

Proximate Outcomes of Gatekeeper Training for Suicide Prevention in the Workplace

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In this pilot study we report on proximate outcomes of a 1-hour community gatekeeper training in-service for 76 nonclinical employees in a university hospital workplace setting. Pre-post analyses resulted in positive changes in participants' knowledge about suicide and attitudes (self-efficacy) about intervening with suicidal individuals. A subset of participants engaged in role play practice of gatekeeper skills following training and rated the experience positively. Fifty-five observations were rated using an observational measure developed for this study and approximately half of these demonstrated satisfactory skills post training. Participants in this workplace gatekeeper training reported sharing new knowledge and skills with family, friends, and coworkers.

Suicide is one of the leading causes of death in the United States with annual rates that are greater than homicide (Goldsmith, Pellmar, Klieman, & Bunney, 2002). In 2001, the National Strategy for Suicide Prevention

(U.S. Department of Health and Human Services [DHHS], 2001) established suicide prevention as a significant public health priority. One challenge for suicide prevention is to identify those individuals who are likely to engage in suicidal behaviors (DHHS, 2001). Reviews of research estimate that more than 90% of individuals who die from suicide have one or more mental health disorders, including alcohol or substance use disorder (Conwell et al., 1996; Goldsmith et al., 2002); yet more than 95% of individuals with mental illness or addictive behaviors do not die by suicide (Goldsmith et al., 2002).

Public health approaches have been identified as one method for preventing suicide (Goldsmith et al., 2002). These approaches utilize information derived from research-based studies of risk and protective factors for suicide in a given population to develop strategies for prevention. Specific mental health prevention strategies include those activities or interventions that target a broad audience (universal prevention), a specific at-risk group (selective prevention), or individuals who are at risk (indicated prevention) for a particular adverse outcome.

What public health approaches are

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We thank Eric D. Caine, MD, for his support; Paul Quinnett, PhD, for training materials; and the medical center staff who participated in the study. We also thank Thomas Richardson and Vanessa Moore for participating as standardized actors. This research was supported by NIMH training grants (5T32MH018911, 5T32MH020061) as well as a grant to Dr. Knox (K01MH055317).

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likely to identify individuals who are at-risk for suicide? One strategy uses a combination of universal and selective approaches to improve early identification of high-risk individuals by training community members to identify signs of depression and other behaviors that put individuals at risk for suicide (Centers for Disease Control [CDC], 1992; Gould & Kramer, 2001; Mann et al., 2005). Theoretically, the greater the percentage of members of a given community able to recognize and refer at-risk members, the fewer suicides may occur in that community (Ramsay & Bagley, 1985; Tierney, Ramsay, Tanne, & Lang, 1990; Quinnett, 1995, 2005). Individuals who fulfill this role are called *gatekeepers* and a number of prevention programs use this strategy (Goldsmith et al., 2002).

SUICIDE PREVENTION: COMMUNITY GATEKEEPER TRAINING

Gatekeeper programs in suicide prevention research have been developed for differing levels of expertise, ranging from clinically trained professionals to the general public (Suicide Prevention Resource Center, 2006). Community-level gatekeeper programs provide brief, focused training to community members. These gatekeepers may be clergy, police officers, teachers, coaches, coworkers, or other key stakeholders in the community, many of whom may spontaneously assume a gatekeeper role in their community. They are in a natural position to carry out informal surveillance, detection, and assistance for those in need. Formal gatekeeper training is designed to enhance their knowledge, attitudes, and skills to identify individuals at risk; determine the level of risk; and make referrals if indicated.

One viable site in which to train community gatekeepers for suicide prevention is the workplace. Employee in-service trainings are standard aspects of workforce infrastructure and bring together individuals with similar job roles to enhance workplace safety and to provide continuing education. The impact

of training in the workplace is likely to extend beyond that setting into other social networks which include family and friends. Once trained, gatekeepers are part of a public health network to enhance surveillance of suicidal behaviors in community members. This is an example of diffusion (Rogers, 2003), in which information is communicated among members of a social network such as coworkers in a similar job role or among individuals with personal contact in the community.

The rationale underlying gatekeeper training is that individuals at risk for suicide do not necessarily tend to self-refer for professional help, but may communicate their distress to others in their community in ways that can be recognizable with training (Goldsmith et al., 2002). Individuals at risk for suicide are under-identified and the likelihood of identification and access to mental health services increases when trained community gatekeepers have knowledge about the signs of suicide and the skills to respond effectively (Gould & Kramer, 2001). Initial (quasi-experimental) studies of gatekeeper programs with adults report positive effects on knowledge about depression and suicide, attitudes toward suicide, and referral skills following training when compared to community members exposed to an informational campaign alone (DHHS, 1999; Goldsmith et al., 2002; King & Smith, 2000). At present, gatekeeper training, as a selective prevention approach, needs further empirical evidence of its efficacy and effectiveness in preventing suicide (CDC, 1992; Mann et al., 2005).

The Question, Persuade, Refer program (QPR; Quinnett, 1995, 2005), like all other gatekeeper-training programs, has yet to be evaluated for efficacy in reducing suicide using a randomized controlled trial. In terms of evidence, QPR falls at a relatively moderate level, with historical comparisons and pretest-posttest knowledge and attitudinal changes suggesting beneficial overall effects. QPR is a system-wide approach with the goals of increasing the knowledge and the competency of community members and professionals in recognizing and responding

to potentially suicidal individuals. QPR is designed to prevent suicides by creating an integrated system of gatekeepers and clinical professionals working together to promote earlier recognition, referral, and treatment of mental health problems. There are three levels of QPR training: (1) Citizen (community level) gatekeeper training (a brief, 1-hour training for community members); (2) suicide triage training (8 hours of training for those in frequent contact with at-risk populations, including supervisors); and (3) instructor training (training for certification to train others).

We chose to study the community-level QPR training because it is widely disseminated. From 1996 to 2002, 1,200 QPR gatekeeper instructors trained approximately 175,000 community gatekeepers in 34 states (Quinnett, 2005). QPR training is based on the theory and evidence that individuals most at risk for suicide communicate their distress to others through recognizable behaviors rather than seek professional help on their own. According to one clinical theory, the interpersonal-psychological theory of attempted and completed suicide, these distressed individuals may believe that they are a burden on others and that they no longer belong to a valued group or relationship (Joiner, 2005). The community level of QPR training teaches participants to recognize suicidal communications and warning signs, as well as the steps (question, persuade, refer to care) to help prevent suicide in community members. Initial studies of positive changes in knowledge and attitudes about suicide following QPR gatekeeper training have been reported but not yet published (Davis, 2001; Hazel & McDonnell, 2003). To our knowledge, no study has examined post-training gatekeeper behaviors at the community level of the QPR training program.

Potential Role of Active Learning Principles for Skill Development

Adult learning theories offer several guiding principles that can be applied to training gatekeepers at the community level. At this level, training content focuses on sui-

cide education and awareness. One overarching theme from the adult training literature is that passive learning, such as lecture and attending to declarative (factual) knowledge, has little effect on subsequent skill or behavior (El-Tannir, 2002; Yorks, Marsick, Kasl, & Dechant, 2003). Active learning, in contrast, is an interactive process that builds competence through cycles of action and reflection, and is particularly important when behaviors must be contextual rather than rote (Triandis, 1995). Active learning draws on theories and research including social learning (Patterson, 1982), self-efficacy (the belief that one will be successful in achieving a goal; Bandura, 1977), and constructivism (Knowles, Holton, & Swanson, 1998). Thus, modeling, opportunities for practice, enhancing feelings of self-efficacy in terms of the goal behaviors, and interaction among learners are incorporated in active learning training methods. Research indicates that active learning methods, particularly the use of role play practice opportunities, promote enhanced proximate effects on specific learning outcomes (knowledge, skills, and attitudes) and competent transfer of skills for use in the intended setting (DeNeve & Heppner, 1997; Humair & Cornuz, 2003; Joyner & Young, 2006).

Technically, behavioral rehearsal involves practicing behaviors that the individual is expected to carry out in a future role, while role-play involves taking on a character or pretend role to simulate a specific situation (Van Ments, 1999). During skills-training, participants typically use role play scenarios for behavioral rehearsal in order to practice the skills they learn. Some trainees pretend or simulate suicidal ideation during a prescribed role play in order for others to practice or rehearse gatekeeper behaviors. The opportunity to practice gatekeeper behaviors may provide the only ethical opportunity to enhance the development of suicide prevention skills in the context of the real world (Tierney, 1994). In one suicide prevention training program, trainees who participated in simulated situations with workshop trainees (i.e., interacting with actors trained to role-play) before and after training were

found to demonstrate significantly greater suicide specific intervention abilities at post test (Tierney, 1994). Other observational studies use standardized patients for assessments of trainees in a variety of training programs (e.g., Lewis, Brain, Cushing, Hall & Zakrzewska, 2000; Mounsey, Bovbjerg, White, & Gazewood, 2006).

Standard community QPR gatekeeper training is an engaging but, from an adult learning perspective, rather passive training experience without opportunities for participants to practice during training. Role-play is, however, strongly encouraged within the standardized instructional materials for QPR certified trainers. Given the brevity of widely disseminated community-level training and the goals to transfer new knowledge and skills to community settings (e.g., workplace, school, or social networks), it is reasonable to consider that behavioral rehearsal through role play exercises may enhance learning. Practicing gatekeeper skills may be associated with increased self-efficacy and competence (Tierney, 1994). If behavioral rehearsal is found to enhance training outcomes and to accelerate the transfer of skills to real world settings it would be important to include a practice component, even at the community level of gatekeeper training.

Prior to including behavioral rehearsal in this standardized, brief gatekeeper training, an assessment of the acceptability of practice for participants in gatekeeper training is necessary. If rehearsal during training is not acceptable to participants who may have expectations for an educational program only, participants may decline to attend the training and the benefits of gatekeeper training may be significantly reduced. Once acceptability of the training modification for this training program has been established, the next step would to determine the impact of behavioral rehearsal on training outcomes.

Study Goals

To begin to address this critical gap in the literature, the goals of this pilot study were to: (1) study training outcomes, includ-

ing skills, from a brief gatekeeper training; (2) assess the feasibility of incorporating active learning principles (i.e., role play practice) into standardized gatekeeper training; and (3) examine employee satisfaction with, and diffusion of information from, gatekeeper training conducted in the workplace (e.g., share the training information with family, friends). In order to examine participants' gatekeeper skills post-training, we developed an observational measure of gatekeeper skills based on the core components of the QPR gatekeeper training program. Piloting this measure provided the opportunity to assess trainees' experience of practicing skills and any potential resistance to role play practice.

This study was conducted with the approval of the Institutional Research Subjects Review Board, and included required written informed consent from participants.

METHODS

Sample and Recruitment

Department of Psychiatry employees in nonclinical positions (i.e., administrator, research coordinator, or secretarial support) were invited to an in-service on suicide prevention gatekeeper training and to participate in an evaluation of the training. Non-clinical employees, such as staff in the outpatient reception area, were targeted as the community of interest because they are not professionally trained but have front line contact with psychiatric patients who may present in a suicidal crisis.

We used a two-phase recruitment approach. First, an announcement regarding the employee in-service training was sent via an e-mail invitation from the Chair of the Department of Psychiatry to program directors and supervisors encouraging them to allow their staff time off during the work day to attend the training. One week later, an e-mail invitation was sent directly to staff to communicate departmental support for the in-service activity. The e-mail briefly de-

scribed the 1-hour in-service training content as awareness and education on suicide prevention using the community gatekeeper program. In addition, an invitation to participate in research was described. Six weeks after the training, participants were invited by e-mail to participate in a follow-up session.

Procedures

Gatekeeper trainings were conducted in large groups in which the instructor presented a multimedia standardized community gatekeeper training program that included a question and answer period. Two certified doctoral-level gatekeeper instructors (JC and MM) conducted the large group training. Study participants completed surveys prior to and following the presentation.

Participants were also offered an opportunity to practice gatekeeper skills with a trained research assistant immediately following the large group training session. The practice opportunity was described as a 5-to-7 minute standardized role play dialogue during which they would use the skills from training. The role play practice was videotaped for assessment purposes. Participants received nominal compensation (\$5.00 gift card) for their time. Two research assistants were trained for 3 hours as actors to deliver a scripted scenario that included a precipitating problem, multiple warning signs of suicide, and cues about needing intervention. The actors were trained to deliver the scenario interactively with appropriate affect. The scenario was purposely designed to be simple due to the brevity of the interaction (see Cross & Matthieu, 2007, for a fuller description of the skills assessment). Due to limited study resources, the opportunity to participate in role play practice immediately following training was limited to 26 volunteers.

Six weeks after training, all of the study participants were invited to a brief follow-up assessment. At that time, participants were asked to complete written surveys and were offered an opportunity to practice their

gatekeeper skills using the procedures described in the posttraining assessment. The actors were again trained in the use of a brief standardized role play dialogue using a different scenario matched for content and level of difficulty.

Measures

Research participants provided information at three time points: pre-training, immediately post-training, and at the 6-week follow-up. Participants completed measures of knowledge and self-efficacy (the belief that one will successfully meet a goal; Bandura, 1977) about suicide and suicide prevention at pre- and post-training. Demographic information was collected at pre-training and satisfaction with gatekeeper training was measured immediately following training. In addition, those who participated in the role play skills assessment at post-training or follow-up were surveyed about their experience. At follow-up, participants were assessed for diffusion of training-related information to personal and professional contacts within their social networks.

Demographics. Sociodemographic information (i.e., age, sex, race, ethnicity, and education) was collected on all participants at pre-training. In addition, previous experience with individuals at risk for suicide was assessed. One item asked about contact with someone thought to be at risk for suicide and was followed-up with two inquires: (a) did you discuss your concerns with the individual? and, (b) did you ask the individual if they had thoughts of killing themselves? The second item asked about previous experience with death by suicide with a follow-up item inquiring about the nature of the relationship to the deceased.

Knowledge about Suicide and Efficacy about Suicide Prevention. Two types of knowledge were assessed in the pre- and post-surveys: (1) *declarative knowledge*, defined as information that is factual and provided in the training, and (2) *perceived knowledge*, defined as self assessment of ones own knowledge of the topic. Declarative knowledge was assessed with

a 14-item measure developed for a large-scale randomized trial of the intervention (Wyman et al., in press) to measure knowledge about suicide. Items included multiple choice and true/false questions. In the current sample, the scale had an internal reliability alpha of .83. Perceived knowledge was assessed with a 5-item scale, slightly modified from a standard questionnaire used in QPR training (Quinnett, 1995), of core elements of suicide prevention (i.e., knowledge about local resources for help with suicide). Participants were asked to rate their knowledge on each of these items using a 5-point Likert scale (1 = *very low*; 5 = *very high*). Internal reliability was .84 in this sample for the 5-item scale.

Self-efficacy about Suicide Prevention was assessed with a 5-item scale, slightly modified from the standard QPR questionnaire (Quinnett, 1995), which asked respondents to rate their ability to identify and intervene with an individual at risk for suicide individual. Feelings of self-efficacy have been shown to be related to post-training changes in behavior (Salas & Cannon-Bowers, 2001). The internal reliability of the 5-item scale was .87 in this sample.

Gatekeeper Training Satisfaction was assessed at post-training by four items. Respondents rated the value of the training, overall satisfaction, comfort during training, and if they would recommend the training to others on a 5-point scale (*not at all* to *definitely*). Training length was assessed with one self-report item that allowed respondents to describe the training as too long, too short, or just right.

Diffusion of training-related information was assessed at follow-up by three items developed for this study based on the diffusion of innovations theory (Rogers, 2003). Participants were asked about the following indices of diffusion: (1) did you discuss the training with others? If so, with whom? What was the context of the discussion? (2) Did you show the training materials to others? If so, to whom? Describe the context of the conversation; and (3) Did you suggest to someone else that they may benefit from at-

tending the training? What was the context of the conversation?

Participants' role play experience was assessed with 10 items about the acceptability of role play, including factors that may enhance the potential for transfer of learning based on active learning theory (e.g., reflection on the skills, consolidation of learning). Respondents rated each item using a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). The internal consistency alpha was .92 in this sample.

Immediately following training, 26 participants volunteered to engage in a role-play to practice the community gatekeeper skills learned in training. There were no significant differences between participants who practiced the gatekeeper skills and those who did not in terms of demographic variables. The behaviors demonstrated in the role-play were rated using an observational measure developed for use in this study. Five items (scored 1 to 3; 1 = *not at all*, 2 = *minimal*, 3 = *satisfactory*) assessed the five core gatekeeper skills (active listening, clarifying questions, asking the suicide question, persuasion to get help, and referral to care). At 6-week follow-up, an additional 29 role-play observations were rated using the same rating scale. Taken together 55 observational ratings were analyzed for reliability. The gatekeeper observational scale's reliability was assessed for internal consistency (Cronbach's alpha = .75) and inter-rater reliability (.80 to .96) indicating good to high reliability.

RESULTS

Data Analysis

Data was initially entered into Excel and imported into SPSS 10.0 for Windows for analysis. Missing data on some survey items led to minor sample size differences for some variables.

Sample

Of the 288 eligible employees invited to participate in the pilot study, 76 attended

the training and consented to participate (26.4%). Reflecting departmental nonclinical staff as a whole, the majority of the sample was Caucasian, middle-aged women, 80% of whom had at least 1 year of college education. In terms of job role, 41% of the sample was clerical or support personnel, 29% were research assistants, 23% were administrators of support staff, and 7% reported "other" positions. Personal experience with suicide was common among participants: almost 80% had previous contact with someone thought to be suicidal, and 65% knew someone who had died by suicide. See Table 1 for demographics of the sample.

*Gatekeeper Training:
Pre- and Post-Training Results*

To assess changes in knowledge and efficacy, participants' pre- and post-training

scores were compared. Results indicated that participants scored significantly higher on declarative knowledge after training (11.84 ± 4.17) than before (9.68 ± 2.62) ($t = 8.33, p < .0001$). They also showed significantly higher perceived knowledge after training ($3.09 \pm .48$) than before ($1.81 \pm .78$) ($t = 13.89, p < .0001$), and higher scores on efficacy after training ($3.09 \pm .53$) than before ($2.07 \pm .79$) ($t = 12.96, p < .0001$).

Overall, the training was well received. Ninety percent ($n = 69$) of participants evaluated the training as valuable, were satisfied and comfortable with the training, and would recommend it to others. Table 2 summarizes participants' responses.

Participants transferred information about the gatekeeper training within their personal and professional social networks. Of the 30 participants who agreed to a 6-week

TABLE 1
Sample Characteristics of Employees Attending Community Gatekeeper Training (N = 76)

Demographics		<i>n</i>	Frequency	Percent
Age	Range 21 to 62; $M = 37.84$	69		
Gender	Female	75	68	90.7
Race	Caucasian	74	57	77.0
	African American	74	11	14.9
	Asian/Pacific	74	2	2.7
	Other	74	4	5.4
	Ethnicity	Hispanic or Latino Origin	50	6
Education	High School	75	9	12.0
	Trade or Vocational School	75	6	8.0
	1–2 years of college	75	25	33.3
	3–4 years of college	75	17	22.7
	5 or more years of college	75	18	24.0
Job Role	Clerical/Support	75	31	41.3
	Administration	75	17	22.7
	Research	75	22	29.3
	Other	75	5	6.7
	Previous Experience with Suicide	With potentially suicidal individuals	74	59
Talked to them about your concerns		58	48	83
Asked them if they were thinking of killing themselves		51	39	76
Know of someone who has died by suicide		76	49	64.5
Friend		65	20	26
Acquaintance		65	18	24
Family member		65	10	13

Note. Sample sizes may vary due to missing data.

TABLE 2
Satisfaction Items Assessed Immediately
after Community Gatekeeper Training (N = 76)

Item	Agree/ Strongly Agree % (n)
Satisfaction	
Will recommend to others	94.8 (72)
Valuable	90.8 (69)
Felt comfortable	89.5 (68)
Satisfied	89.5 (68)
Length of Training	
Just Right	84.3 (64)
Too Short	11.9 (9)
Too Long	1.4 (1)

Note. Scale ranged from *strongly agree* to *strongly disagree* on a 5-point Likert scale.

follow-up, only two individuals indicated that they did not discuss the 1-hour training session with anyone in the intervening 6 weeks. The remainder discussed the training with family (84%), coworkers who also attended the training (67%), and coworkers who did not (37%). They recommended training to others (40%) and had showed the QPR materials to others since training (37%). See Table 3 for additional diffusion of training-related information by participants.

Gatekeeper Skills

Observational Rating Scale. A total of 55 observations were completed and rated using the observational measure of gatekeeper skill from two time periods: 26 immediately following training and 29 6 weeks later. There were no significant differences between the groups in terms of observational skills as rated independently by the two trained observers (WC and MM). Twenty-six participants who engaged in a standardized role play immediately following the training demonstrated a wide range of skills averaged across both raters (range: 7.50 to 15.00) and averaged a score of 11.79 ($SD = \pm 1.92$) on the 15-point scale. Twenty-nine participants at 6-

week follow-up demonstrated a similarly wide range of skills (6.00 to 15.00) and averaged a score of 11.43 ($SD = \pm 2.28$) on a 15-point scale (see Table 4).

Over half of the 55 observations (55%, $n = 30$) averaged between 12 and 15 on the total scale, which indicated that the participants demonstrated a satisfactory level of gatekeeper skills including the ability to ask directly about suicide, to persuade the individual at risk for suicide to accept help, and to refer appropriately. Forty-five percent ($n = 25$) scored between 6 and 11, demonstrating minimal skill.

Satisfaction with the Role Play Skill Assessment. Using a 10-item scale to assess the role play experience, participants at 6-week follow-up revealed that they felt positive about the experience: 97% *agreed* or *strongly agreed* that it was a worthwhile experience; 86% indicated that practicing their skills in the role play increased the likelihood they would use the QPR skills when appropriate; 97% *agreed* or *strongly agreed* that, "The role play practice enhanced my learning of QPR gatekeeper knowledge and skills." See Table 5 for a summary of responses.

TABLE 3
Diffusion of Training-Related Information
Assessed at 6 Week Follow-Up (N = 30)

Item	% (n)
Discussed the in-service with:	
Coworker who attended	66.7 (20)
Spouse, significant other, partner	40.0 (12)
Friend, non-coworker	40.0 (12)
Coworker who did not attend	36.7 (11)
Family member	33.3 (10)
Children	6.7 (2)
Suggested others may benefit	40.0 (12)
Showed the in-service materials to:	
Coworker who did not attend	16.7 (5)
Coworker who attended	13.3 (4)
Family member	10.0 (3)
Spouse, significant other, partner	6.7 (2)
Children	3.3 (1)
Friend, non-coworker	3.3 (1)

Note. Multiple responses were possible.

TABLE 4
Observational Rating Scale of Gatekeeper Skills (N = 55)

Gatekeeper Skill Domain	Mean	SD	Interrater reliability
1. Active listening: Shows emotional responsiveness / reflects feelings accurately; concern, care; nonverbal communication	2.58	.51	.83
2. Clarifying/confirming questions: Enquires and follows up to “decode” the content or meaning of indirect or even direct suicidal communication	1.92	.71	.88
3. Directly asks about suicide: Asks directly in one of the following ways: Suicide/suicidal? Kill yourself? Ending your life/end it all? Wish you were dead?	2.38	.83	.96
4. Persuades: Encourages help seeking. Uses persuasive phrases: “I think you need help, let’s call someone.”	2.62	.48	.80
5. Refers: Identifies specific person (name) or place for help, and supports the connection (not vague suggestion such as call the hotline)	2.10	.74	.89
Total Score	11.59	2.12	.94

Note. Scale ranged from 1 to 3: 1 = *not at all*, 2 = *minimal*, 3 = *satisfactory*

DISCUSSION

The goals of this pilot study were to study training outcomes of a gatekeeper training (knowledge, efficacy, skills, diffusion of knowledge, and satisfaction) for suicide prevention in a sample of nonclinicians in a workplace setting. Among the outcomes un-

der study was the feasibility and acceptability of incorporating active learning principles (i.e., use of role play for practice) into gatekeeper training. In addition, an observational measure to assess gatekeeper skills was designed and pilot tested in this study.

Results indicate that a brief in-service community gatekeeper training for suicide prevention to nonclinical staff (primarily support and administrative) resulted in positive proximate outcomes. Participants’ knowledge about suicide warning signs and how to intervene with someone they were concerned about was significantly increased as a result of the training. Participants also felt more efficacious about intervening with someone they thought may be at risk for suicide.

Our study also found that previous experience with individuals at risk for suicide (79.9%) and knowledge of persons who have died by suicide (64.5%) is a common experience. These data are consistent with previous that have found that the majority of people have some exposure to suicide (Crosby & Sacks, 2002; Ramsay & Bagley, 1985).

Observational ratings of participants’ gatekeeper skills during a standardized role play indicate that 55% of participants’ in a brief community level gatekeeper training

TABLE 5
Role Play Skill Assessment at 6-Week Follow-Up (N = 29)

Item	% (n)
Consolidated my learning	96.5 (28)
Enhanced learning	96.5 (28)
Was a worthwhile experience	96.5 (28)
Increased confidence in skills	93.1 (27)
Promoted reflection	93.1 (27)
Was an opportunity to try new skills	89.7 (26)
Increased likelihood that I will use skills	86.2 (25)
Positive risk taking	86.2 (25)
Felt challenged in a good way	82.8 (24)
Feel comfortable in the role play	79.3 (23)

Note. % participants endorsing *strongly agree/agree* on a 5-point Likert scale.

demonstrated acceptable skills at post-training. These findings suggest that despite the focus on education and raising awareness in this level of training, approximately half of the participants demonstrate adequate gatekeeper skills after training. At the same time, however, knowledge deployment alone appears not to be sufficient for many participants to demonstrate the ability to use the questioning, persuading, and referring behaviors presented during this gatekeeper training. Incorporating skill practice into the standardized training may enhance skill development for these participants.

Participants endorsed the value of practice for skill development. In fact, unsolicited comments on surveys collected at the initial training recommended that "practice" be included in the gatekeeper training. These findings, while limited, suggest that incorporating active learning principles, particularly role play practice, into community gatekeeper training is not likely to be resisted by participants. Additional studies to compare gatekeeper training with and without role play practice in terms of proximate learning outcomes, including observations of competence post-training, are currently being completed.

The majority (over 90%) of participants evaluated the gatekeeper training as valuable and would recommend it to others. Moreover, workplace gatekeeper training had an impact beyond the individual participants. All but two participants surveyed over a month and a half after training had discussed the training with others during the intervening time period. Coworkers, family, and friends were engaged in discussions of gatekeeper training and suicide prevention. In addition, the majority (90%) had thought about what they had learned since the training, and 88% reported they were more aware of the risk factors of suicide. Over half of the follow-up participants identified themselves as "feeling like gatekeepers" for suicide prevention since attending the training.

Overall, the impact of gatekeeper training extended beyond changes in participants' knowledge and attitudes to the larger

community. Taken together, these findings suggest that workplace suicide prevention training is likely to be acceptable and valued, with training related information diffused more broadly than just in the work setting. Given the need for enhanced detection of individuals at risk for suicide in the community and the low cost of community gatekeeper training, workplace in-service training may be an important component of a public health response to early identification and intervention for those at risk for suicide.

Limitations. This study has several limitations, including: (1) a relatively small, well educated sample; (2) the setting from which they were recruited; (3) possible selection bias of participants; and (4) the lack of a control group. Participation was not mandatory and varied widely with some departmental programs and/or groups not well represented. Follow-up data were collected during a time when many employees took vacation, limiting participation further. In addition, limited resources hindered our ability to gather more observational data of gatekeeper skill.

These data are based on a 1-hour, multimedia, community gatekeeper training delivered in-person to nonclinical staff at a large university hospital. The generalizability of these findings to other community populations and to other training methods (e.g., online) is not known at present. Finally, analogue assessment, such as behavior demonstrated during a standardized role play, may not predict actual behavior in real world situations.

CONCLUSIONS

This brief community gatekeeper training resulted in positive changes in knowledge and attitudes about suicide prevention. The training was rated positively by participants who also reported sharing their experience and materials with family, friends, and coworkers.

Participating in a role play assessment of skills was accepted by participants, who rated it as a positive experience. There was

wide variability among participants' QPR gatekeeper skills, including asking directly about suicide, during an observed assessment using standardized role-play scripts with trained actors. Nevertheless, over half of participants demonstrated satisfactory competence in gatekeeper skills. The relationship between skills demonstrated in this study and the use of gatekeeper behaviors in real world situations, however, has yet to be examined. Methods such as those used in other fields to assess actual practice (e.g., Epstein & Hundert, 2002) may be used to establish the transfer of gatekeeper training in future studies. Moreover, it is possible that those participants who demonstrated acceptable skills possessed those skills prior to training.

Based on this study, future research directions are two-fold. First, studies that address a broader application of gatekeeper training in diverse workplace settings are needed to replicate and extend these findings. Data from a larger, more representative sample of the nation's workforce would also determine the rate of personal exposure to suicide more broadly. The potential for broad dissemination of a brief community-level gatekeeper training to change social norms, and reduce stigma of needing and asking for help, is an important focus of future investigations.

The second line of future inquiry is the technical aspects of gatekeeper training models. Even at this community level, investigation on the impact of role play practice and other training variables (e.g., online versus in-person presentation) is needed to learn about the most effective and efficient method of training for broad dissemination. Research

that compares randomly assigned participants to training groups with and without role play practice conducted in the context of training on proximate learning outcomes, including observed skills and subsequent gatekeeper behavior, is an important next step. Assessment of changes in observed gatekeeper skills from pre- to post-training is also needed.

The extent of gatekeeper skill among community members prior to formal training also needs further research. It may be that some individuals arrive to training with the skills and social position necessary to be citizen gatekeepers with only minimal enhancement in knowledge. Others, such as those who did not demonstrate acceptable gatekeeper skills in our study, may require additional learning strategies (e.g., extended practice and feedback on gatekeeper skills) in order to use them. Moreover, it is likely that some community members are inherently ready to learn and in the position to use gatekeeper skills while others, even with accurate knowledge, positive attitudes, and practice opportunities, will not use gatekeeper skills for suicide prevention. Future studies are needed to identify characteristics of individuals most likely to engage in gatekeeper practices following suicide prevention training.

The sustainability of changes in knowledge, attitudes, and skills, and the long-term impact of this type of training have yet to be studied. Based on the current study, gatekeeper training in the workplace appears to have the potential to be one component of a public health approach to mitigate the tragedy of suicide affecting workplace settings in communities.

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Manuscript Received: May 7, 2006

Revision Accepted: February 26, 2007