illness significantly improved after IOOV. As seen in Figure 2, participants' endorsement of the idea that people with a mental illness are a danger to others significantly decreased from pre-test to post-test (*ES* = 0.35). Similarly, perceptions of people with a mental illness as never being able to contribute much to society significantly decreased (*ES* = 0.13). Moreover, beliefs about a person with a mental illness being able to eventually recover significantly increased after attending an IOOV presentation (*ES* = 0.46).

After IOOV, participants reported greater awareness of stigma and increased capacity to act in supportive ways toward people with mental illness. As seen in Figure 3, significant increases from pre-test to post-test occurred in agreement with the statement that people with mental health problems experience high levels prejudice and discrimination (*ES* = 0.06). As indicated by the effect sizes, shifts in stigma awareness were small in magnitude relative to the significant increases observed for reported knowledge on how to be supportive of people with mental illness (*ES* = 0.36) and intentions to take action to prevent discrimination (*ES* = 0.27).
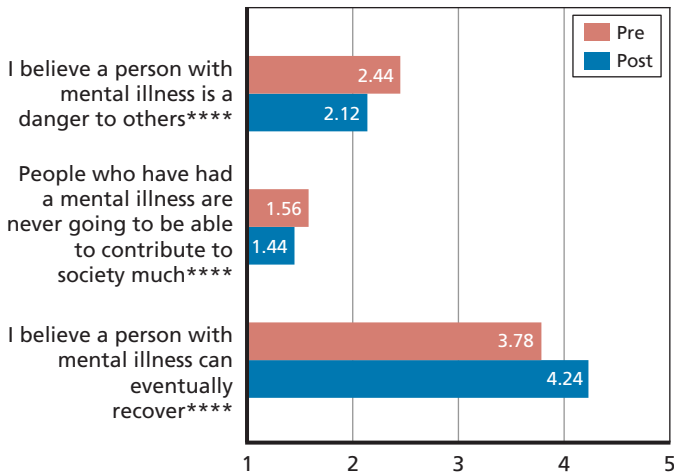
Figure 1. IOOV Social Distance Pre-/Post-Test Mean Scores
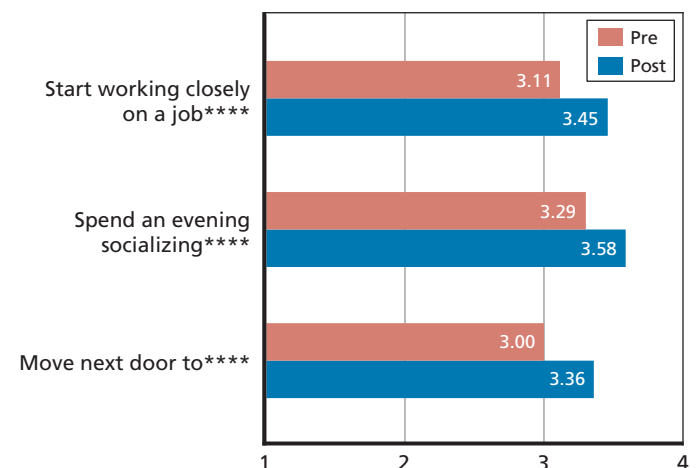
NOTE: Response options ranged from 1 (definitely unwilling) to 4 (definitely willing).
****p < 0.0001.
RAND *RR1247-1*

Figure 2. IOOV Perceived Dangerousness and Recovery Beliefs Pre-/Post-Test Mean Scores
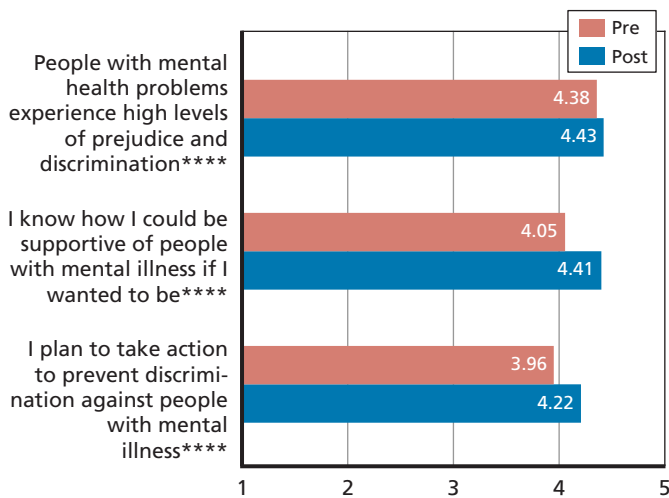

NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

****$p < 0.0001$.

RAND *RR1247-2*

Figure 3. IOOV Stigma Awareness and Support Pre-/Post-Test Mean Scores

NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

****$p < 0.0001$.

RAND *RR1247-3*

IOOV decreased intentions to conceal a mental health problem and improved treatment-seeking intentions. After IOOV, significant decreases were observed in intentions to conceal a mental health problem from either friends or family ($ES = 0.30$) or from coworkers ($ES = 0.42$) (see Figure 4). Participants also were significantly more likely to report that they would seek professional help if they had a serious emotional problem ($ES = 0.34$) and were significantly less likely to endorse that they would delay

treatment out of fear of letting others know about their mental health problem ($ES = 0.27$).

Responses to IOOV Vary by Certain Participant Characteristics

IOOV trainings were more effective among Latinos and Asian-Americans, females, and participants who have not experienced a mental illness either directly or through a family member. Relative to whites, Latinos experienced greater gains in a number of domains, such as social distance (i.e., move next door), recovery beliefs, support provision, perceived dangerousness, and willingness to seek treatment (see Appendix A). Similarly, Asian-Americans responded more positively to IOOV than whites. Asian-Americans exhibited greater shifts than whites across all three social distance items, recovery beliefs, perceived dangerousness, and willingness to seek treatment. It is important to note that, relative to whites, Asian-Americans on average started off with more negative attitudes at pre-test and still held more negative attitudes at post-test across a number of items (e.g., social distance), even though they made larger improvements before and after the presentation.

IOOV was particularly effective among individuals who have not personally experienced mental illness compared with those who have had such experiences. Participants who have not experienced a mental illness made greater gains on nine of the 13 items assessed (see Appendix A). Likewise, participants who

Figure 4. IOOV Concealment and Treatment-Seeking Intentions Pre-/Post-Test Mean Scores
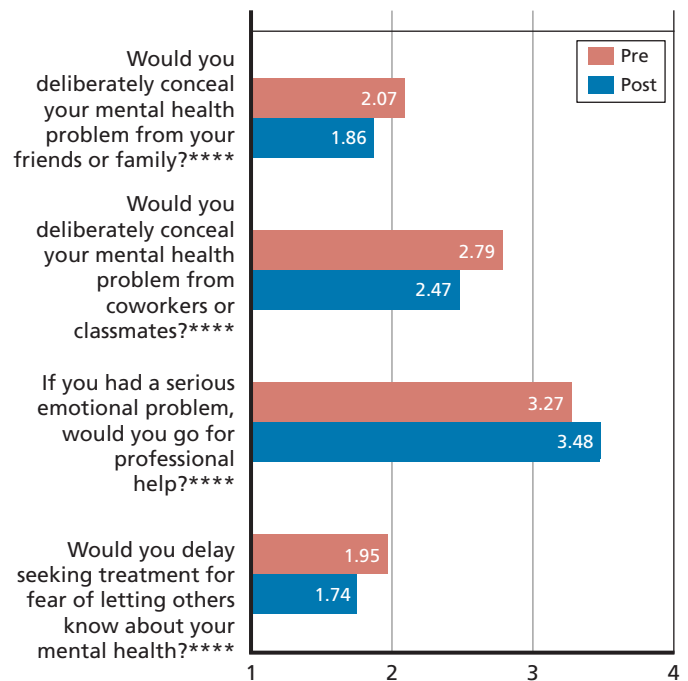
NOTE: Response options were 1 (definitely not), 2 (probably not), 3 (probably), 4 (definitely).

****$p < 0.0001$.

RAND *RR1247-4*

reported not having a family member who has experienced mental health problems responded more positively across five of the 13 items assessed (e.g., social distance, recovery beliefs, perceived dangerousness, treatment intention).

In addition, we found that female participants improved more than male participants across several stigma outcomes, including all three social-distance items, recovery beliefs, and perceived dangerousness.

IOOV appeared to be equally effective across stakeholder groups, with the exception of mental health professionals, for whom the presentation was not as effective as for those with no reported stakeholder role. Compared with those without a reported stakeholder role, shifts in social distance, recovery beliefs, support, perceived dangerousness, and willingness to seek treatment were not as large for mental health professionals (see Appendix A). This may have been due to mental health professionals having lower levels of stigma at pre-test compared with those without a stakeholder role. Reverse effects were found for one outcome in this group: After the IOOV presentation, mental health professionals were significantly more likely to agree with the statement that people with a mental illness are "never going to be able to contribute to society much."

Accounting for the Clustering (Similarity) of Participants by Presenter

With respect to the degree of clustering by presenter, ICCs ranged from 0.008 to 0.055 across the various outcomes. This suggests that, when attending an IOOV presentation delivered by the same presenter, the extent to which participants responses are very similar (or cluster together) are modest. Nonetheless, even for ICCs at the lower range, reductions in the effective sample size are substantial.[4] For example, with an ICC of 0.02, a sample of 50 participants would be equivalent to a random sample of 22.7 participants. This indicates that accounting for the effects of clustering by presenter is important to ensure that the estimates of the program's effects are accurate and not overinflated. We include this information, as well as effect sizes that have been adjusted to account for clustering, so that any future evaluations of IOOV or similar programs can use them to inform their design and analyses and make comparisons of results to the findings in this present evaluation (see Appendix B).

Discussion

IOOV resulted in positive shifts in all of the outcomes assessed. The largest effects occurred for social distance. After the training, participants reported being significantly more willing to interact with people with mental health challenges in social and workplace settings. Effect sizes were in the medium range (0.52–0.56), comparable to the magnitude of change documented in a prior evaluation of IOOV (Rusch et al., 2008) and recent meta-analyses of stigma-reduction programs (Corrigan et al., 2012, and Griffiths et al., 2014).

Most of the other outcomes were affected more modestly but within a range that would be meaningful if experienced by a broad segment of the population. IOOV is one of the most broadly implemented stigma-reduction programs in the United States, and trainings for CalMHSA reached more than 16,000 individuals in California, suggesting even small effects might make a large difference at the population level (Rosenthal, Rosenow, and Rubin, 2000). Only two effects were minor enough to be considered negligible. These were the very small shifts in beliefs that people with mental illness will never contribute to society much and in awareness of mental illness stigma. These may have been hard to shift because stigma awareness was high at baseline, as was rejection of the notion that people will never contribute much after a mental illness.

The outcomes that did change included constructs not explicitly measured in prior IOOV evaluations, in particular, supportiveness of people with mental health challenges. Participants' supportiveness of people with mental health challenges and intentions to take action to prevent discrimination increased after training.

IOOV also improved responses to potential personal mental health challenges. Intentions to conceal a mental health problem from family and friends or coworkers and classmates significantly decreased after the presentation. Decreased concealment from coworkers or classmates was one of the larger effects we observed. Moderately sized effects were also found for treatment-seeking intentions.

IOOV yielded positive outcomes across different participant groups but was of particular benefit to Latino and Asian-Americans. Some racial and ethnic groups, particularly some subgroups of Asian-Americans and Latinos, have particularly high rates of mental illness stigma (Collins et al., 2015). Thus, it is important for anti-stigma interventions to work effectively across racial and ethnic lines. Our findings suggest that IOOV is not only effective across diverse groups, but may be especially advantageous for Latinos and Asian-Americans. This may be because they started off with more negative attitudes across multiple domains relative to whites, providing greater room for improvement.

Those who have not experienced mental health challenges personally or through a family member also particularly benefitted from IOOV. Like the advances made by Asian-American and Latino participants, these subgroups had more room for improvement, having expressed more stigmatizing attitudes at pre-test. They may also have been more likely to benefit from the particular intervention technique employed by IOOV—contact with someone who has experienced mental illness—because they have already experienced an intimate form of such contact.

IOOV was also associated with more positive outcomes among female than male participants. Only a few studies have examined gender differences in stigma-reduction program effects, and these have been limited to studies conducted with adoles-

cents. Although some gender effects have been documented, their pattern is inconsistent (Martínez-Zambrano et al., 2013, and Pinfold et al., 2005). Further work is needed to determine whether gender differences found in response to IOOV and in other studies are reliable or were a result of chance (e.g., random differences).

Compared with those with no stakeholder role, mental health professionals experienced smaller gains. This may have been due to mental health professionals holding more positive attitudes at the outset. And, like family members and those with personal experiences of mental health challenges, mental health professionals have had considerable prior contact with people living with mental illness, perhaps rendering IOOV's contact-based strategy less effective. There was one negative finding: mental health professionals were significantly more likely to endorse that people with mental health challenges would not contribute much to society after the training. Mental health professionals, however, did have the lowest-rate endorsement of this item at pre-test. At post-test, they still had one of the lowest levels of endorsement relative to other stakeholders (despite increases). It may be wise to target IOOV at other audiences or to create a version that is adapted to the unique prior attitudes and experiences of mental health professionals.

This study's findings strengthen the evidence for IOOV's effectiveness considerably, particularly with respect to the generalizability of the effects across different presenters, affiliates, populations, and settings. Given its inclusion of more than 100 IOOV presentations delivered across 18 different counties in California, this study represents one of the most rigorous tests of a stigma-reduction program developed and delivered by a grassroots organization. Comparable prior IOOV evaluations have been confined to the delivery of IOOV by a single set of presenters to undergraduate students, making it unclear as to whether the effects were specific to the presenters or target audience under study (Corrigan et al., 2010, and Rusch et al., 2008). Moreover, with the wide representation across affiliates and regions and sufficiently large sample size, we were able to show that the effects remained even after accounting for clustering effects by presenter. Further, the range of ICCs for the outcomes highlight the importance of accounting for the effects of clustering in evaluations of NAMI or similar programs, if at all possible. By accounting for clustering in our own study, we have provided a more stringent test of the effects of IOOV.

Parents and Teachers as Allies (PTasA)

Description of PTasA

PTasA is a two-hour in-service, educational program developed for teachers and school personnel. PTasA is delivered by a four-member team consisting of an *education moderator* (who has a background in education), a *presenter* (a NAMI Family-to-Family or Basics teacher[5] who has ideally experienced coping with a child with early-onset mental illness or a school professional with some mental health knowledge), a *parent* (who has a child with current mental health challenges), and an *individual living with mental illness* (who had symptoms as a child or adolescent). PTasA is designed to equip educational professionals to recognize early warning signs of mental illness, communicate and partner with families effectively, make timely connections to community services, and foster supportive learning environments for all students. A key aspect of a supportive environment for those with mental health challenges is one free of stigma and encouraging of respect (Byrne, 2000, and Keyes, 2007). Thus, we expected to observe reductions in stigma (e.g., negative attitudes and beliefs toward mental illness) and increases in supportive intentions (e.g., desire to provide support or advocacy for individuals with mental health challenges) post-training.

Trainings and Participants

NAMI California invited all affiliates delivering PTasA trainings to take part in our evaluation. This resulted in the inclusion of 16 PTasA trainings, which occurred between October 1, 2013, and October 21, 2014. A total of 275 participants completed the pre- and post-survey. Based on quarterly reports submitted by NAMI to CalMHSA, 81 PTasA trainings involving 879 participants had been conducted with CalMHSA funding as of January 2015. Thus, this evaluation covers approximately 20 percent of the trainings and 31 percent of the participants who took part in CalMHSA-funded PTasA presentations. Approximately one-half of participants were white (56 percent), 27 percent Latino, 4 percent African-American, 4 percent Asian-American, 4 percent mixed race/ethnicity, 3 percent other race/ethnicity, less than 1 percent Native American, and 3 percent were missing responses. For analyses that test for differential responses to PTasA by race/ethnicity, we created three subgroups: whites, Latinos, and all other ethnic minority groups, due to small sample sizes.

More than three-quarters of our sample (77 percent) were female, nearly one-quarter had experienced a mental health problem (23 percent), and 62 percent had a family member who has experienced a mental health problem. With respect to stakeholder roles, 77 percent reported being an educator/staff at an educational institution, 9 percent a mental health service provider/staff member, less than 3 percent a health care provider or staff member, 13 percent were in another health/mental health profession, and 8 percent were representatives of a community or faith-based organization. A small number of participants (3 percent or fewer) endorsed serving in roles such as employer/human-resources staff, justice system/corrections/law enforcement, journalist/entertainment media professional, or landlord/property manager. Ten percent did not indicate a stakeholder role. If applicable, participants could select more than one role.

The vast majority (86 percent) reported that their session included a presenter who has experienced mental health challenges; only 1 percent (*n* = 4) indicated no such presenter, and 12 percent (*n* = 34) had missing responses. Participants who

reported no contact or had missing values took part in trainings where the large majority of other participants indicated having contact with a presenter who has experienced a mental health challenge. This discrepancy may be due to certain participants missing segments of the training that involved a presenter talking about their experiences with mental health challenges (e.g., entering late, restroom break, leaving the room to take a call, inattention, etc.).

Short-Term Outcomes of PTasA Trainings

PTasA reduced the desire for social distance from individuals experiencing mental health challenges. As seen in Figure 5, participants reported being significantly more willing to start working closely on a job with, spend an evening socializing with, and move next door to someone with a serious mental illness after the training. The effect sizes for the social-distance outcomes were all in the medium range from 0.52 (move next door) to 0.55 (spend an evening socializing).

PTasA countered negative stereotypes about the dangerousness and recovery of people with mental illness. After the training, participants were significantly less likely to view individuals with mental health challenges as a danger to others ($ES = 0.34$) (see Figure 6). In addition, beliefs about recovery significantly improved. Beliefs about people with mental illness not being able to contribute much to society decreased ($ES = 0.14$), while beliefs about people being able to eventually recover increased ($ES = 0.33$). Despite these gains, participants at post-test, on average, fell slightly short of moderately agreeing that recovery is eventually possible, suggesting room for improvement.

Awareness of public stigma increased among participants, as did the potential capacity to provide support to people experiencing mental health challenges. As seen in Figure 7, participants were more aware of stigma (i.e., they more

Figure 5. PTasA Social Distance Pre-/Post-Test Mean Scores
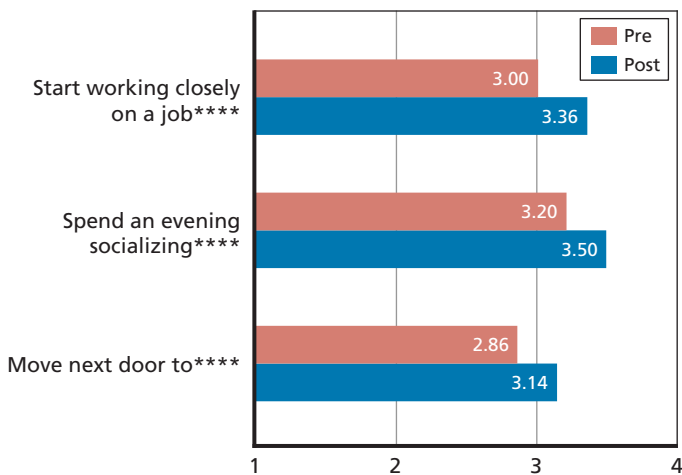
NOTE: Response options ranged from 1 (definitely unwilling) to 4 (definitely willing).
****$p < 0.0001$.

RAND *RR1247-5*

Figure 6. PTasA Perceived Dangerousness and Recovery Beliefs Pre-/Post-Test Mean Scores
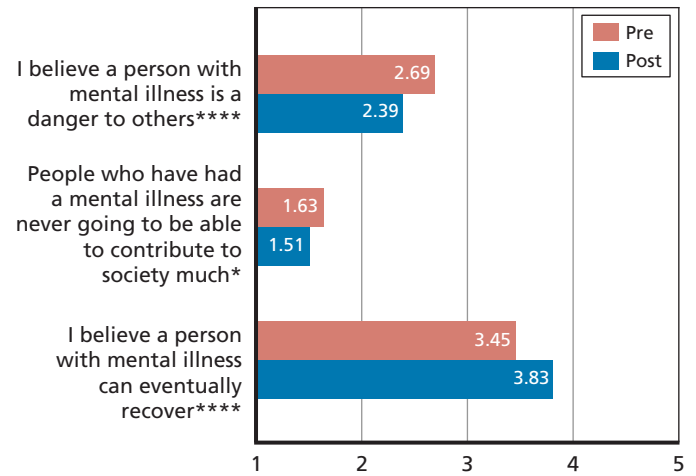
NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).
*$p < 0.05$ and ****$p < 0.0001$.

RAND *RR1247-6*

Figure 7. PTasA Public Stigma and Support Pre-/Post-Test Mean Scores
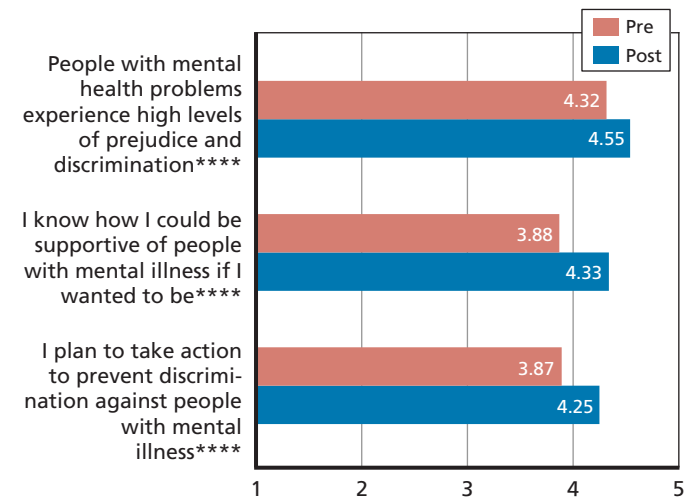
NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).
****$p < 0.0001$.

RAND *RR1247-7*

strongly agreed that people with mental illness experience high levels of prejudice and discrimination) after the training ($ES = 0.25$). Participants also expressed greater confidence in knowing how to support people with mental illness ($ES = 0.39$) and stronger intentions to take action to prevent discrimination ($ES = 0.37$).

Intentions to conceal a mental health problem or to delay treatment decreased, and intentions to seek treatment increased. Although the goal of PTasA is not to inform or persuade participants about what to do if they personally experi-

ence a mental health problem, we reasoned that the training's focus on the recognition of mental illness, normalizing reactions to being diagnosed with a mental illness, and the importance of early intervention and treatment may have a positive impact on responses to mental illness and treatment attitudes. Indeed, after PTasA, participants were significantly less likely to endorse that they would conceal a mental health problem from either family or friends (*ES* = 0.25) or from coworkers or classmates (*ES* = 0.52) (see Figure 8). In addition, PTasA was associated with significant decreases in intentions to delay treatment for fear of letting others know about a mental health problem and significant increases in intentions to obtain professional help if needed.

Few outcomes varied by participant characteristics. Overall, we observed few differences in PTasA outcomes across the subgroups examined. PTasA was more effective at changing some stigma-related outcomes for Latino participants compared with those of other backgrounds. Compared with whites, Latinos exhibited significantly greater increases from pre-test to post-test in their degree of willingness to move next door to, socialize with, or work closely with an individual with a mental illness (see Appendix C). Notably, Latinos started off at pre-test with lower levels of willingness to interact with people with mental illness than whites. In addition, decreases in intentions to conceal a mental health problem from family or friends and increases in intentions to take action against discrimination were significantly greater for Latinos than non-Latino whites.

Figure 8. PTasA Concealment and Treatment-Seeking Intentions Pre-/Post-Test Mean Scores
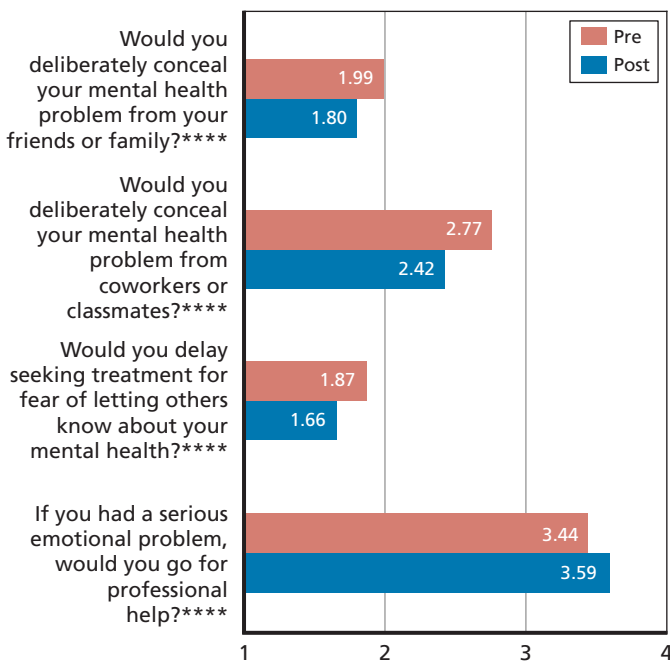
NOTE: Response options were 1 (definitely not), 2 (probably not), 3 (probably), 4 (definitely).
*****p* < 0.0001.

RAND *RR1247-8*

Responses by all other racial/ethnic groups to PTasA were similar to those of whites. Compared with males, female participants experienced greater increases in willingness to move next door to an individual with mental illness and in viewing individuals with a mental illness as being able to contribute to society. Finally, individuals with no family members who have experienced a mental illness showed greater reductions in intentions to delay treatment compared with participants who have family members who have experienced a mental illness. This may be due to those who have a family member with mental illness starting off with a lower intent to delay treatment at pre-test.

Discussion

Participants improved in several areas that are pertinent to PTasA goals of increasing educational professionals' support for students with mental health needs. Specifically, participants experienced positive shifts in social distance, recovery beliefs, stigma awareness, and support provision. Of all the outcomes assessed, the largest effects were found for social distance, with participants being significantly more willing to interact with individuals with mental illness after the training. Should these short-term changes persist, they have the potential to positively affect the behavior of educational staff. For example, educational staff who are more willing to engage with individuals experiencing a mental health challenge may be more likely to facilitate early identification and access to treatment. Lower levels of social distance have been associated with intended and actual support-giving behaviors (Jorm et al., 2005, and Yap and Jorm, 2012).

After the training, participants also exhibited greater awareness of stigma and more positive beliefs about recovery, which may motivate educational staff to intervene on behalf of students with mental health needs. More directly related to their role as potential gatekeepers, educational staff reported significant increases in their knowledge on how to be supportive of people with mental illness and in their intentions to take action to prevent discrimination. Effect sizes were in the small range, but the strongest effects were found for support knowledge (0.37) and the prevention of discrimination (0.39). It is important to note that, even after the PTasA training, participants on average fell short of moderately agreeing with the statement that a person with mental illness can eventually recover. Perhaps modifications can be made to PTasA to strengthen its impact on recovery beliefs. Given that most people with a mental disorder experience their first onset of a disorder by age 14 (Kessler et al., 2005), training educational staff to be effective gatekeepers who can facilitate early identification and linkages to treatment can be a significant PEI strategy for youth at the population level, even if effects among individual trainees are small in size (Rosenthal, Rosenow, and Rubin, 2000).

Perceptions of dangerousness significantly decreased after the training. Only modest effect sizes were found for pre-post reductions in perceptions of people with mental health challenges as dangerous. In a longitudinal study with Australian

youths, however, those who perceived people with mental health problems as more dangerous were *more likely* to seek treatment themselves as well as facilitate professional help for individuals with a mental health need (Yap, Wright, and Jorm, 2011). Thus, reductions in perceived dangerousness may not be an important, or even useful, goal for PTasA, given its focus on increasing support provision and linkage to treatment.

Intentions to conceal a mental health problem decreased, and intentions to seek treatment if needed increased. Though PTasA is primarily targeted at increasing educational staff members' knowledge of mental illness, stigma, and how to support students with mental health needs and their parents, the program may have also yielded direct benefits to participants. After the training, educational staff members indicated that they would be less likely to conceal a mental health problem from friends or family or from coworkers or classmates. The effect size for reductions in concealment from coworkers or classmates was in the medium range—the only outcome other than social distance to demonstrate such a large effect.

Latino participants particularly benefited from PTasA. Compared with whites, Latino participants exhibited significantly greater reductions in social distance and concealment from family or friends and significantly greater increases in intentions to prevent discrimination. Female participants also exhibited greater gains than males on two outcomes: willingness to move next door to an individual with a serious mental illness and beliefs about individuals with mental health challenges being able to contribute to society. Finally, PTasA appeared especially beneficial for individuals who have not been exposed to a family member with a mental illness, in that decreases in intentions to delay treatment were greater in this group relative to those who had family members with lived experience. It is possible that those with a family member who has experienced mental illness may have had contact experiences, such that PTasA may not have yielded additional benefits in changing treatment attitudes.

Provider Education Program (PEP)

Description of PEP

PEP is a five-session, 15-hour educational-training program for mental health–service providers. PEP is delivered by a three-member team consisting of an adult living with mental illness, a family member of a person living with mental illness, and a mental health professional. In addition to the presentation of educational material, presenters who are family members and who are living with a mental illness share their personal experiences of the recovery process, including interactions with mental health professionals. The goal of PEP is to foster greater awareness of the experiences of individuals living with mental illness and their family members, to enhance support for family involvement in the treatment process, and to increase mental health professionals' assistance with the recovery process, including confronting stigma and discrimination.

Trainings and Participants

NAMI California invited all affiliates delivering PEP trainings to take part in the RAND evaluation. This evaluation covered eight training sessions that occurred between October 7, 2013, and June 11, 2014. A total of 73 participants completed both a survey administered immediately before the first session (pre-test) and immediately after the last session (post-test). According to NAMI quarterly reports, a total of 31 PEP trainings involving 424 participants had been conducted as of January 2015. Hence, this evaluation represents a little over one-quarter of all CalMHSA-funded PEP trainings and 17 percent of participants who took part in these trainings.

Forty-two percent of the participants were white, 27 percent Latino, 5 percent African-American, 14 percent Asian-American, 3 percent Hawaiian/Pacific Islander, 4 percent mixed race, 3 percent other race/ethnicity, and 1 percent missing.

More than three-quarters of participants (77 percent) were female. Fifty-one percent had experienced a mental health problem, and 86 percent had a family member who experienced a mental illness. The proportion of participants serving in any of the assessed stakeholder roles were as follows: 53 percent mental health service provider/staff, 22 percent health care provider/staff, 22 percent other health/mental health profession, 8 percent educator/staff at an educational institution; 5 percent employer/human-resources staff; 4 percent justice system/corrections/law enforcement; 7 percent landlord/property manager; 11 percent representative of a community or faith-based organization; and 8 percent did not indicate any role. Participants could select more than one role if appropriate.

Of all participants, 60 percent (*n* = 44) reported that PEP included a presenter who has experienced mental health challenges, 10 percent (*n* = 7) indicated no such presenter, and 30 percent (*n* = 22) had missing values. It is unclear why the remaining respondents did not indicate that the presentation involved contact. It is possible that respondents did not hear or attend the portion of the presentation that indicated that the presenter had experienced mental health challenges.

As noted earlier, given the small sample size, we did not conduct analyses to assess for differential responses by demographic characteristics or stakeholder role. Small samples can produce unreliable estimates.

Short-Term Outcomes of PEP Trainings

PEP participants showed significant decreases in social distance following training. Participants indicated that they would be significantly more willing to socialize with (*ES* = 0.38) and move next door to (*ES* = 0.44) an individual with a serious mental illness after the training (see Figure 9). In contrast, no significant changes in willingness to work closely on a job with an individual with a mental illness occurred, although shifts on this item are in the same positive direction.

Perceptions of dangerousness decreased, while no significant shifts occurred for recovery beliefs. As seen in Figure 10,

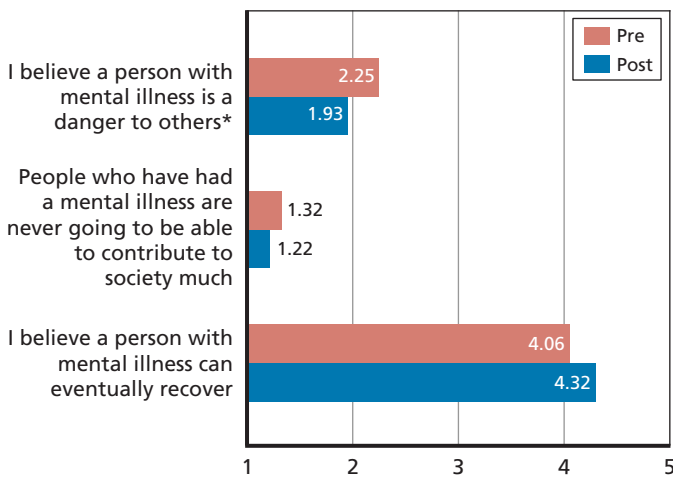**Figure 9. PEP Social Distance Pre-/Post-Test Mean Scores**
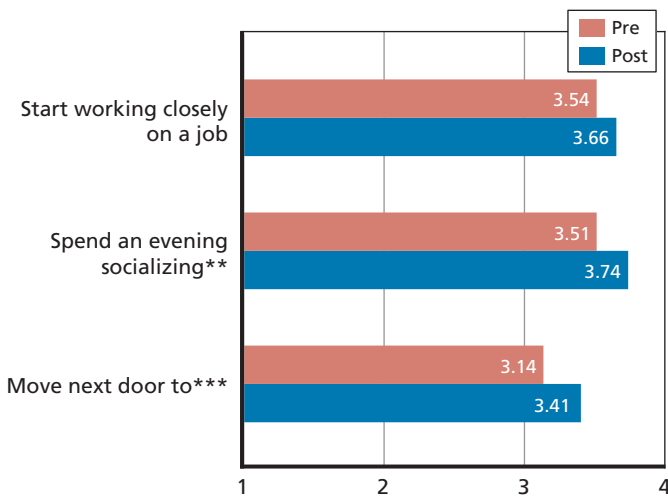
NOTE: Response options ranged from 1 (definitely unwilling) to 4 (definitely willing).

**p < 0.01 and ***p < 0.001.

RAND *RR1247-9*

Figure 10. PEP Perceived Dangerousness and Recovery Beliefs Pre-/Post-Test Mean Scores

NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

*p < 0.05.

RAND *RR1247-10*

participants were significantly less likely to agree that an individual with a mental illness is a danger to others after the training (*ES* = 0.27). In contrast, there were no significant pre-post changes in beliefs about whether an individual with a mental illness would be able to contribute to society or eventually recover. The lack of significant findings may be due to the fact that participants held relatively positive beliefs about recovery and the potential for people with mental illness to contribute to society at pre-test, leaving less room for change. For instance, participants in PEP on average moderately agreed with the the statement that

people with mental illness can eventually recover with a mean pre-test of 4.06, compared with IOOV and PTasA participants, who had mean pre-test scores of 3.46 and 3.77, respectively.

Participants reported greater ability to support people with mental illness. Changes in stigma awareness and intentions to prevent discrimination were not observed, possibly because participants began with fairly positive attitudes at pre-test. After the training, agreement with the statement, "I know how I could be supportive of people with mental illness" significantly increased (*ES* = 0.44) (see Figure 11). Given that a substantial proportion of participants were mental health professionals, this suggests that participants learned new ways of being supportive not previously thought of in their current stakeholder role. This may be reflective of PEP's direct focus on training mental health providers to work collaboratively with individuals affected by mental health problems and their family members. Participants' perception of public stigma (i.e., high levels of prejudice and discrimination against people with mental health problems) and intentions to prevent discrimination did not change as a result of the training. This may be due, however, to the fact that participants started off at the pre-test with fairly high levels of awareness of public stigma and intentions to prevent discrimination.

PEP resulted in significant reductions in intentions to conceal a mental health problem from friends or family, but not from coworkers or classmates. Although PEP does not intentionally target provider responses, should they themselves experience a mental health problem, we posited that the training's focus on the importance of involving family members in the treatment process may influence their own likelihood of concealing a mental illness. As seen in Figure 12, decreases in conceal-

Figure 11. PEP Stigma Awareness and Support Pre-/Post-Test Mean Scores
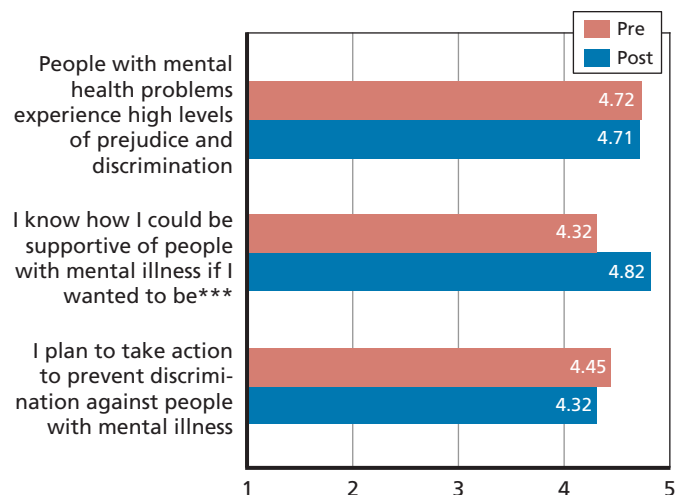
NOTE: Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

***p < 0.001.

RAND *RR1247-11*

Figure 12. PEP Concealment and Treatment Seeking Intentions Pre-/Post-Test Mean Scores
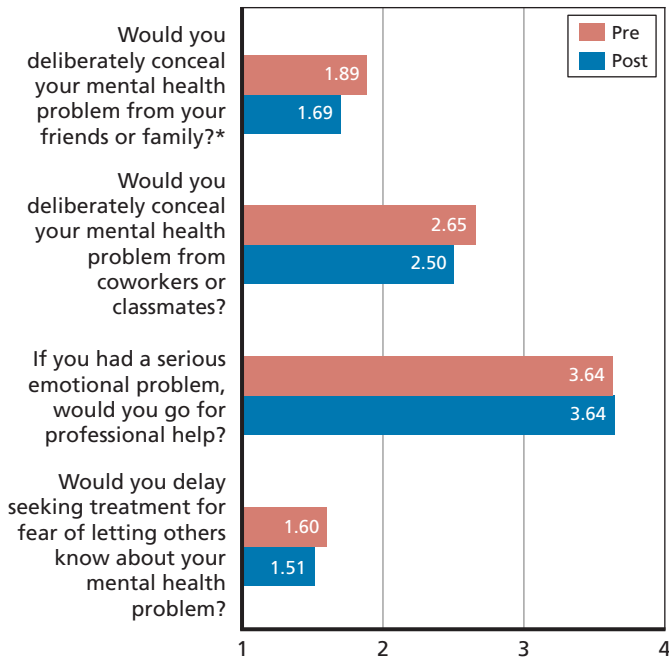
NOTE: Response options were 1 (definitely not), 2 (probably not), 3 (probably), 4 (definitely).

*$p < 0.05$.

RAND *RR1247-12*

ment did occur; however, only for friends and family. Moreover, intentions to conceal from coworkers or classmates were higher both at pre-test and post-test compared with concealment from friends or family. Findings suggest that participants may anticipate higher levels of stigma and adverse consequences from disclosing a mental health problem to coworkers or classmates than friends or family. Thus, although a large majority of participants serve in a mental health professional–related role and their coworkers are likely to be in the same profession, being open about one's mental health challenges does not appear to be safe or comfortable. The effect size of decreases in concealment from friends or family was in the small range (*ES* = 0.26). With respect to intentions to seek professional help or to delay treatment, no significant pre-post changes were detected.

Discussion

PEP was associated with a number of positive outcomes. The strongest effects pertained to reductions in social distance and increases in knowledge of how to support people with mental illness. These gains are notable given that PEP targets providers, who are likely to come into frequent contact with individuals with mental illness. Findings are directly relevant to CalMHSA's goals of changing practices and systems to be more socially inclusive and supportive of people experiencing mental health challenges. Effect sizes ranged from 0.38 to 0.44 and are considered small to medium by common standards (Cohen,

1988). These are within the range of findings from recent meta-analyses for anti-stigma trainings, but on the higher end of that range (Corrigan et al., 2012, and Griffiths et al., 2014). Interestingly, although participants reported greater willingness to interact with individuals with a mental illness in social situations (i.e., spending an evening socializing, living next door), the same gains were not obtained for workplace situations (i.e., work closely on a job). This raises some concerns given the increasing use of peer-support specialists in mental health agencies (i.e., paid employees who are in recovery and provide assistance to clients throughout the treatment process) (Chinman et al., 2014).

Modest shifts occurred in dangerousness beliefs and in intentions to conceal a mental health problem from friends or family. Effects sizes for these items were in the small range (Cohen, 1998). Findings suggest PEP may foster not only greater support and social inclusion by providers, but may also erode negative stereotypes concerning people with mental health challenges as being dangerous. In addition, though PEP is targeted at enhancing providers' support for people with mental health challenges, the training had a direct positive impact on providers themselves by decreasing their likelihood of concealing a mental health problem from friends or family. Significant pre-post changes were not detected for recovery beliefs, awareness of stigma and discrimination, intentions to prevent discrimination, and treatment-seeking attitudes. The lack of significant effects could be attributed to the smaller sample size relative to the other NAMI programs, resulting in reduced ability to detect potential pre-post changes. This may be due to the fact that, at pre-test, participants on average displayed fairly positive attitudes toward mental illness and treatment, and that, as mental health–service providers, the majority of participants previously had fairly extensive experience with these issues. Other studies also find that mental health professionals hold more positive attitudes toward treatment than the general public (Schulze, 2007, and Stuber et al., 2014).

In addition to participants' experiences as mental health professionals, a substantial proportion had more personal contact experiences. Slightly more than half had personally experienced a mental health problem, and more than 80 percent had a family member who has experienced a mental health challenge, which may have lessened the impact of the contact strategies employed by PEP. Another possible contributing factor is that more than a third of the participants did not indicate that PEP included a presenter who had experienced mental health challenges. PEP is a five-session training program, and there may have been participants who attended only sessions or partial sessions that did not include a presenter who has experienced mental health challenges. There also may have been participants who did not pay attention to portions of the training that included such a presenter (e.g., stepped out for a phone call or restroom break). Because we did not assess program fidelity, we were unable to ascertain the extent to which all of the PEP sessions included a presenter who has experienced mental health challenges.

Whether or not they do may influence outcomes and warrants additional study.

Slightly more than half of participants were mental health providers or staff, and PEP was designed to specifically target mental health providers. (Although under CalMHSA, it was rolled out to a wider array of health service providers, who made up most of the rest of our PEP sample.) While mental health professionals may believe strongly in treatment and be aware of stigma, prior research does raise some concerns that they may hold negative stereotypes about mental illness and have preferences for social distance (Schulze, 2007, and Stuber et al., 2014). Further, more than a third of Californians affected by mental health challenges report being discriminated against by mental health staff (Wong et al., 2015a). Thus, it is clearly important to intervene with this particular stakeholder group. **Our results show that PEP was able to effect changes in the areas where mental health providers display the greatest need for improvement: social distance, perceptions of dangerousness, and support for people with mental health challenges.** Correspondingly, changes were not observed for stigma awareness, recovery beliefs, and treatment attitudes, domains for which this study's participants and the broader mental health professional community have been shown to hold positive views (Schulze, 2007).

Conclusions

All three NAMI programs yielded significant short-term improvements across a wide variety of indicators of stigma. In fact, IOOV and PTasA trainings resulted in desired pre-post changes across all of the outcomes assessed. Although PEP affected a more limited set of outcomes, this may have been due to the small sample size as well as the fact that the large majority of participants were mental health professionals, who started off at pre-test with lower levels of stigma in some domains relative to participants in IOOV and PTasA. Nonetheless, PEP did impact outcomes that may be most important to target in this group, including increased willingness to interact with individuals with a mental illness and greater knowledge on how to be supportive. Across all programs, the strongest effects were reductions of social distance—a key indicator of stigma. While more modest effects were found for other outcomes, educational trainings within the SDR initiative are intended to interact synergistically with other parallel efforts, such as social marketing campaigns, interventions targeting policy and institutional change, and efforts to influence media portrayals of individuals living with mental illness (Burnam et al., 2012). This is consistent with the premise of many public-health campaigns, which aim to effect small changes at the individual, social, and institutional levels in the hopes of evoking longer-term population-level impacts (Rice and Atkin, 2013).

IOOV and PTasA worked particularly well for certain groups (Latinos, females, individuals who do not have a family member with a mental illness). It is possible that Latinos and nonfamily members have had more limited contact with people with mental health challenges, and the contact-based strategies employed by NAMI programs were especially effective for this reason. For female participants, contact strategies, especially those involving the telling of stories, may be especially effective for other reasons, perhaps capitalizing on gender differences in empathy (Eisenberg and Lennon, 1983). Few studies have examined gender differences in SDR outcomes, and further study is warranted (Martínez-Zambrano et al., 2013). Given the small number of participants, we did not test whether PEP outcomes differed across various subgroups.

There was some evidence that outcomes may not have been as positive for mental health professionals. PEP yielded changes across fewer domains among its target audience of mental health professionals, and IOOV was less effective among mental health professionals compared with those with no stakeholder role. This may be because the mental health providers who attended NAMI trainings had less stigmatizing attitudes at pre-test, at least in some domains. Further work is needed to understand these findings. It may be that the trainings we examined attracted providers who are less stigmatizing than their peers. If so, perhaps outreach should be expanded to, and research should test effectiveness among, mental health providers compelled to attend trainings by their employers, rather than those choosing to attend out of interest. Regardless, PEP effectively addressed the most problematic attitudes and beliefs among mental health providers in our study, providing promising evidence that it is a useful program for addressing stigma in this group.

Findings should be considered in light of certain study limitations. Our evaluation focused only on immediate short-term outcomes. What is not known is the extent to which the observed gains persist further in time from the training. We also relied on some vignette-based measures that we modified to keep the survey brief, which should be validated in future studies. In addition, in the absence of a randomized control trial design, it is unclear whether findings may have been affected by social desirability (desire to respond in a way so one is viewed positively), the voluntary nature of participation (trainings were not mandated and those who choose to participate may be a select group), or other factors apart from the training. Further, the NAMI trainings target many individuals who serve in gatekeeper roles such as educators, health care providers, mental health professionals, and law enforcement, underscoring the need to assess whether the immediate short-term effects translate into subsequent supportive behaviors that promote the recovery of individuals experiencing mental health challenges. This study also represents only a small subset of the total number of trainings delivered by NAMI. Only the affiliates that agreed to or were able to take part in the evaluation were included in the study, likely introducing some bias with respect to the degree of representativeness of the programs. For instance, it is likely that the affiliates that had the greatest capacity to administer the pre-post surveys agreed to take part in the evaluation. Nonetheless, efforts were made to purposively

sample broadly across affiliates and regions for IOOV. Finally, PTasA and PEP had smaller sample sizes relative to IOOV, which may have limited the power to detect differential responses to the programs by various participant characteristics.

Regardless, findings hold promise given that stigma has been linked to support provision for individuals with mental health needs. In prior research, adults who hold more stigmatizing attitudes assert that they would be less likely to encourage professional help or provide personal support to an individual presenting with a mental health need (Jorm et al., 2005). In a longitudinal study of adolescents, lower levels of social distance predicted greater odds of assessing for suicide risk and of making a doctor's appointment for a family member or friend with a mental health need (Yap, Wright, and Jorm, 2011). Moreover, even small, temporary changes may be instrumental in increasing participants' receptivity to other SDR efforts, such as the anti-stigma social marketing campaigns and the availability of informational resources. Overall, NAMI programs, which all employ contact-based strategies, appeared to be effective in creating immediate changes in stigma across a wide variety of stakeholders involved in the mental health system and other partner systems.

Given our own and others' findings, NAMI programs are well positioned to become evidence-based interventions (pro-grams with demonstrated scientific support for their effectiveness based on a list of criteria) with broad reach. The current study contributes substantially to the growing evidence base for IOOV through its examination of a much larger number of presentations and speakers and more diverse audiences, as well as its use of a more stringent analytic method. This study also includes the first examinations of PTasA and PEP, which have not been previously evaluated. Results indicate that CalMHSA's investment in these programs resulted in stigma reduction across broad and diverse groups. Although small percentages of the state population were reached, most participants held important roles in the lives of those with mental health challenges, and the changes made in these groups' attitudes and beliefs have the potential to work in synergy with other CalMHSA-initiative components to improve the lives of those with mental health challenges. Key stakeholders were more socially inclusive and supportive of individuals experiencing mental health challenges and more positive about recovery and treatment after participating in a NAMI program. Such changes among these targeted audiences—in synergy with other CalMHSA efforts—could make significant inroads toward CalMHSA's goal of altering the landscape of California to be more supportive of individuals and families affected by mental health challenges.

Notes

[1] Paired t-tests were used to examine pre-post changes in average scores across items.

[2] To test whether changes before and after the presentation varied across participant characteristics, we used mixed (within and between subjects) analyses of variances (ANOVAs).

[3] Counties included Alameda, Butte, Contra Costa, Fresno, Lassen, Los Angeles, Merced, Modoc, Orange, Riverside, Sacramento, San Francisco, San Mateo, Santa Clara, Santa Cruz, Sonoma, Stanislaus, and Ventura.

[4] *Effective sample size* is the sample size required to obtain accurate estimates when simple random sampling is used. Statistical calculations assume the use of random sampling. Given that this evaluation did not employ random sampling, our analyses corrected for this by accounting for the clustering effects by presenter.

[5] NAMI Family-to-Family is a 12-session educational program for family, significant others, and friends of people living with mental illness. NAMI Basics is a six-week education program for parents and family caregivers of children and teens who have a mental illness.

Appendix A. IOOV: Significant Shifts in Outcomes by Subgroup

Figure A.1. IOOV Significant Shifts in Social Distance by Race/Ethnicity

Figure A.2. IOOV Significant Shifts in Perceived Dangerousness and Recovery Beliefs by Race/Ethnicity

Willingness to Move Next Door

Legend: White, Other, Black, Asian/Pacific Islander****, Latino**

Danger to Others

Legend: White, Other, Black, Asian/Pacific Islander****, Latino**

Willingness to Work Closely

Legend: White, Other, Black, Asian/Pacific Islander*, Latino

Never Going to Contribute to Society

Legend: White, Other, Black, Asian/Pacific Islander**, Latino**

NOTE: Significant differences relative to whites are denoted by **$p < 0.01$ and ****$p < 0.0001$.

RAND *RR1247-A.2*

Willingness to Socialize

Legend: White, Other, Black, Asian/Pacific Islander***, Latino

NOTE: Significant differences relative to whites are denoted by *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, and ****$p < 0.0001$.
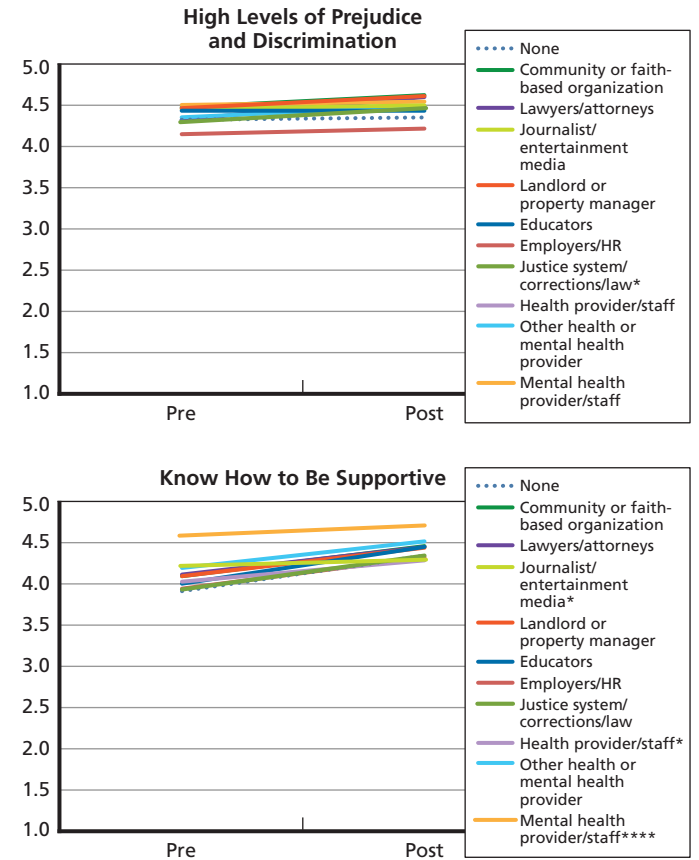
RAND *RR1247-A.1*

Figure A.3. Significant Shifts in Supportiveness and Awareness of Stigma by Race/Ethnicity
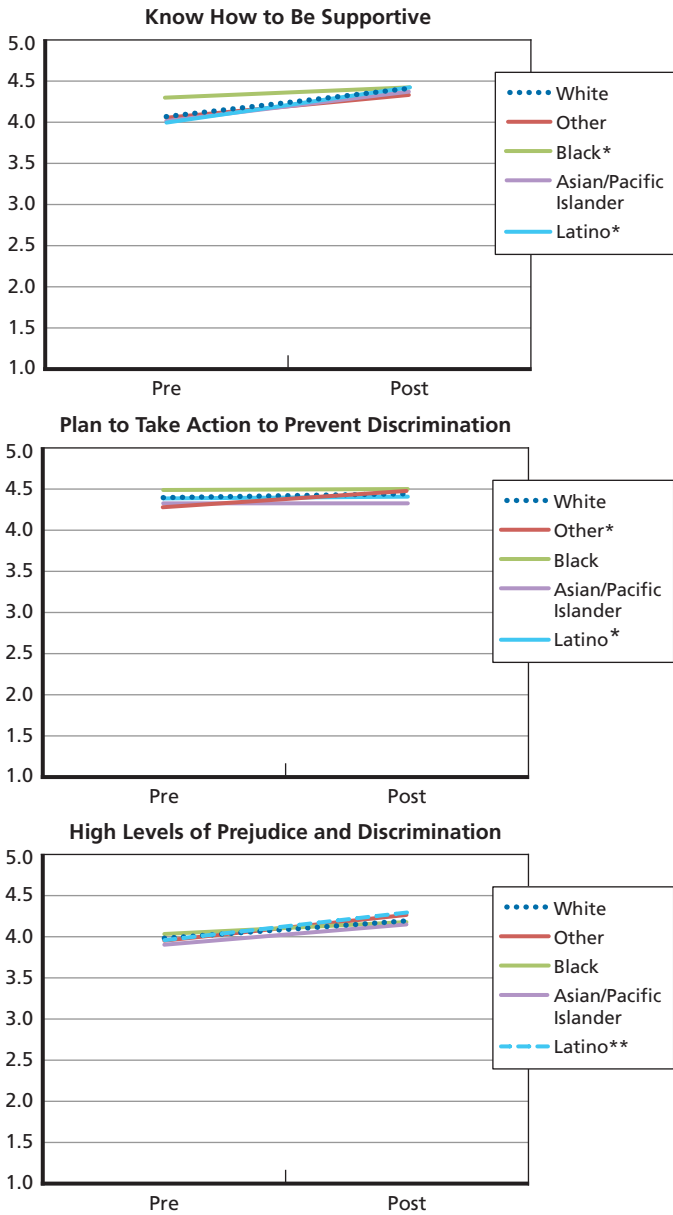
Know How to Be Supportive

Plan to Take Action to Prevent Discrimination

High Levels of Prejudice and Discrimination

NOTE: Significant differences relative to whites are denoted by *p* < 0.05 and **p* < 0.01.

RAND *RR1247-A.3*

Figure A.4. IOOV Significant Shifts in Treatment Attitudes by Race/Ethnicity
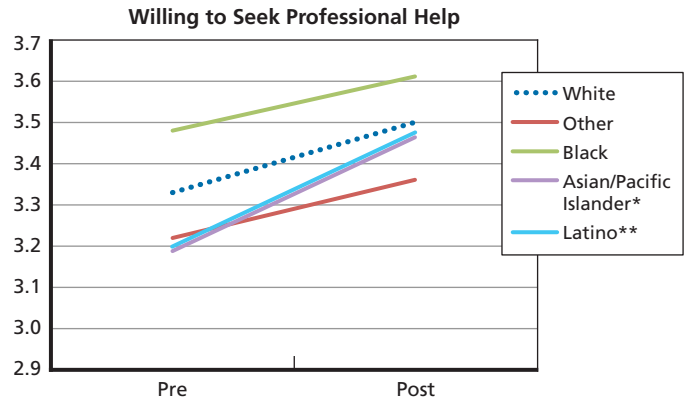
Willing to Seek Professional Help

NOTE: Significant differences relative to whites are denoted by *p* < 0.05 and **p* < 0.01.

RAND *RR1247-A.4*

Figure A.5. Significant Shifts in Social Distance by Gender

Willing to Move Next Door

Male
Female****

Willing to Work Closely

Male
Female****

Willing to Socialize

Male
Female*
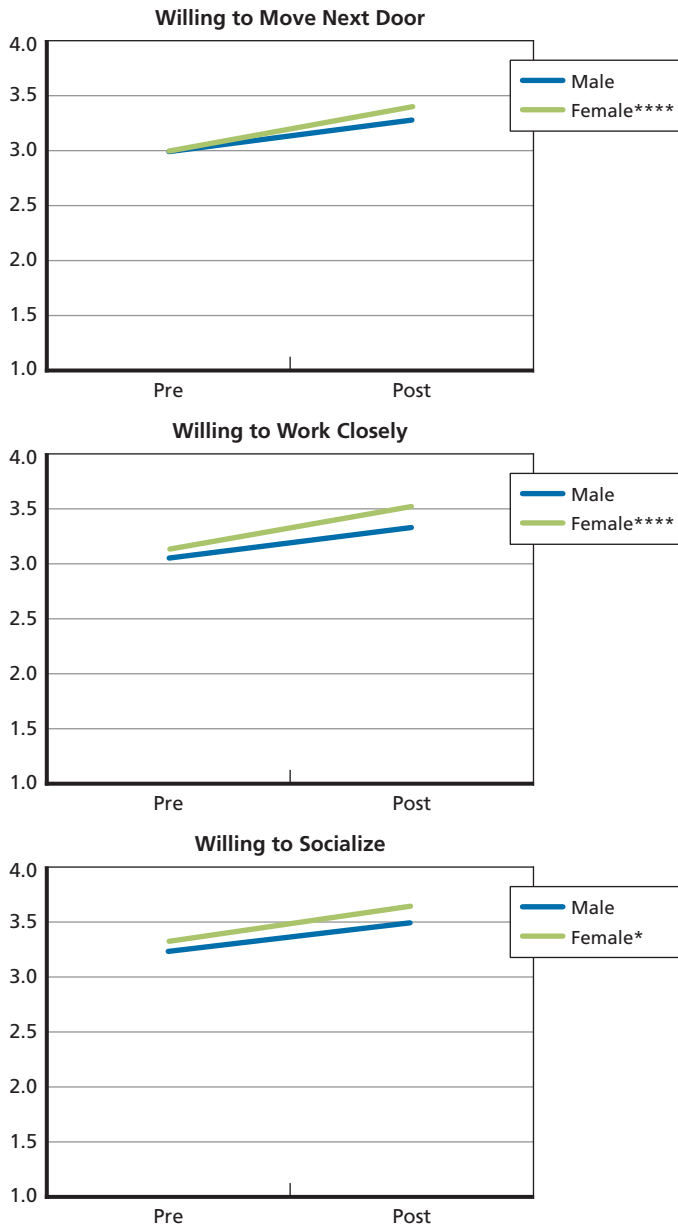
*p < 0.05 and ****p < 0.0001.

RAND *RR1247-A.5*

Figure A.6. Significant Shifts in Perceived Dangerousness and Recovery Beliefs by Gender

Danger to Others

Male
Female*

Never Going to Contribute to Society

Male
Female**

Will Eventually Recover

Male
Female*
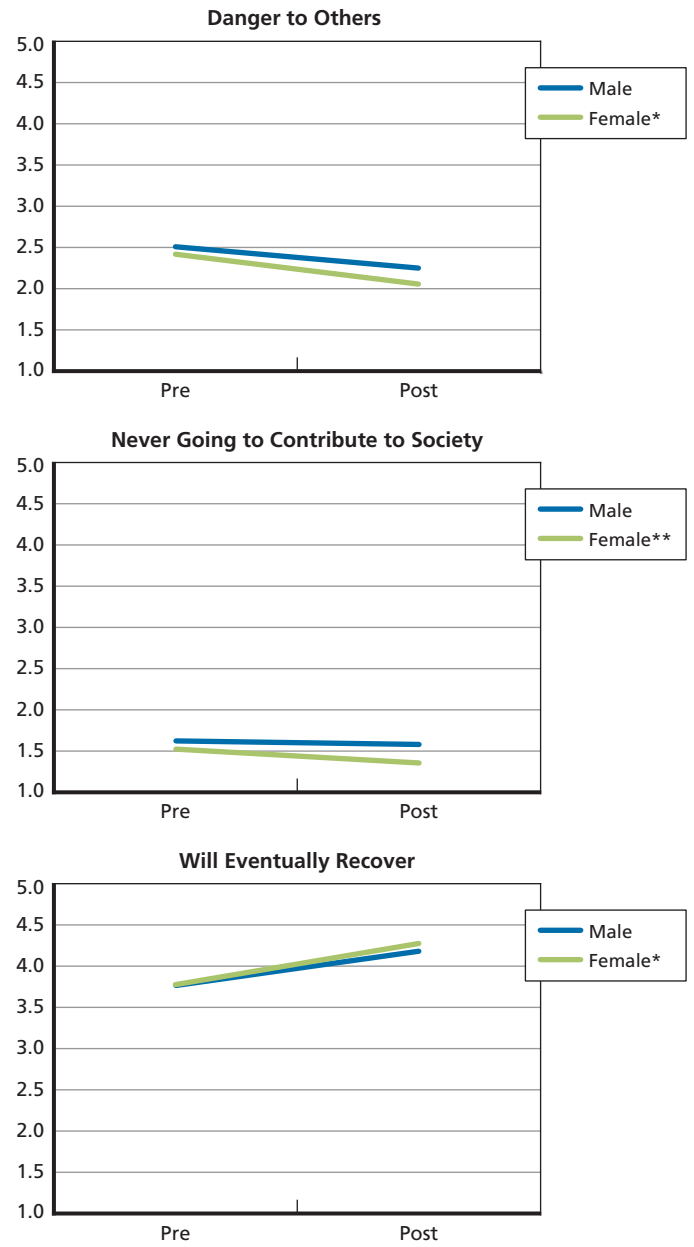
NOTE: *p < 0.05 and **p < 0.01.

RAND *RR1247-A.6*

Figure A.7. IOOV Significant Shifts in Social Distance by Personal Experience with Mental Illness

Willing to Move Next Door

Legend:
— Yes, have had mental illness
— No, have not had mental illness****

Willing to Work Closely

Legend:
— Yes, have had mental illness
— No, have not had mental illness**

Willing to Socialize

Legend:
— Yes, have had mental illness
— No, have not had mental illness***
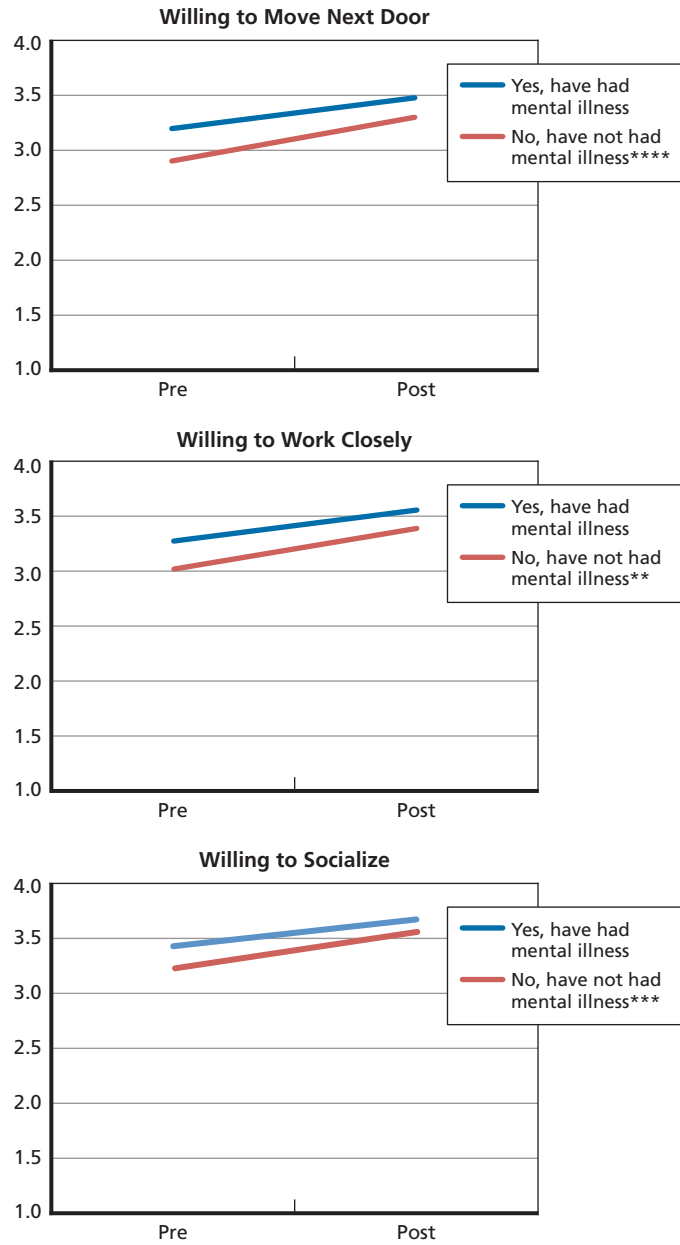
**p < 0.01, ***p < 0.001, and ****p < 0.0001.

RAND RR1247-A.7

Figure A.8. Significant Shifts in Perceived Dangerousness, Recovery Beliefs, and Supportiveness by Personal Experience with Mental Illness

Danger to Others

Legend:
— Yes, have had mental illness
— No have not had mental illness****

Never Going to Contribute to Society

Legend:
— Yes, have had mental illness
— No have not had mental illness***

Will Eventually Recover

Legend:
— Yes, have had mental illness
— No have not had mental illness***

Know How to Be Supportive

Legend:
— Yes, have had mental illness
— No have not had mental illness***
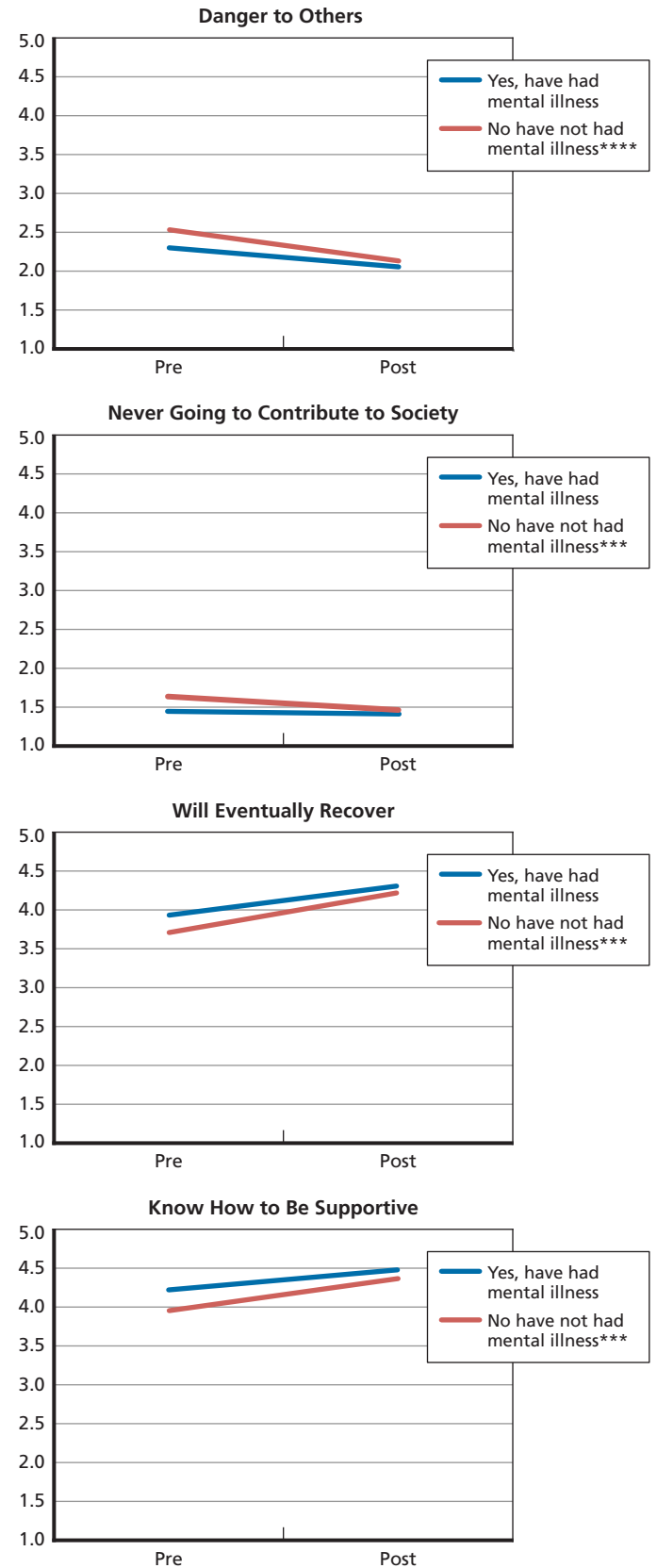
***p < 0.001 and ****p < 0.0001.

RAND RR1247-A.8

Figure A.9. IOOV Significant Shifts in Treatment Attitudes by Personal Experience with Mental Illness

Willing to Seek Professional Help
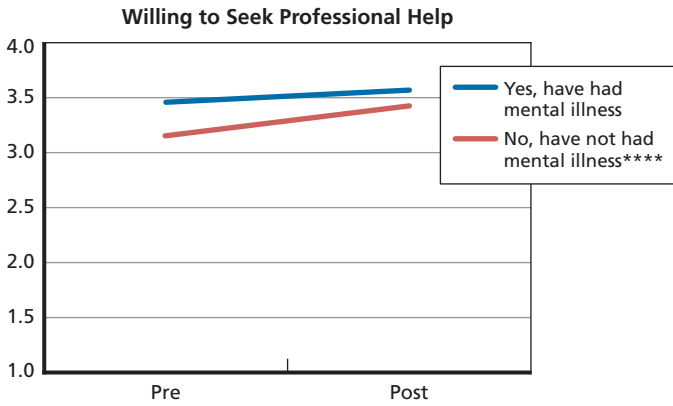
****p <0.0001.

RAND *RR1247-A.9*

Figure A.10. IOOV Significant Shifts in Social Distance by Participant Reports of Having a Family Member Who Has Had a Mental Illness

Willing to Move Next Door
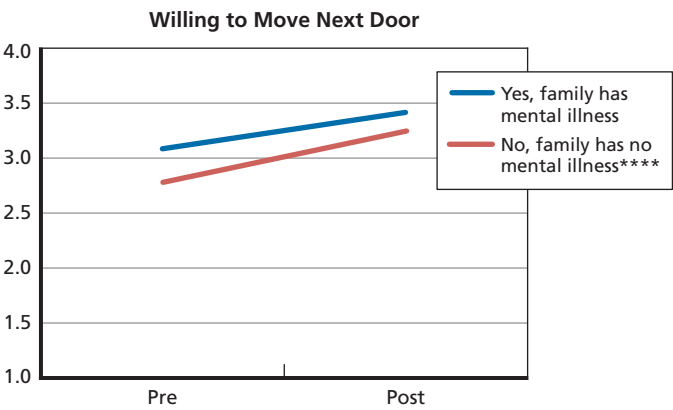
****p < 0.0001.

RAND *RR1247-A.10*

Figure A.11. IOOV Significant Shifts in Perceived Dangerousness and Recovery Beliefs by Participant Reports of Having a Family Member Who Has Had a Mental Illness

Danger to Others

Never Going to Contribute to Society

Will Eventually Recover
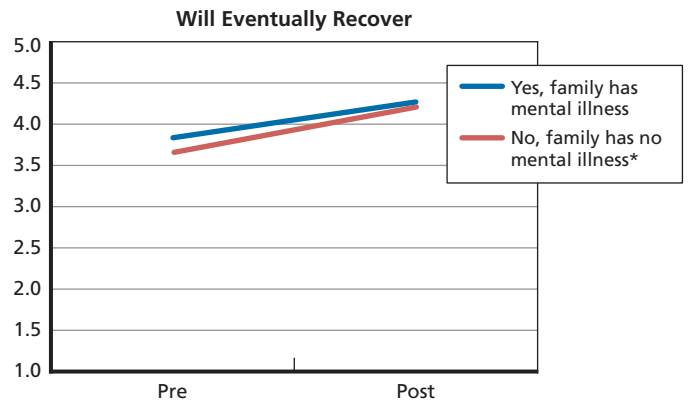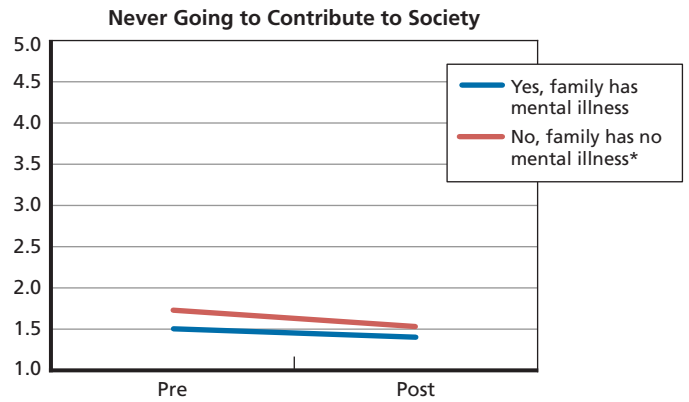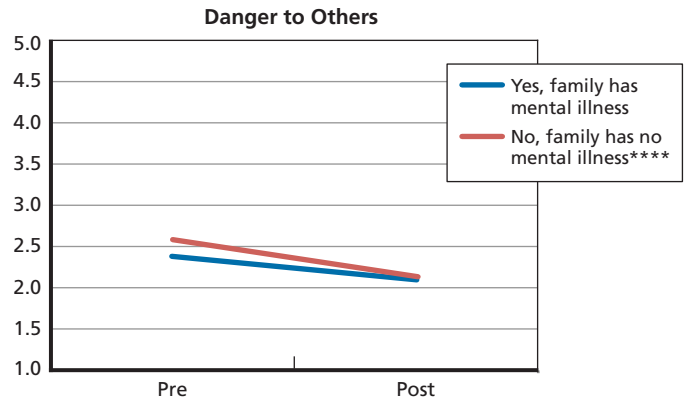
*p < 0.05 and ****p < 0.0001.

RAND *RR1247-A.11*

Figure A.12. IOOV Significant Shifts in Treatment Attitudes by Participant Reports of Having a Family Member Who Has Had a Mental Illness
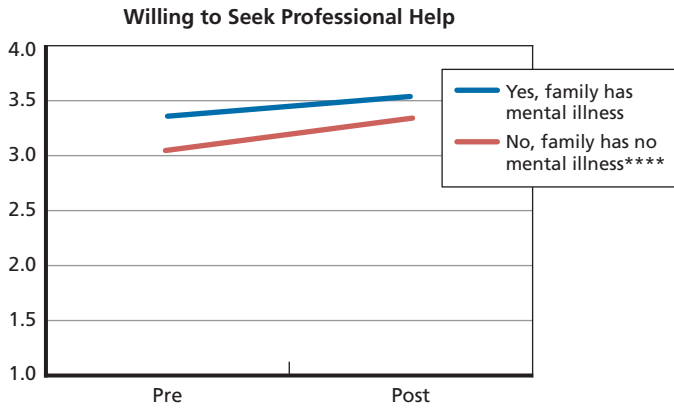
****$p < 0.0001$.

RAND *RR1247-A.12*

Figure A.13. IOOV Significant Shifts in Social Distance by Stakeholder Role
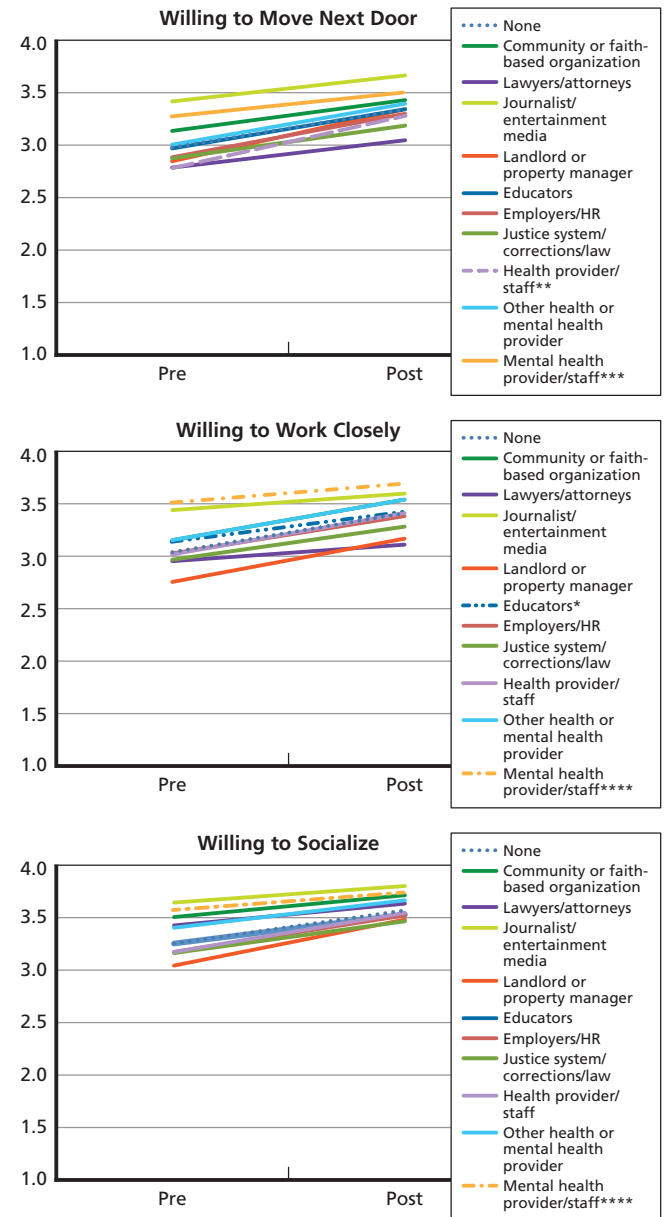
NOTE: Significant differences relative to no stakeholder role are denoted by *$p < 0.05$, **$p < 0.01$,***$p < 0.001$, and ****$p < 0.0001$.

RAND *RR1247-A.13*

Figure A.14. IOOV Significant Shifts in Perceived Dangerousness and Recovery Beliefs by Stakeholder Role
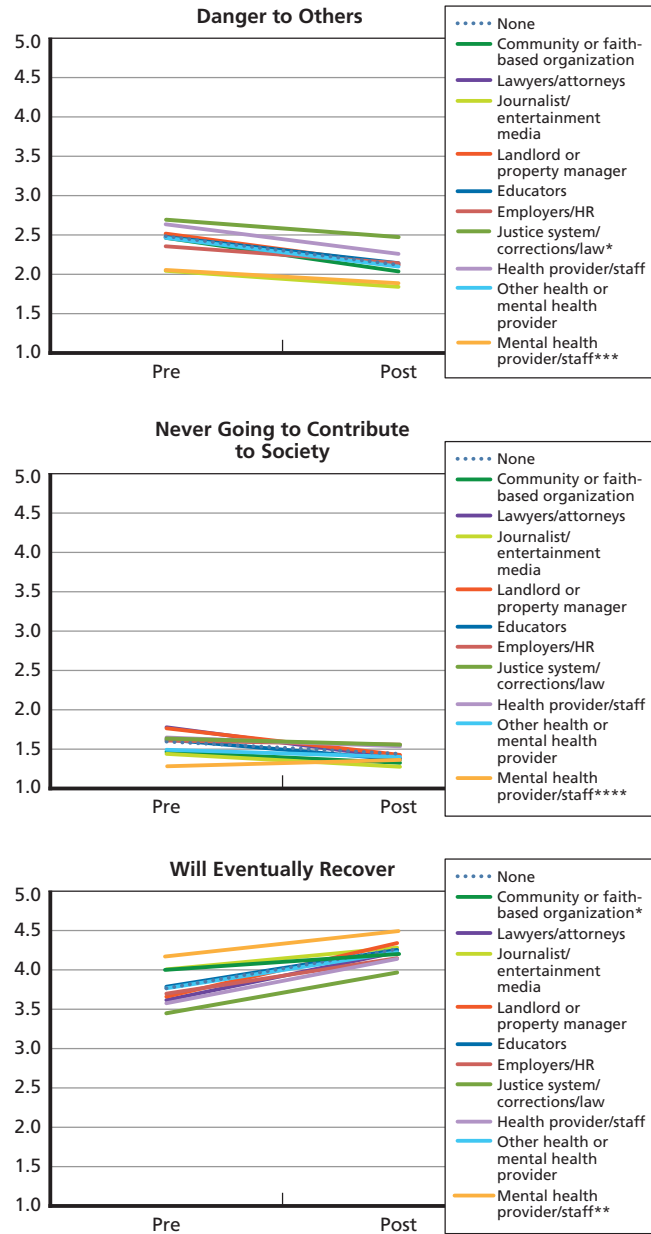
NOTE: Significant differences relative to no stakeholder role are denoted by *p < 0.05, **p < 0.01, ***p < 0.001, and ****p < 0.0001.

RAND *RR1247-A.14*

Figure A.15. IOOV Significant Shifts in Awareness of Stigma and Supportiveness by Stakeholder Role

NOTE: Significant differences relative to no stakeholder role are denoted by *p < 0.05 and ****p < 0.0001.

RAND *RR1247-A.15*

Figure A.16. IOOV Significant Shifts in Concealment and Treatment Attitudes by Stakeholder Role
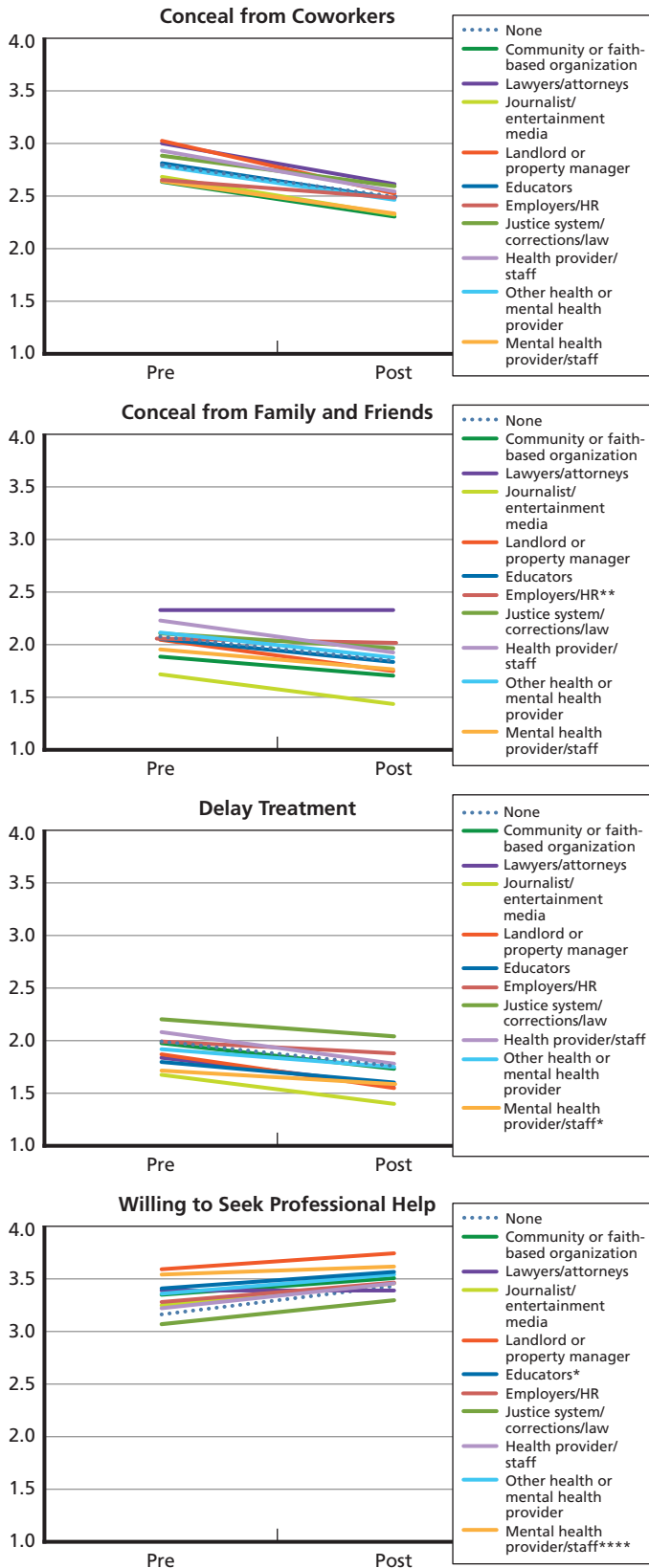
NOTE: Significant differences relative to no stakeholder role are denoted by $*p < 0.05$, $**p < 0.01$, and $****p < 0.0001$.

RAND RR1247-A.16

Appendix B. IOOV Effect Sizes for Clustering by Presenter

Outcomes	ICC	Cohen's d (approximation)
Willingness to move next door	0.06	1.99
Willingness to work closely on a job	0.05	1.49
Willingness to spend an evening socializing	0.05	1.47
People who have had a mental illness are never going to be able to contribute to society much	0.03	0.56
I know how I could be supportive of people with mental illness if I wanted to be	0.03	0.54
I plan to take action to prevent discrimination against people with mental illness	0.03	0.72
People with mental health problems experience high levels of prejudice and discrimination	0.03	0.80
Believe a person with mental illness can eventually recover	0.04	0.77
Believe a person with mental illness is a danger to others	0.03	1.23
Would deliberately conceal mental health problem from coworkers/classmates	0.02	0.93
Would deliberately conceal mental health problem from family/friends	0.01	0.88
Would delay treatment for fear of letting others know about mental health problem	0.03	1.15
If had a serious emotional problem, would go for professional help	0.05	1.33

Appendix C. PTasA: Significant Shifts in Outcomes by Subgroup

Figure C.1. PTasA Significant Shifts in Social Distance by Race/Ethnicity

Willingness to Move Next Door

Legend:
- White
- Black, Asian, and other race
- Latino**

Willingness to Work Closely

Legend:
- White
- Black, Asian, other race, and missing race
- Latino***

Willingness to Socialize

Legend:
- White
- Black, Asian, other race, and missing race
- Latino**
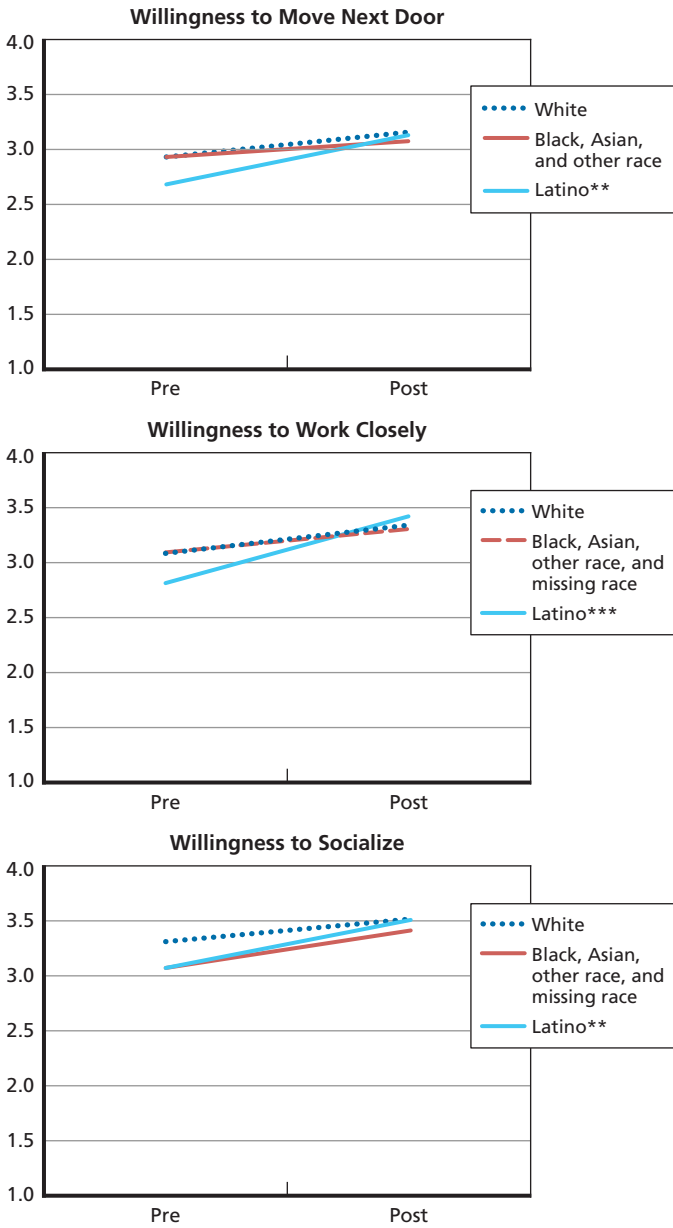
NOTE: Significant differences relative to whites are denoted by **$p < 0.01$ and ***$p < 0.001$.

RAND *RR1247-C.1*

Figure C.2. PTasA Significant Shifts in Supportiveness by Race/Ethnicity

Plan to Take Action to Prevent Discrimination

Legend:
- White
- Black, Asian, other race, and missing race
- Latino*
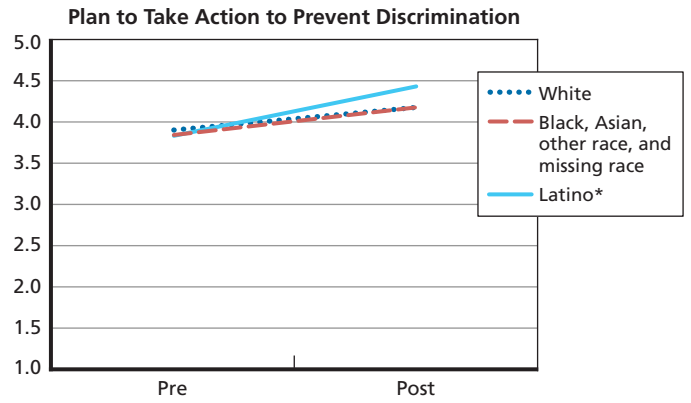
NOTE: Significant differences relative to whites are denoted by *$p < 0.05$.

RAND *RR1247-C.2*

Figure C.3. PTasA Significant Shifts in Concealment of a Mental Illness from Family and Friends by Race/Ethnicity

Conceal from Family/Friends

Legend:
- White
- Black, Asian, other race, and missing race
- Latino****
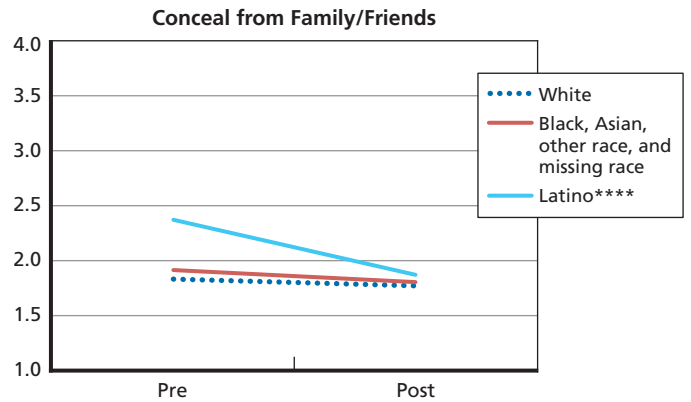
NOTE: Significant differences relative to whites are denoted by ****$p < 0.0001$.

RAND *RR1247-C.3*

Figure C.4. PTasA Significant Shifts in Social Distance and Recovery Beliefs by Gender

Move Next Door

Never Going to Contribute to Society
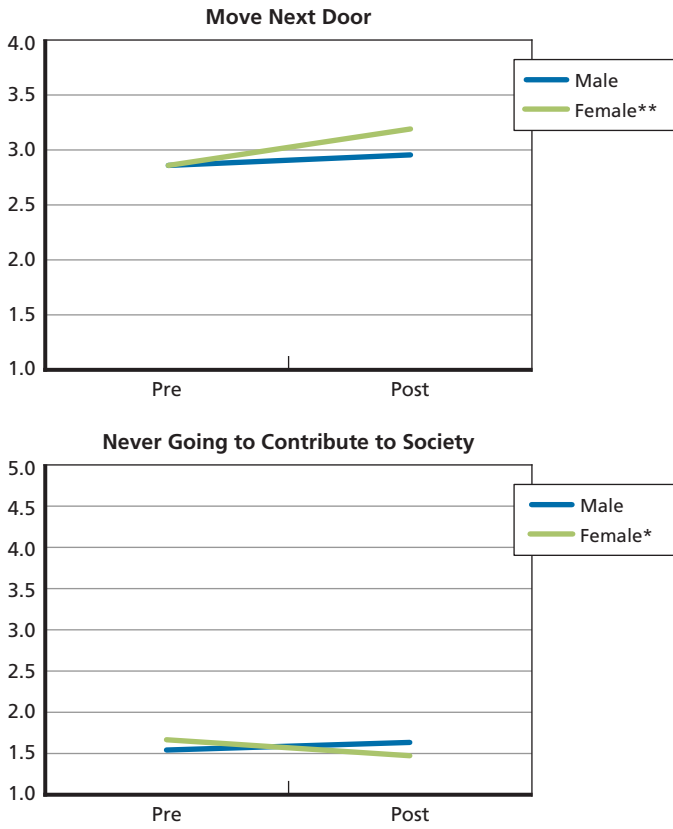
*p < 0.05 and **p < 0.01.

RAND *RR1247-C.4*

Figure C.5. PTasA Significant Shifts in Intentions to Delay Treatment by Participant Reports of Having a Family Member Who Has Had a Mental Illness

Delay Treatment
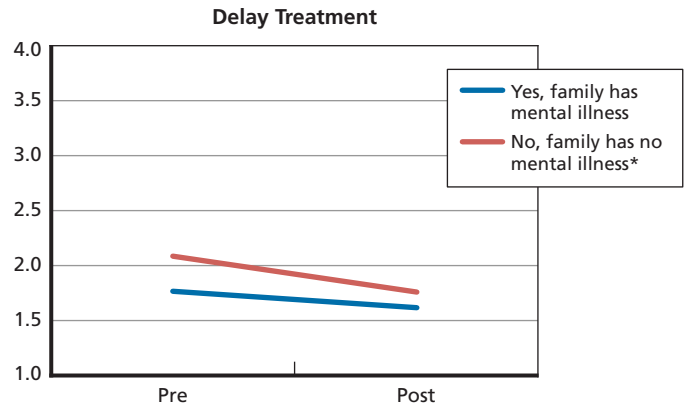
*p < 0.05.

RAND *RR1247-C.5*

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