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The Assessment and Management of Suicide Risk: State of Workshop Education

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Abstract

A systematic search of popular and scholarly databases identified workshops that addressed general clinical competence in the assessment or management of suicide risk, targeted mental health professionals, and had at least one peerreviewed publication. We surveyed workshop developers and examined empirical articles associated with each workshop. The state of workshop education is characterized by presenting the learning objectives, educational formats, instructor factors, and evaluation studies. Workshops are efficacious for transferring knowledge and shifting attitudes; however, their role in improving clinical care and outcomes of suicidal patients has yet to be determined.

Mental health professionals have a valuable role to play in preventing suicide. Suicidal symptoms, risk, and behavior are common among patients in mental health settings due to the prevalence of mental disorders and other risk factors (Brown, Beck, Steer, & Grisham, 2000; Harris & Barraclough, 1997; Palmer, Pankratz, & Bostwick, 2005). In recognition of the role clinicians play in preventing suicide, the 1999 Surgeon General's Call to Action (U.S. Public Health Service, 1999) and the 2001 National Strategy for Suicide Prevention (NSSP; U.S. Dept. of Health and Human Services, 2001) included objectives for enhancing the pool of mental health professionals competent in the assessment and management of suicide risk by improving training at the graduate level (NSSP Objective 6.3) and assuring continuing clinical competence of practicing professionals (NSSP Objective 6.9). Competent recognition, screening, and care of individuals at risk for suicide have also been a focus of accreditation and regulatory bodies (e.g., The Joint Commission) and state offices of mental health. The demand for competence in this area of practice is also increasing in research settings. Investigators interested in studying effectiveness in naturalistic settings increasingly recruit individuals with suicidal ideation and history of suicide attempts for studies. The inclusion of these individuals in research studies necessitates suicide risk management protocols and consultation from suicide risk assessment experts (Oquendo, Stanley, Ellis, & Mann, 2004; Pearson, Stanley, King, & Fisher, 2001).

Clinical work with individuals at risk for suicide is anxiety provoking and increasingly complicated (Jobs, Rudd, Overholser, & Joiner, 2008). Clinicians have a practical and ethical responsibility to develop and maintain clinical competence in this area of practice.

Epstein and Hundert (2002) defined competence in medicine as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individuals and communities being served.” This definition is apt for the study of suicide-specific competence because it captures the range of personal, professional, intellectual, and technical capacities required to work effectively with individuals at risk. Experts in clinical suicidology have developed practice guidelines (Jacobs & Brewer, 2004) and core competencies (Suicide Prevention Resource Center, 2006) specific to the assessment and management of suicidal risk and behavior. Consistent with Hundert and Epstein’s broad understanding of competence, these guidelines and competencies address multiple domains of practice. For example, the task force convened by the American Association of Suicidology (AAS) and the Suicide Prevention Resource Center (SPRC) identified 24 competencies in 7 domains of practice (attitudes and approach, understanding suicide, collecting accurate assessment information, formulation of risk, treatment and services planning, management of care, and legal–regulatory issues; Suicide Prevention Resource Center, 2006).

Clinicians develop competence in working with individuals at risk for suicide through formal and informal educational venues. These venues vary on investment required, proximity to practice, and assurance of quality and expertise. This article focuses on in-person, expert-led, suicide-specific workshops designed for mental health professionals. For the purposes of this study, a *workshop* is a brief intensive educational program that focuses on techniques and skills in assessing and managing suicide risk. This study is the first to systematically gather, organize, and critique information about these workshops, so clinicians, researchers, and administrators can evaluate available education options and the evidence base for approaches to building competence in the mental health workforce. Our aims are to (1) describe the educational objectives and methods of the workshops; (2) characterize the training and qualifications of the trainers who deliver the workshops; and (3) review published studies about the training programs’ outcomes.

METHOD

Program Identification

We searched popular and scholarly databases and queried a suicidology listserv to identify all possible English-language educational offerings that met the following criteria:

Criterion 1—The target audience is primarily mental health professionals. We defined *mental health professional* as a person who offers services for the purpose of improving an individual’s mental health or to treat mental illness. This broad category includes psychiatrists, clinical psychologists, clinical social workers, psychiatric nurses, mental health counselors, and other professionals.

Criterion 2—The program’s educational objectives target general clinical competence in assessment and management of risk for suicide. We defined *general clinical competence* as the collection of knowledge, attitudes, and skills that any mental health professional should possess when working with individuals at risk for suicide, regardless of the treatment paradigm, protocol, or technique the professional chooses to apply. Workshops that aim to train mental health professionals in the use of a particular treatment manual or protocol, such as dialectical behavioral therapy (DBT; Linehan, 1993) or cognitive-behavioral therapy for suicide prevention (CBT-SP; Stanley et al., 2009), are not considered programs that target general clinical competence in the assessment and management of suicide risk.

Criterion 3—At least one peer-reviewed article describes or evaluates the training or explicates the clinical model upon which the training is based. A workshop for mental health professionals that grew out of a community gatekeeper training that had been the subject of a peer-reviewed article would meet this criterion, even if no peer-reviewed article had been published specifically about the workshop for mental health professionals.

Popular Database Search Procedure—We used the Google and Yahoo search engines to identify workshops advertised for mental health professionals. During the first round of searches we reviewed the first 100 results of a two-term Boolean search: “suicide” AND (“training” OR “education” OR “continuing education” OR “workshop”). During the second round of searches we reviewed the first 100 results of a three-term Boolean search that further specified the results: “suicide” AND (“training” OR “education” OR “continuing education” OR “workshop”) AND (“clinician” OR “mental health professional” OR “counselor” OR “therapist” OR “psychiatrist”). We reviewed all webpage titles for the first 100 results from each search and reviewed linked pages whenever necessary. The review of popular database results yielded 19 workshops that met Criterion 1 and 2.

Scholarly Database Search Procedure—We searched PsychInfo and Medline for each of the 19 workshops identified via the popular database search to identify peer-reviewed articles (Criterion 3) that described or evaluated any aspect of the training offered to mental health professionals or the model upon which the training was based. To identify articles we conducted keyword searches using variations of the workshop titles and the names of the workshop developers. Six of the 19 programs identified by the popular database search met this publication criterion for inclusion in the study.

We conducted a second series of PsychInfo and Medline searches to identify any educational offerings that the popular searches had not uncovered. We reviewed the results of the following two-term Boolean searches in PsychInfo: “suicide” AND (“education” OR “continuing education,” OR “clinical methods training”) and “suicide” AND (“competence” OR “professional competence”). The keyword thesauruses of PsychInfo and Medline databases differ slightly (Tuleya, 2007; U.S. National Library of Medicine, 2008), so the term *suicide* was combined with a slightly different set of terms in the Medline database: “suicide” AND (“education” OR “continuing education”) and “suicide” AND “professional competence.” We excluded articles about “assisted suicide” and articles published before 1980. This set of searches yielded four additional workshops that met Criteria 1, 2, and 3.

Suicidology Listserv Query—We queried members of the American Psychological Association “Suicidology” listserv (American Psychological Association, 2007) with our list of identified workshops and requested information on any additional educational offerings. The message was distributed on March 17, 2009, to 442 listserv recipients. The query yielded responses from three program representatives. One of these additional workshops met inclusion criteria. The other two programs targeted community gatekeepers.

Program Developer Survey

Respondents—We e-mailed the developers of the 11 workshops that met the inclusion criteria with a request and hyperlink to participate in a brief online survey about their programs. We described the inclusion criteria that yielded the invitation to participate and asked the developers to complete the survey or designate another knowledgeable person to do so. One of the developers (Shea) alerted us to a second workshop offered by his institute. We confirmed that this workshop met inclusion Criteria 1, 2, and 3 via a Medline literature search and articles submitted by the developer. We asked the developer to complete a survey about this program. Thus, a total of 12 workshops were included in this study.

Prior to our first contact with developers, this study was exempted from human subjects review by the University of Rochester and Columbia University institutional review boards.

Survey—The online survey had 18 closed and 4 open-ended items in 3 areas: workshop objectives, features and methods (8 items); instructor selection and preparation (12 items); and relevant publications and unpublished studies (2 items). The instructor selection and preparation items were only asked for those workshops delivered by trained instructors in addition to the developers. These items were not relevant for workshops instructed by developers only.

RESULTS

Survey Response

We had a 100% response rate from 11 developers for information about the 12 included workshops. One developer (McNiel) responded to our inquiry by providing written information about his program but did not complete the survey. Respondents included workshop developers ($n = 7$), project managers ($n = 2$), and administrative support personnel ($n = 2$).

Narrative Overview of Included Workshops

The following section contains narrative descriptions of each workshop based on developer responses to an open-ended question asking what was unique about their programs and on our synthesis of the published literature about each program.

The Air Force Managing Suicidal Behavior Project (U. S. Air Force Suicide Prevention Program: <http://afssp.afms.mil>)—This program was developed in conjunction with a comprehensive clinical guide commissioned by the U. S. Air Force (USAF; Oordt et al., 2005) to improve clinical responsiveness to suicide. This clinical guide was one part of a large-scale public health suicide prevention effort the USAF undertook to reduce suicide (Knox, Litts, Talcott, Feig, & Caine, 2003). This program is unique among the included workshops because it was developed to respond to a specific population need as part of a one-time suicide prevention effort. Although the program is not publicly available, we include it in this study because of its large-scale rollout and the data gathered to support the effectiveness of a training program in changing provider attitudes.

Assessing and Managing Suicide Risk (AMSR; SPRC: <http://www.sprc.org/traininginstitute/index.asp>)—AMSR curriculum is based on recommendations from a task force of clinician-researchers convened in 2004 by the SPRC and the AAS (Suicide Prevention Resource Center, 2006). The workshop is organized by a sequential presentation of 24 core competencies, with a special focus on 8 competencies. The program teaches clinicians to estimate acute and chronic risk by gathering and synthesizing information related to suicidality (past and present), mental disorders, mental status, and other factors known to correlate with suicide risk. The program also focuses on cultural competency in working with individuals at risk for suicide.

Certification in the Chronological Assessment of Suicide Events (CASE; Training Institute for Suicide Assessment and Clinical Interviewing: <http://www.suicideassessment.com/>)—This certification program offers individualized skill-building training based on the CASE approach (Shea, 1998), which emphasizes comprehensive interviewing using specific techniques, including six validity techniques for uncovering assessment information about patient suicide ideation, behavior, intent, and plans. The certificate program uses “macrotraining” (Shea & Barney, 2007b) and “facilitator”

supervision” (Shea & Barney, 2007a), which are educational techniques designed to teach skills through practice and specific feedback. The training takes place one-on-one until the trainee qualifies for certification by demonstrating competence to the satisfaction of the trainer.

Collaborative Assessment and Management of Suicidality (CAMS; Catholic University: <http://psychology.cua.edu/faculty/jobes.cfm>)—The CAMS program teaches a transtheoretical framework for assessing and working with suicidal individuals (Jobes, 2006; Jobes & Drozd, 2004). CAMS stresses that strong clinician-patient alliance or collaboration is key to successful treatment and provides specific guidelines for gathering risk assessment information. The curriculum includes a presentation about the use and empirical support from clinical research for the Suicide Status Form (Conrad et al., 2009; Jobes, Kahn-Greene, Greene, & Goeke-Morey, 2009; Jobes et al., 2004). The CAMS risk assessment framework draws on Shneidman’s cubic model (press, pain, and perturbation; Shneidman, 1976), as well as on knowledge of behavioral indicators of risk.

Question, Persuade, Refer, and Treat (QPRT; QPR Institute: <http://www.qprinstitute.com>)—This program is an advanced training for mental health professionals based on QPR (Quinnett, 1995), a one-hour gatekeeper training. QPRT teaches interviewing and assessment, especially at clinical intake, and provides a tool for documenting suicide risk and assessment for patients with mental health and/or substance abuse disorders. It provides instruction for using a guided protocol for interviewing and documentation. Trainees qualify for certification after passing a written 25-item exam and demonstrating competence through a role-play, which is rated by the instructor using a 16-item rating created by the developer for this purpose. QPRT is offered online through Eastern Washington University and in a face-to-face workshop, which is the subject of our survey.

Recognizing and Responding to Suicide Risk (RRSR; American Association of Suicidology: <http://www.suicidology.org>)—Like the AMSR program described earlier, this program grew out of the consensus recommendations of a clinician-researcher task force convened by the SPRC and the AAS in 2004 (Suicide Prevention Resource Center, 2006). The program offers 2-day workshop training plus an online pretraining module about clinician attitudes and approaches to suicide assessment and management. Participants must pass a multiple choice test following the online module to receive a certificate of completion for the workshop. The curriculum addresses the 24 core competencies identified by SPRC and AAS and task force recommendations. AAS also offers population-specific workshops: Inpatient (for hospital staff), Adolescent (for youth agency staff), Veterans (for the VA), and a Spanish-language version. The program includes a medical-legal component and emphasizes meeting legal standards of care. It uses a risk assessment framework that includes formulation of acute and chronic risk determination based on risk and protective factors and warning signs.

Risk Assessment Workshop (Department of Psychology, University of California San Francisco (UCSF): <http://psych.ucsf.edu/faculty.aspx?id=296>)—This program covers assessment of suicide risk and risk for violence in a 5-hour workshop for psychiatric residents and other trainees at UCSF (McNiel et al., 2008). The training is based on American Psychiatric Association (APA) practice guidelines for the assessment and treatment of patients with suicidal behavior. Developed by a forensic psychologist, this workshop includes a medical-legal component and an emphasis on meeting legal standards of care and documentation. The program teaches a suicide risk framework based on Webster’s approach to assessing risk for violence (Webster, Douglas,

Eaves, & Hart, 1997), which organizes risk markers as historical (past), clinical (present), and future (risk management). The training brings together the APA guidelines with this conceptualization of risk and teaches participants to make clinical judgments about risk severity and to develop a management plan based on anticipated future risk.

Skills-Based Training on Risk Management (STORM; The Storm Project, University of Manchester, UK: <http://www.medicine.manchester.ac.uk/storm/>)

—The STORM program was developed at the University of Manchester and has been disseminated widely in the United Kingdom. A distinguishing feature of the program is that it uses a flexible, modular approach to skill building. Sponsoring organizations can elect to have the entire program taught over 2 days or choose from a menu of briefer modules, such as assessment, crisis management, crisis prevention, and self-help strategies. The program's risk assessment framework consists of "established assessment and management methods for patients with suicidal ideation and/or feelings of hopelessness" (Gask, Lever-Green, & Hays, 2008).

Suicide: Understanding and Treating the Self-Destructive Processes (Glendon Association: <http://www.glendon.org/>)

—This workshop is based on the assessment and treatment approaches of Firestone and Firestone (Firestone, 1986; Firestone & Firestone, 1998). The curriculum includes an introduction to assessment instruments, including the Firestone Assessment of Suicidal Intent (FASI) and the Firestone Assessment of Self-Destructive Thoughts (FAST). The trainer uses filmed interviews with suicide attempt survivors to illustrate the conceptualization of suicidal behavior as deriving from a self-destructive "inner voice" or a "systematized, integrated pattern of negative thoughts, accompanied by angry affect" (Firestone, 1986; Firestone & Firestone, 1998). The risk assessment consists partly of understanding these self-destructive patterns. The workshop also exposes learners to techniques of voice therapy (Firestone, 1988).

Suicide Assessment Workshop (Queen Elizabeth Psychiatric Hospital, Birmingham, UK; <http://www.uhb.nhs.uk>)

—This workshop was developed to train employees of a psychiatric teaching hospital in Birmingham, England (Fenwick, Vassilas, Carter, & Haque, 2004). The workshop was organized into three modules focused on assessing risk: (1) after deliberate self-harm; (2) in a hospital setting; and (3) in an outpatient setting with depression. The primary learning vehicle was a series of small-group mini-lectures followed by role-plays with professional actors. Workshop instructors provided in-vivo feedback to participants on their assessments. This workshop was offered twice as part of a specific training initiative in 2002. Although the program is not publicly available at this time, we included it in this study because of the innovative teaching methods and evaluation design (see next).

Suicide Care: Aiding Life Alliances (LivingWorks, Inc: <http://www.livingworks.net/>)

—Suicide Care is an advanced workshop for clinicians who have already participated in a 2-day program conducted by the program's developers (ASIST: Applied Suicide Intervention Skills Training; Ramsay, Cooke, & Lang, 1990). The program builds from ASIST's emphasis on the human connection and empathic understanding of an individual's reasons for suicide. The risk assessment framework de-emphasizes formulation or summary judgment of risk (such as high, medium, low) and instead teaches clinicians to focus on matching specific risks with specific plans. The program distinguishes among four intervention strategies—first aid, management, treatment, and therapy—and makes recommendations for clinician behavior and characteristics based on the conceptualization of what at-risk persons need.

Unlocking Suicidal Secrets: New Thoughts on Old Problems in Suicide Prevention (Training Institute for Suicide Assessment and Clinical Interviewing: <http://www.suicideassessment.com/>)—This workshop is an expanded edition of a workshop by the same developer titled, “Delicate Art of Eliciting Suicidal Ideation” (Shea, 1999). The program offers an overview of suicide assessment, response, and treatment planning, and an introduction to the CASE approach to suicide assessment (Shea, 1998). The risk assessment framework emphasizes rapport building and “validity techniques” to elicit patient information, as well as planning and assessing “suicide events” (i.e., ideation, preparation, thoughts of death, and attempts) in different periods of time. The program teaches clinicians to use “matrix treatment planning”—an evidence-based approach to treatment for at-risk patients designed to reduce risk for suicide.

Workshop Features, Format, and General Information

Table 1 provides a summary of workshop information based on closed-ended questions from the online survey. More than 40,000 mental health professionals participated in the workshops included in this study between January 2004 and August 2009. Participation in “Unlocking Suicidal Secrets” (provided by TISA) accounted for more than half of this participation. Workshop duration ranged from 5 to 15 hr, with a mean duration of 7.5 hr (median = 6.0 hr). The most commonly reported teaching formats were lecture and large group discussion, with a range of formats offered across trainings.

Domains of Competence Addressed in Learning Objectives

Developers provided written information about the learning objectives for their programs. The authors independently sorted the objectives into eight domains of competence (attitudes and approach, understanding suicide, collecting accurate assessment information, formulation of risk, treatment and services planning, management of care, documentation, and legal and regulatory issues). These domains correspond to those developed by a SAMSHA-sponsored panel that generated a list of core competencies in the assessment and management of suicide risk (Suicide Prevention Resource Center, 2006). The independent sort yielded 89% agreement among authors on the domain assignments across programs. The authors arrived at consensus on any items on which there was less than 100% agreement.

The results of sorting each workshop’s learning objectives into competence domains appear in Table 1. Coverage of a greater number of domains does not imply a better workshop, but knowledge about which domains each program includes in its learning objectives can assist clinicians or administrators in selecting the workshop that best matches their needs. The domains most widely covered according to programs’ stated learning objectives were the collection of accurate assessment information (11 of 12 workshops) and formulating risk (9 of 12 workshops). The domains least widely covered were documentation (5 of 12 workshops) and legal and regulatory issues (3 of 12 workshops).

Training and Feedback for Workshop Instructors

Table 2 summarizes information collected from the seven programs that reported offering workshops delivered by trained instructors, in addition to the developers. The range in the number of certified instructors was wide, from three additional instructors to 356 instructors. The number of days of face-to-face training required also varied (from 1 half-day to more than 6 days), and developers reported other means of preparing instructors in addition to their train-the-trainer programming, such as face-to-face supervision (CAMS), an option to co-train with a more experienced instructor (QPRT), and booster sessions during the first year of training (STORM). The requirements to become an instructor were fairly uniform: almost all programs required teaching and clinical experience. Four of the seven programs

required instructors to hold a clinical licensure, and the same number of programs required a master's degree or higher.

The programs reported providing feedback to instructors about their performance mostly through satisfaction surveys. Five of seven programs reported that they “always” provide satisfaction survey data to instructors; one program reported it “usually” provides this form of feedback; and another reported it “occasionally” does. None of the programs routinely provide feedback to instructors based on live or videotaped observation of workshop delivery; three of the seven reported that they occasionally provide observation-based feedback. Program leaders reported using other forms of feedback, such as telephone or peer supervision, occasionally or as needed.

EVALUATION STUDIES

Seven of the 12 programs have published evaluation studies relating to their workshop or their approach to risk assessment. A summary of these studies is presented in Table 3. Most of these studies examine the effect of the training on the knowledge, skills, or attitudes of participants. Four studies examined the validity and utility of an assessment tool. Two studies examined outcomes on suicidality in the target population.

Studies that Evaluate Participant Outcomes (Knowledge, Skills, and Attitudes)

Studies that evaluate the efficacy of the training in improving participants' knowledge, skills, and attitudes include: (1) studies that evaluate one of the 12 workshops for mental health professionals that are the focus of the present review; and (2) studies that evaluate a workshop that is *related* to one of the 12 workshops we focus on, but which target a population other than mental health professionals, such as community members or gatekeepers. We report here on studies about related workshops because workshops in both categories share a common training model and approach to suicide. Thus, evidence about the efficacy of a related community-targeted workshop is relevant to assessing the evidence base of the workshop for mental health professionals.

Workshops that Target Mental Health Professionals—There are published studies on 4 of 12 workshops that were the focus of our developer survey. Oordt, Jobes, Fonseca, and Schmidt (2009) demonstrated that 82 Air Force clinicians' confidence and attitudes toward recommended practice behaviors improved immediately and were maintained 6 months after 12 hours of training and exposure to a comprehensive practice guide on assessing and managing suicidal behavior. McNiel et al. (2008) found that 43 psychiatry residents who participated in five hours of concentrated risk assessment training demonstrated improvements in self-efficacy and in the objectively rated quality of written assessments immediately following the training. These improvements were greater for a trained group than for a comparison group. Gask, Dixon, Morriss, Appleby, and Green (2006) showed that the attitudes and confidence of 438 mental health staff who participated in an 8-hour STORM training improved over baseline immediately after training. This improvement was sustained among 143 subjects who were surveyed 4 months later. However, improvement in interview skills measured immediately after training via 15-minute role-plays among 17 participants was not sustained after 4 months. Fenwick et al. (2004) conducted a comparison between a 6-hour suicide assessment workshop that had multiple active learning components and a 3-hour program consisting mostly of lecture and paired participant discussion. Participants in both groups gained confidence from the trainings, and gains were sustained at 2-month follow-up.

Workshops that Target Community Members or Gatekeepers—Four of the 12 developers surveyed in this study (Quinnett-QPRT, LivingWorks-Suicide Care, and Gask—

STORM) have disseminated programs for community gatekeepers or general health professionals. Key results from evaluations of these workshops with community or general health (nonmental health) samples are as follows.

QPRT is an advanced workshop for mental health professionals based on QPR, a brief gatekeeper training that has been widely disseminated in the United States. Post-training gains in knowledge, self-efficacy, and attitudes have been demonstrated in multiple community samples (Capp, Deane, & Lambert, 2001; Cross, Matthieu, Cerel, & Knox, 2007; Matthieu, Cross, Batres, Flora, & Knox, 2008; Reis & Cornell, 2008; Tompkins & Witt, 2009). In one sample (50 university employees), observed interview skills improved after QPR training (Cross, Matthieu, Lezine, & Knox, 2010). In a randomized controlled trial of QPR with staff from 32 public high schools, QPR-trained staff showed significant increases in knowledge and attitudes after training but only marginal differences in reported behavior in asking students about suicide were reported at 1-year follow-up (Wyman et al., 2008).

The American Association of Suicidology has developed an abbreviated (90-min) version of RRSR to train primary professionals (RRSR-PC). RRSR-PC, Youth Version was used in conjunction with the implementation and evaluation of a two-question suicide risk prompt that was electronically delivered to physicians in three primary care practices during medical visits with adolescents. The number of adolescents screened and detected increased substantially in all three clinics after clinicians received training and electronic prompts (Wintersteen, 2010).

Suicide Care is an advanced workshop for mental health professionals based on ASIST, an internationally disseminated program designed as “suicide first aid.” Post-training changes in suicide-related knowledge, attitudes, and confidence have been documented in a focus group study with medical students (Guttormsen, Hoifodt, Silva, & Burkeland, 2003) and in a self-report study with university students (Pearce, Rickwood, & Beaton, 2003). A small sample of community participants showed substantial pre–post improvement in skill measured by observational ratings of a role-play (Tierney, 1994).

As described earlier, STORM has a flexible modular program that can be adapted to train a range of professional and nonprofessional groups. Regarding community groups, post-training improvements in knowledge, confidence, and attitudes have been achieved with prison staff (Hayes, Shaw, Lever-Green, Parker, & Gask, 2008) and with a multidisciplinary group of health professionals (Appleby et al., 2000). Participants in the latter study were mostly general health professionals, but a third of the participants were mental health professionals. This study found no significant changes in skill demonstration among a small subset of general and specialty mental health professionals who participated in a role-play demonstration.

Studies that Evaluate the Assessment Component of a Workshop

Studies by Jobes and colleagues have demonstrated the convergent, criterion, and predictive validity of the Suicide Status Form (SSF), a patient assessment tool at the heart of the approach presented in the workshop. Patient responses on the SSF predict session-to-session change in suicidal ideation (Jobes et al., 2009) and various treatment outcome patterns (Conrad et al., 2009; Jobes, Jacoby, Cimboric, & Hustead, 1997; Jobes et al., 2004).

Studies that Evaluate Patient or Population Outcomes

There are two studies that examined outcomes at the patient or population level. In a retrospective study of university counseling clients, 25 clients treated with the CAMS approach resolved suicidal ideation more quickly than 30 clients who experienced usual care

psychotherapy (Jobes, Wong, Conrad, Drozd, & Neal-Walden, 2005). The practitioners in this study were not trained with the CAMS workshop but had more extensive training in the CAMS approach. Thus, this study provides evidence for the approach advocated by the CAMS workshop, but does not address the efficacy of the workshop as a stand-alone educational offering. The second study relates to STORM. STORM is the only program in our sample that has been the subject of a study evaluating population-level changes in response to the educational intervention. Morriss, Gask, Webb, Dixon, & Appleby, (2005) found no change in the suicide rate in a region in which a large proportion of health professionals were trained with STORM.

DISCUSSION

This article describes the state of workshop education for mental health professionals in the assessment and management of suicide risk. We applied rigorous eligibility criteria to select in-person workshops that (1) target mental health professionals; (2) aim to promote general clinical competence in the assessment and management of suicide risk; and (3) have at least one published, peer-reviewed article describing or evaluating the training or model on which it is based. Our study is the first to provide a cross-program description of the objectives and methods of the clinician-targeted workshops; characterize the training, qualifications, and feedback for the trainers who deliver the workshops; and review published studies about training outcomes.

We surveyed developers of the 12 programs that met the criteria and discovered that these workshops cover a wide range of learning objectives, with the heaviest focus on assessment and formulation of suicide risk. Workshops that emphasized documentation and managing care in their written learning objectives were less common. Thousands of clinicians in the mental health workforce attend workshop trainings each year and more than 40,000 mental health professionals have participated in these 12 workshops. Half of the workshops included in our study have been delivered by program developers only; the other half are delivered by other trained instructors as well as by the developers. These additional instructors typically have at least a master's degree, clinical experience, and licensure, and some have past teaching experience. They generally receive one to two days of initial training and minimal ongoing feedback, which mostly consists of results from satisfaction surveys. None of the programs reported routinely providing expert feedback based on observed performance.

The content provided to clinician participants in these workshops has strong face validity and bears the mark of expert clinician-developers. The programs are "evidence-based" in the sense that some of the content draws from clinical epidemiology and treatment research. Several of the workshops have grown out of mature treatment or prevention models, which have demonstrated efficacy with respect to improving participant knowledge and attitudes. Many use innovative and promising pedagogical techniques. One of the authors (ARP) attended most of the publically available workshops examined in this study and found them practical and engaging. In short, these workshops generally convey the best available recommendations for clinical practice, often in innovative ways. Furthermore, some of the programs have begun to take steps to assure that participants have learned what is taught: RRSR requires participants to pass a multiple-choice test, and QPRT and CASE require role-played demonstration of specific interviewing skills. Nevertheless, there is an urgency to evaluate the impact that training has on the care mental health professionals provide and the outcomes they achieve.

Our project revealed that research documenting real-world outcomes from these workshops for mental health professionals is limited. Studies up to this point have established that

clinician knowledge and attitudes improve in response to training, but the evidence with respect to clinical skill comes from just two studies, making it difficult to draw conclusions. McNeil and colleagues' (2008) workshop produced a meaningful post-training improvement in vignette-based written risk assessment. Gask and colleagues (2006) found that mental health professionals' interview skills improved in the short-term, but the effect did not persist in a small follow-up group. We found no studies addressing the impact of workshop training on observed practice with real patients or on outcomes clinicians achieve with patients after participating in training. Although the framework taught in the CAMS workshop has evidence to support its efficacy with patients, this evidence cannot be extrapolated to the workshop because the clinicians providing treatment in the studies we reviewed were not trained via a workshop, but rather trained extensively in CAMS at the home institution of the developer.

Thus, based on the evidence available at this time, we can conclude that workshops provide an effective means for transferring knowledge and shifting attitudes, but not necessarily skills. Until we have more evidence that workshops improve skill and impact patient outcomes, clinicians and administrators can think of workshops as serving a valuable role in clinician education (transferring knowledge and attitudes, introducing skills), but should recognize that workshops have not yet been demonstrated to improve the clinical care of suicidal patients.

Limitations

We focused on one type of educational opportunity for practicing clinicians: in-person workshops that purport to strengthen general, transtheoretical competency. These workshops do not represent the full range of clinical education that is available for professionals who wish to improve their ability to work with suicidal individuals. For example, we did not focus on workshops for clinicians seeking specific expertise in a manualized treatment or techniques for working with suicidal individuals. We also did not catalog education that is taking place in other venues, such as ad hoc employer in-services, clinical supervision, online courses, and professional journal articles. Thus, this article contributes knowledge about a significant, but limited, part of the spectrum of clinical training opportunities. Studies of clinical education in specific treatments and data through other venues are needed to evaluate the full range of clinical education in the assessment, management, and treatment of patients at risk for suicide.

We relied upon a relatively brief survey to minimize participant burden and maximize participation. While trying to be as comprehensive as possible, our survey may not have captured all domains relevant to describing the state of workshop education.

Finally, we gathered some of our data from developers via self-report. A vested interest in their program could bias developers' reporting of the number of clinicians trained, the qualifications of trainers, and support trainers receive. Nevertheless, most of the information included in this article is based on publically available material.

Future Directions

Our study on the current state of workshop education in the assessment and management of suicide risk suggests several specific areas for future development and study. First, workshop developers should focus effort on factors that influence the implementation of knowledge, attitudes, and skills gained in workshops. Follow-up sessions, online refreshers, and special training for supervisors and administrators may be necessary for workshops to have an effect on patient care. Educational developers should thus consider collaborating with implementation scientists, whose field of study specifically includes designing

interventions to improve implementation of skills and practices into service settings (Proctor et al., 2009).

Second, half of the workshops in this study are disseminated using instructors who are trained by developers or by master trainers to deliver the workshop. While this “train-the-trainer” model is efficient and often necessary, the ability of trainers to present the workshops with fidelity and competence is a potential constraint to effectiveness. Research on the education and support process for instructors—including the role of instructor selection, feedback, and support—is needed to determine how to promote successful transfer to training from master trainers to instructors.

Third, despite the high prevalence of suicidal ideation and behavior among patients receiving mental health treatment, there are very limited data about current practices and needs in the mental health workforce. We lack basic information about how (and how often) clinicians elicit, explore, and respond to information about suicidal thinking, plans, and behavior. Scientific knowledge about usual care can help focus educational efforts on the areas most needing improvement and enable the field to measure progress.

Lastly, we need controlled studies evaluating the development, continued use, and clinical impact of the skills and approaches taught in these workshops. Researchers may also wish to focus on the comparative effectiveness of workshops for different kinds of clinicians. For example, some workshops may be more useful for outpatient versus inpatient or early-career versus experienced professionals. Ideally such studies would be conducted using observational data of real-world application of skills and patient response.

CONCLUSION

There are several theoretically valid workshops available for mental health professionals in the assessment and management of suicide risk. The large number of clinicians who participate in workshop education each year underscores the importance of training as a suicide prevention strategy (Mann et al., 2005) and highlights the urgency of determining the effectiveness of workshops and taking steps to maximize their impact on patient outcomes.

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Overview of Workshops

TABLE 1

Program name	Typical # of hours	Domains of competence addressed in learning objectives ^a	Learning activities >1 hour	# of clinicians trained through 2008	Post-training support for transfer of training
The Air Force managing suicidal behavior project	12	AA, CA, FR, MC	Lecture	1,000	Handout, manual
Assessing & managing suicide risk (AMSR)	7	AA, US, CA, FR, TP, MC	Lecture, large group discussion, readings	10,474	Handouts, manual, optional listserv
Certification in the chronological assessment of suicide events (CASE)	6	CA	Lecture, readings, small group discussion, large group discussion, video clips, short role-plays, long role-plays	72	Handouts, manual, consultation for additional fee, optional purchase of developer book
Collaborative assessment and management of suicidality (CAMS)	6	AA, CA, FR, TP, MC, D	Lecture	800	Handouts, optional purchase of participant manual
Question, persuade, refer, treat (QPRT)	8	US, CA, TP, MC, D	Lecture	594	Handouts, manual, website participants can visit (optional)
Recognizing and responding to suicide risk: Essential skills for clinicians (RRSR)	15	AA, CA, FR, TP, D, LR	Lecture, readings, small group discussion, large group discussion, written case vignettes, long role-plays	933	Handouts, participant manual, optional listserv, consultation for fee
Risk assessment workshop (McNiel)	5	US, CA, FR, TP, D, LR	Lecture, written case vignettes	Not reported	N/A-conducted within residency training program
Skills-based training on risk management (STORM)	6	CA, FR, TP	Small group discussion, short role-plays, video clips	Not reported	Handouts, manual, optional listserv, ongoing peer consultation groups
Suicide assessment workshop (Fenwick, Vassilas)	6	US, CA, FR, MC	Small group discussion, short role-plays	107	Handouts
Suicide: Understanding and treating the self-destructive processes	5	US, CA, TP, MC	Lecture, video clips	1,550	Handouts, optional listserv, ongoing consultation for additional fee
SuicideCare: Aiding life alliances	8	AA, FR, TP, MC	Small group discussion, large group discussion	725	Handouts
Unlocking suicidal secrets	6	CA, FR, TP, D, LR	Lecture, video clips	28,400	Handouts

^a AA = Attitudes and approach; US = Understanding suicide; CA = Collecting accurate assessment information; FR = Formulating risk; TP = Treatment and services planning; MC = Management of care; D = Documentation; LR = Legal and regulatory issues.

TABLE 2

Instructor Characteristics for Workshops that Certify Nondeveloper Instructors

Program name	# of certified instructors	Training instructors receive to deliver workshop	Master's degree required	Teaching experience required	Clinical experience required	Licensure required
Assessing and managing suicide risk	62	3-day train-the-trainer program with master trainer	Yes	Yes	Yes	Yes
Collaborative assessment and management of suicidality (CAMS)	3	Meetings with developer (trainers are graduate students)	No	Yes	Yes	No
Question, persuade, refer, treat (QPRT)	129	1-day co-training with advanced trainer	Yes	Yes	Yes	Yes
Recognizing and responding to suicide risk: Essential skills for clinicians (RRSR)	12	5-day train-the-trainer program with master trainer	Yes	Yes	Yes	Yes
Skills-based training on risk management (STORM)	356	4-day train-the-trainer program, 3 face-to-face support sessions during first year	No	Yes	No	No
Suicide care: Aiding life alliances	10	3-day train-the-trainer program, in addition to 5-day program to become ASIST trainer	Yes	Yes	Yes	Yes
Suicide assessment workshop	8	Half-day training with developers	No	No	Yes	Yes

TABLE 3

Evaluation Studies

Program	Source	Sample	Design and target outcome	Outcome
Studies evaluating participant outcomes (knowledge, skills, and attitudes)				
<i>Evidence from studies about the workshops that target mental health professionals</i>				
Air Force	(Oordt et al., 2009)	82 active duty Air Force mental health professionals	Pre-post-6-month f/u self-reported confidence, beliefs, and clinic policies and procedures	Improvement pre-post in some aspects of confidence and beliefs; inconclusive results about the impact of training on policies and procedures
Risk assessment workshop	(McNiel et al., 2008)	45 psychiatry and psychology trainees	Immediate pre-post self-report and objectively rated documentation sample	Improvement in self-reported confidence and objectively rated documentation skill compared with baseline and to a comparison group
STORM	(Gask et al., 2006)	458 staff in three mental health services	Pre-post self-report with whole sample (immediate and 4 month f/u); Pre-post skill acquisition role-play at 4 month f/u with a 17-volunteer subset	Improvement in attitudes and confidence (whole sample); no change in skills demonstrated in role-play (subset)
Suicide assessment workshop	(Fenwick et al., 2004)	89 mental health professionals and 20 other health professionals	Full-day vs. half-day workshop; Pre-post-2-month f/u	Improved confidence in both groups, sustained at f/u
<i>Evidence from studies about related workshops that target community members or gatekeepers</i>				
Suicide care (Studies about related community workshop, ASIST)	(Guttormsen et al., 2003)	76 medical students	Post-training focus group interviews with authors	Student reports of more confidence and better skills
	(Pearce et al., 2003)	42 university students	Pre-test-post-test self-report; 2 month f/u (27 participants) with 2-item self-report	Post-training: Improvements in attitudes, norms, perceived behavioral control, self-efficacy, mental health literacy, and intention to intervene post-training. No changes in connectedness or social distance.
	(Tierney, 1994)	Study 1 (Skills): 36 community participants (19 pre-post; 17 post only)	Pre-post observational rating of skills in role-play; Self-report selection of response to vignette (SIRI)	F/u: Difficult to interpret due to small number of f/u participants Pre-post improvement in observational ratings of intervention skill; no change on SIRI
		Study 2 (Attitudes): 154 community participants in intervention group, 20 university students "nonequivalent"	Pre-post self-report knowledge and attitudes; comparison with nonequivalent control	Small pre-post improvements in knowledge and attitudes; no differences between intervention

Program	Source	Sample	Design and target outcome	Outcome
		controls"	group	and nonequivalent controls
QPRT (Studies about related gatekeeper workshop, QPR)	(Cross et al., 2007)	76 nonclinician employees in university hospital setting	Pre-post self-report of declarative knowledge and self-efficacy; post and f/u observational rating of gatekeeper skills in subset of subjects using standardized patient method; diffusion of training information at f/u	Significant increase in knowledge and self-efficacy from pre- to post-testing; 55% of participants demonstrated adequate gatekeeper skills; participants diffused the training information to family, friends, and co-workers
	(Cross et al., 2010)	50 randomly selected employees at 5 American universities (campus-residence assistants, faculty, facilities workers, student affairs staff, and coaches)	Pre-training variables (e.g., personality, previous experience), knowledge about suicide, and perceived efficacy for intervening with suicidal individuals; post knowledge & perceived efficacy; Pre-post observational rating of gatekeeper skills using standardized patient method	Significantly higher perceived efficacy and knowledge post-training; significantly improved observed suicide specific skills at post-test; no significant change in general skills (e.g., active listening); 54% demonstrated adequate gatekeeper skills at post-training; pre-training variables did not predict increased skills
	(Matthieu et al., 2008)	602 VA clinical and nonclinical staff from 209 community counseling centers	Pre-post self-report of declarative knowledge, self-efficacy, and post self-report of role-play practice behaviors	Significant increase in knowledge and self-efficacy post assessment, with nonclinicians showing larger effect sizes
	(Reis & Cornell, 2008)	73 school counselors, 165 teachers (trained), 74 counselors, and 98 teachers (untrained)	Trained vs. untrained comparison group	Greater knowledge of risk factors and more no-harm contracts than comparison group several months after training
	(Tompkins & Witt, 2009)	122 college residence advisors, 86 nontrained controls	Pre-post f/u; self-reported knowledge and attitudes; comparison with non trained controls	Improvements in knowledge and attitudes among participants and among non trained controls
	(Wyman et al., 2008)	Group-based randomized trial with 32 schools, with stratified sample ($n = 249$) of staff	RCT; self-reported declarative knowledge, appraisals, and gatekeeper behaviors at 1-year f/u	Increases in knowledge and appraisals post-training and at f/u; marginal difference in asking students about suicide, primarily among staff engaged in these behaviors at baseline
RRSR (Study about related gatekeeper workshop, RRSR-PC)	(Wintersteen, 2010).	Medical providers in three primary care practices	Pre-post medical record review of number of adolescents screened and detected as suicidal after training and electronic prompts for screening	Substantial increase in screening and detection in all three clinics after RRSR-PC training and

Program	Source	Sample	Design and target outcome	Outcome
STORM (Studies about related STORM workshop for community-gatekeepers)	(Appleby et al., 2000)	359 health professionals offered training in a regional initiative; 167 health professionals participated (95 primary care, 21 emergency medicine, 51 mental health)	Rate of attendance; immediate pre-post self-report; Pre-post skill (2 acquisition role-plays with a 28-volunteer subset at 2 month f/u)	electronic screening prompts were implemented 47% of eligible professionals participated; improvements in confidence and attitudes; non-significant improvements in skill in role-play for health professionals (n = 14), but not mental health professionals (n = 14) who volunteered to do role-play
	(Hayes et al., 2008)	161 prison staff	Pre-post self-report (Immediate and 6 month f/u)	Improvement in knowledge, attitudes, and confidence immediately after and at 6 months
Studies that evaluate the approach to assessment				
Evidence from studies about the workshop that targets mental health professionals				
CAMS	(Conrad et al., 2009)	149 psychiatric inpatients	Validity and reliability study; Patient-completed SSF on admission and 48–72 hr later	Two-factor solution: chronic and acute; good convergent and criterion validity; moderate test-re test reliability Patients improved; SSF ratings of overall risk moderated session-to-session change; SSF hopelessness and self-hate moderated patient ratings of suicidal thoughts over course of treatment
	(Jobes et al., 2009)	92 suicidal patients in university counseling center	Prediction of session-to-session change in suicidal ideation from SSF	Study 1: convergent validity, strong criterion-prediction validity, and moderate test-retest reliability; Study 2: Client report on SSF predicts non-response to treatment
	(Jobes et al., 1997)	106 suicidal patients in university counseling center seen over 5-year period	Study 1: Validity and reliability study of SSF ***Study 2: Correlation study of pretreatment self-report and treatment outcome patterns	Responses reliably categorized as relational, role responsibility, self, and unpleasant internal states
	(Jobes et al., 2004)	119 college students, 33 USAF personnel; all with suicidal ideation	Qualitative sort of open-ended written responses to SSF prompts	
Studies that evaluate patient or population outcomes				
Evidence from a study about the workshop that targets mental health professionals				
CAMS	(Jobes et al., 2005)	25 CAMS, 30 TAU patients in university counseling center	Retrospective outcome study	CAMS treatment group resolved suicidality more quickly and

Program	Source	Sample	Design and target outcome	Outcome
Evidence from a study about a related workshop that targets community members or gatekeepers				had less medical health care utilization than TAU in 6 months after start of treatment
STORM (Study about related STORM workshop for community-gatekeepers)	(Morriss et al., 2005)	Population for a district and region in England before and after training intervention	Pre-post suicide rates in district where training was delivered to 167 health professionals (see Appleby et al., 2000)	No change in suicide rate

SSF = Suicide Status Form; f/u = follow-up; TAU = treatment as usual.