



NIH PUBLIC ACCESS

Author Manuscript

Behav Modif. Author manuscript; available in PMC 2010 January 1.

Published in final edited form as:

Behav Modif. 2009 January ; 33(1): 66–81. doi:10.1177/0145445508322619.

Disseminating Evidence-Based Practices for Adults with PTSD and Severe Mental Illness in Public-Sector Mental Health Agencies

B. Christopher Frueh, Ph.D.¹, Anouk L. Grubaugh, Ph.D.^{2,3}, Karen J. Cusack, Ph.D.⁴, and Jon D. Elhai, Ph.D.⁵

¹*Department of Psychology, University of Hawai'i at Hilo, Hilo, HI*

²*Veterans Affairs Medical Center, Charleston, SC*

³*Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston, SC*

⁴*Cecil G. Sheps Center for Health Services Research, University of North Carolina, Chapel Hill, NC*

⁵*Disaster Mental Health Institute, The University of South Dakota, Vermillion, SD*

Abstract

Posttraumatic stress disorder (PTSD) remains largely untreated among adults with severe mental illnesses (SMI). The treatment of psychotic symptoms usually takes precedence in the care of adults with SMI. Such oversight is problematic in that PTSD in SMI populations is common (19-43%), contributes a significant illness burden, and hinders mental health care. Yet, few public-sector mental health agencies routinely provide specialized services for PTSD. The purpose of the paper is to describe strategies and efforts to disseminate trauma-focused empirically-based practices (EBPs) in a public-sector mental health system. Identified challenges include limited resources and commitment; knowledge deficits, attitudes, and biases; and limited practice accountability at provider, facility, and system levels. Proposed strategies for overcoming these challenges are: set clear goals; nurture broad-based organizational commitment and key stakeholder involvement; implement specialty training efforts to provide information and change attitudes; provide on-going supervision; conduct fidelity monitoring; and ensure accountability to the extent possible.

Keywords

PTSD; severe mental illness; cognitive-behavioral therapy; dissemination; empirically-based practices

Despite increased recognition of the prevalence of posttraumatic stress disorder (PTSD) in the general population, trauma and PTSD have remained largely unattended to among adults with severe mental illnesses (SMI) treated in public-sector mental health clinics. The treatment of psychotic symptoms such as hallucinations, delusions, and bizarre behaviors has usually taken precedence in the care of individuals with SMI. There is good cause to believe that such oversight is problematic. Trauma exposure in general is associated with greater illness burden and higher health care use, and PTSD specifically is associated with some of the highest rates of healthcare use and costs (Greenberg et al., 1999; Hidalgo & Davidson, 2000; Kessler, 2000). Leaving trauma-related symptoms unaddressed in the severely mentally ill almost certainly exacerbates patients' illness severity and hinders their care (Cusack, Frueh, & Brady,

2004; Hamner, Frueh, Ulmer, & Arana, 1999; Mueser, Rosenberg, Goodman, & Trumbetta, 2002; Mueser, Salyers et al., 2004; Resnick, Bond, & Mueser, 2003; Rosenberg, Lu, Mueser, Jankowski, & Cournos, 2007). The implications are even more significant when one considers that both trauma and PTSD occur at higher rates among the severely mentally ill than in the general population. Estimates range between 51% and 98% for a single trauma exposure and between 19% and 43% for current PTSD (Cusack et al., 2004; Cusack et al., 2006; Goodman, Rosenberg, Mueser, & Drake, 1997; Goodman et al., 2001; Mueser et al., 1998; Mueser et al., 2001). Yet, few public-sector mental health agencies routinely provide adequate specialized services, either assessment or treatment, for adults with comorbid PTSD (Amaya-Jackson et al., 1999; Frueh et al., 2001; Hanson, Hesselbrock, Tworkowski, & Swan, 2002; Rosenberg et al., 2001). Thus, the purpose of this paper is to describe strategies and efforts to disseminate empirically-based practices (EBPs) relevant to PTSD in a state-funded mental health system, including challenges encountered and proposed strategies for overcoming these challenges.

Barriers to integration of evidence-based practices in public-sector practice settings

To date, there is little evidence to suggest that EBPs are being effectively implemented in public-sector practice settings, or that EBPs are being implemented in a way that will support wider dissemination efforts (Drake et al., 2001; Mueser, Torrey, Lynde, Singer, & Drake, 2003; Shumway & Sentell, 2004). The broader literature on effective dissemination practices emphasizes the need to provide clinicians the training, tools, and ongoing supervision to deliver empirically validated treatments (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001; Torrey et al., 2001). Although necessary, however, these strategies are recognized as insufficient to overcome clinical and administrative barriers to the implementation and maintenance of EBPs in public-sector settings. These barriers generally include a lack of motivation and resistance to change by providers, lack of skills and inadequate training among providers, limited resources and incentives for providers, deficient incentives for providers and administrators, cost concerns regarding implementation and maintenance, lack of ongoing quality assurance or fidelity monitoring, limited involvement and commitment from key stakeholders, diffuse leadership, and insufficient accountability at multiple organizational levels (Addis & Waltz, 2002; Corrigan et al., 2001; Corrigan, McCracken, & Blaser, 2003; Drake, et al., 2001; Ganju, 2003; Mueser et al., 2003; Schoenwald & Henggeler, 2003; Schoenwald & Hoagwood, 2001; Torrey et al., 2001).

Of particular relevance are issues related to provider beliefs about EBPs. Clinicians have concerns regarding the effectiveness of EBPs, including a possible compromised therapeutic relationship when using treatment manuals, individual patient needs not being met, treatment credibility, contraindication in the most typical patients (e.g., those with comorbid conditions), and the belief that service innovations may reflect the interests and needs of administrators rather than patients (Addis, 2002; Barlow, Levitt, & Bufka, 1999; Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). Additionally, even with positive attitudes toward EBPs, logistical challenges to adopting them have been proffered, such as difficulty in learning them, lack of infrastructure to provide clinicians with ongoing supervision and feedback (i.e., maintain fidelity of implementation), and lack of a researcher-clinician partnership (Corrigan et al., 2001; Schoenwald et al., 2003; Sullivan et al., 2005; Torrey et al., 2001). In fact, a survey of practicing psychologists demonstrates that fewer than half have a clear idea of treatment manuals, most mistakenly believing that they are cookbook approaches imposed by insurers (Addis & Krasnow, 2000).

These concerns remain and are amplified in the arena of PTSD treatment. In a recent study designed to evaluate attitudes towards and use of EBPs among mental health professionals specializing in trauma, an internet survey was completed by 461 professionals recruited via

the International Society for Traumatic Stress Studies membership rolls (Gray, Elhai, & Schmidt, 2007). Although a minority of participants held negative views of EBPs, the overwhelming majority of respondents were supportive of the EBP movement. However, favorable EBP attitudes were not strongly related to reported clinical behaviors. Even respondents using unsupported treatments reported positive opinions about EBPs, suggesting that practitioners may hold widely varying evidentiary standards. Furthermore, among non-trauma specialists there are attitudes and beliefs that actually prevent clinicians from attending to trauma exposure or PTSD symptoms among adults with SMI (Frueh, Cusack, Grubaugh, Sauvageot, & Wells, 2006).

An additional barrier to implementing EBPs for PTSD in public-sector clinics is that the empirical literature base remains undeveloped with regard to PTSD and comorbid conditions such as schizophrenia and bipolar disorder. Thus, while EBPs designed specifically for this population have yet to be established and accepted, it is time for public-sector systems to begin change efforts so as to better align clinical services with the available empirical data on trauma exposure and PTSD in general and, more specifically, among adults with SMI.

A state-wide effort to improve mental health services for adult trauma survivors with SMI

In 1999 the South Carolina Department of Mental Health (SCDMH) initiated an effort to improve services across the state for mental health patients who are trauma survivors (Cusack et al., 2007; Frueh et al., 2001). This effort grew out of the voices of dissatisfied mental health patients and the observations of others that appropriate services were not routinely available. Needs assessments revealed that clinicians employed within the state-funded system had very little training to provide trauma-related assessment or treatment (Frueh et al., 2001). Furthermore, very few of the facilities around the state routinely used any trauma-specific assessment procedures (and virtually none used validated instruments), or provided empirically supported specialty treatments for PTSD (Frueh et al. 2002). The state's efforts to change this situation led to the development of a task force that included a broad range of key stakeholders (e.g., patients and their advocates, community mental health center directors, social workers, psychiatrists, psychologists, nurses, lawyers, administrators) and an annual budget that supported a full-time trauma initiative director (KJC). Special attention was paid to the well-documented challenges of disseminating new information and effecting practice change in healthcare settings (Greco & Eisenberg, 1993; Lomas, 1991). The task force emphasized the need to integrate existing EBPs and thus encouraged a true collaboration between public (SCDMH) and academic (Medical University of South Carolina) systems, and the need to take a "bottom up" approach, starting with a small number of volunteer community mental health centers (Cusack et al., 2007; Sullivan et al., 2005). Two core areas of practice were targeted: clinical assessment and diagnosis of PTSD in new patients, and the treatment of PTSD.

Assessment of trauma history and PTSD

Data show that trauma exposure and PTSD are inadequately assessed in public-sector mental health clinics (e.g., Cusack et al., 2004; Cusack et al., 2006; Frueh et al., 2002; Hanson, et al., 2002; Mueser et al., 1998). For example, in a multi-site study, it was found that while 98% of community mental health center patients with SMI had a history of trauma exposure and 42% met criteria for PTSD, a review of standard clinical records indicated that only 2% of the sample carried a diagnosis of PTSD (Mueser et al., 1998). Thus, PTSD is likely to be a target of intervention in only a fraction of those who could benefit from PTSD-related treatment. This lack of attention to assessment of trauma and PTSD is especially unfortunate because there are reliable and valid instruments for evaluating these domains in adults with SMI (Goodman et al., 1999; Grubaugh, Elhai, Cusack, Wells, & Frueh, 2007; Mueser et al., 2001) and simple

routine screening procedures implemented at the facility or system level can greatly enhance PTSD recognition rates (Cusack et al., 2004).

Cognitive-behavioral treatment of PTSD

Unfortunately there is widespread belief that treating PTSD among adults with SMI is risky, unlikely to be efficacious, or both. This gap in services seems particularly unnecessary in that there are a number of well established treatments for PTSD (Foa, 2006). And while it is true that, historically, traditional treatment outcome studies of psychotherapies for PTSD have specifically excluded most patients with SMI, cognitive-behavioral therapy is the treatment of choice for PTSD in the general population (Ballenger et al., 2000; Foa, 2006; Foa et al., 1999), clinicians at community clinics can be taught to effectively use cognitive-behavioral therapy for adults with PTSD (Foa et al., 2005), there is evidence of the efficacy of cognitive-behavioral therapy in general for patients with SMI (Barrowclough et al., 2006; Gaudiano, 2005; Turkington, Dudley, Warman, & Beck, 2004; Turkington, Kingdom, & Weiden, 2006), cognitive-behavioral models for treating PTSD in SMI populations do exist now (Frueh et al., 2004; Mueser, Rosenberg, Jankowski, Hamblen, & Descamps, 2004; Rosenberg et al., 2001), and some of these models have preliminary empirical data to support both their safety and their efficacy (Frueh et al., 2008; Mueser et al., 2007; Rosenberg, Mueser, Jankowski, Salyers, & Acker, 2004). Despite the available evidence, there has been little use of exposure therapy or other cognitive-behavioral interventions to treat PTSD by front-line clinicians in “real world” practice settings (Cook, Schnurr, & Foa, 2004; Frueh et al., 2006). This problem is even greater among practice settings that provide services to SMI populations, and there is widespread belief among public-sector clinicians that cognitive-behavioral interventions may not be appropriate or feasible for people with SMI, which serves as an additional barrier to the provision of PTSD care.

Challenges to implementing EBPs for PTSD in public-sector practice settings

In the course of our efforts in South Carolina, we encountered a number of challenges to implementing EBPs for the assessment and treatment of PTSD in public-sector practice settings. Identified challenges included limited resources and commitment; knowledge deficits, biases, and attitudes; and limited practice accountability at provider, facility, and system levels.

1. Limited resources and commitment

Many factors conspire to limit the ability of public-sector mental health systems to provide adequate treatment to patients with SMI, regardless of comorbidity status. First, financial and personnel resources are usually quite limited, often resulting in too few clinicians, high staff turnover, and high patient rolls. Often there simply is not time for training and thoughtful program development (Corrigan et al., 2001). Second, the nature of the clinical population served has, by definition, a high mental illness burden. This includes a long list of attendant difficulties such as daily role functioning impairment, poverty, unemployment, substance abuse, and medical comorbidity. In combination, these factors limit the extent of services that agencies are able to provide, limit resources for training and education, and complicate clinical decision making and priority setting.

2. Knowledge deficits, biases, and attitudes of mental health staff

Front-line clinicians, as well as supervisors and administrators, staffing public-sector mental health facilities tend to have more training and experience in the core disorders of SMI (e.g., schizophrenia, bipolar disorder, substance abuse, major depression), and significantly less emphasis is placed on trauma and PTSD. Data from one system-wide survey (n = 245) conducted in 2000 showed that only 30% of providers had more than 6 hours of training on trauma/PTSD to date in their careers, 49% of those staffing a public-sector mental health

agency estimated the proportion of their clients with trauma-related difficulties at less than 20%, and that greater levels of training in trauma/PTSD were associated with perceiving more trauma-related difficulties among patients with SMI (Frueh et al., 2001). Clinicians routinely report that they do not have the necessary skills and experience to address trauma-related difficulties or PTSD symptoms in their patients (Frueh et al., 2006). Clinicians also evidence a preference for medication management (as opposed to psychotherapy) for symptoms of SMI, and tend to use “trumping” rules which typically render diagnoses after schizophrenia or bipolar disorder meaningless (Cusack et al., 2007). Clinicians worry that patients with SMI might not have the cognitive abilities necessary for cognitive-behavioral therapy (Frueh et al., 2006). Related to this is the common, more general belief that cognitive-behavioral therapy or other EBPs, constructed by investigators removed from “real world” realities, are simply not relevant or valid in public-sector practice settings (Addis, 2002; Addis & Krasnow, 2000; Barlow, Levitt, & Bufka, 1999).

Another challenge stemming from knowledge deficits is the common observation (Cusack et al., 2007) and empirical finding (Frueh et al., 2006) that trauma carries a mystique which leaves front-line clinicians fearful of addressing it and worried that they have little ability to help patients with PTSD symptoms once they are acknowledged. Many clinicians also worry that merely asking a person with SMI questions about any potential trauma exposure may run the risk of upsetting the patient to the point of severe symptom exacerbation or complete “decompensation.” Such attitudes and beliefs ensure that trauma and PTSD are virtually ignored in public-sector clinics.

3. Limited practice accountability at provider, facility, and system levels

Unfortunately, practice accountability is lacking in virtually all large mental health systems, at all levels. Performance standards usually focus on counting the number of patients treated (e.g., “billable hours”), general procedure categories administered, and medical record keeping tasks. More enlightened systems also include measurement of patient attendance and drop-out, scheduling of follow-up appointments, and referrals. Rarely do systems actually monitor patient clinical outcomes, improvements in functioning, or the specific details of clinical practice (e.g., treatment fidelity monitoring) to ascertain whether EBPs are being used or used appropriately. Thus, frontline clinicians, facility directors, and system administrators are rarely held accountable for using EBPs. Without such accountability, large scale adoption of EBPs of any sort, let alone ones related to PTSD, is unlikely to develop fully.

Proposed strategies for disseminating EBPs for PTSD in public-sector practice settings

A comprehensive, multi-pronged effort is required including efforts targeted at every level of the public-sector organization: provider, facility, and system. Proposed strategies for overcoming identified challenges are: set clear goals; nurture broad-based organizational commitment and key stakeholder involvement; implement specialty training efforts to provide information and change attitudes; provide on-going supervision; conduct fidelity monitoring; and ensure accountability to the extent possible. In combination, these strategies support and reinforce one another.

1. Set clear goals

It is important to set goals that are clear, specific, and that are at least somewhat realistic—and to then communicate these goals effectively to relevant change-agents and key stakeholders. These goals should be objectively measurable so that successes and/or failures in particular domains can be tracked, and goals can be revised accordingly. For example, because the empirical evidence for assessment of trauma and PTSD in 1999 was stronger than that for

treatment, and because assessment and diagnoses necessarily precede treatment, we prioritized the recognition of PTSD among new patients via routine screening in patients. Our initial two-year goal was to implement standardized screening procedures for 95% of new patients evaluated in at least four community mental health centers across the state.

2. Nurture broad-based organizational commitment and key stakeholder involvement

Successful implementation of any new program within a public-sector setting requires broad-based organizational commitment, including representation and “buy-in” from the full range of key stakeholders, including patients whose voices can be powerful and persuasive. While administrators, clinicians, and other stakeholders are committed to improving patient outcomes, they must be convinced that proposed assessment procedures and interventions can do so cost-effectively.

It is important to convince relevant stakeholders of the importance of addressing PTSD and trauma-related symptoms. To accomplish this it may help to summarize recent data which support the notion that psychotic disorders are conceptually consistent with diathesis-stressor models of mental illness (Corcoran et al., 2003; Mueser, Rosenberg, Goodman, & Trumbetta, 2002; Shevlin, Dorahy, & Adamson, 2007; Walker & Diforio, 1997). The evidence supporting a conclusion that psychosocial stressors play a critical role in the onset and relapse of psychotic episodes in schizophrenia also suggests that ongoing anxiety and trauma-related symptoms are likely to precipitate increases in symptoms or relapses in vulnerable individuals (Rosenberg et al., 2007). Turkington et al. propose that the “high levels of arousal arising in posttraumatic stress disorder often maintains and perpetuates psychotic symptoms. In these cases, CBT approaches to posttraumatic stress disorder, including cognitive restructuring and reliving need to be combined with CBT techniques for psychosis (Turkington et al., 2004, pg. 14).” Empirical data can help demonstrate both the high prevalence of trauma and PTSD among patients with SMI, as well as the availability of effective PTSD interventions for this population.

After obtaining stakeholder “buy-in,” empirical data should guide decisions regarding how PTSD services will be implemented. However, these decision rules should be somewhat flexible to ensure the intervention is appropriate and sensitive to the needs of both patients and providers within a particular facility. Similar to a “bottom-up” approach, provider feedback and concerns regarding the intervention should be solicited and appropriately addressed. Such feedback could alter aspects of the intervention but will ultimately increase the likelihood that the intervention will be successful by promoting a sense of ownership and collaboration among providers (Sullivan et al., 2005).

Stakeholders and administrators must also acknowledge that clinicians need training time and resources, on-going clinical supervision, and fidelity monitoring efforts to effectively implement PTSD services. Further, accountability and incentives within the system will be needed to reinforce such efforts. Without appropriate resources, incentives, and accountability, delivering mandated interventions may be viewed as onerous, only adding to a provider’s caseload burden and job-related stress. Thus, involvement of key stakeholders and commitment at multiple organizational levels is necessary for the successful implementation of the multi-pronged efforts required to successfully disseminate EBPs.

3. Implement specialty training efforts to provide information and change attitudes

Clearly, there is need for additional specialty training and clinical supervision to help clinicians keep up with advances in the PTSD field and address identified knowledge deficits (Frueh et al., 2001; Frueh et al., 2006; Hanson et al., 2002). Available empirical data can be used to persuade stakeholders to accept the need for developing or changing PTSD-related clinical practices, and to provide direction on how those practices might be structured. For example,

introducing specific measures or treatment manuals that are relatively user friendly and providing resources and instruction on their use can be extremely helpful to well-intentioned clinicians who want to change their practice but are unsure of where to begin. It is also important to include relevant case vignettes and other instructional materials that are tailored to specific audiences. Further, the use of multi-channel approaches to clarify and reinforce key points over time is important to facilitate and consolidate learning. These can include video, distance learning or videoconferences, websites, readings, didactic presentations, role-modeling, and opportunities to practice and role-play. It may even be helpful to invite patients to discuss their relevant experiences and perceptions. In combination, these training efforts can help to increase knowledge, expand skill sets, dispel common trauma myths, and more generally “demystify” trauma. At the same time, it is important not to go beyond the available data, inflate the impact of trauma exposure, or “oversell” the efficacy of available treatments.

4. Provide on-going supervision and peer-review

It is not sufficient to merely provide education and training to clinicians. On-going clinical supervision is an essential component of effective dissemination efforts (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001; Torrey et al., 2001), and is likely to be especially critical to helping relatively inexperienced, reluctant, or fearful clinicians work with trauma survivors suffering PTSD and SMI. The broader dissemination literature suggests that single or compressed training sessions in public-sector settings seldom result in meaningful or lasting changes. Furthermore, data from providers who treat patients with SMI indicates that they actually prefer to receive their training over time through ongoing supervision and other activities (Torrey et al., 2001). Due to high caseloads and standards for contact hours, however, few clinicians are in environments that include “clinical” supervision. Instead, supervision often consists of checking-in and receiving updates on administrative issues. Therefore, this component should also include teaching supervisory staff how to provide clinical supervision and “leaders” should be identified to ensure accountability. If clinical supervisors are unavailable, distance learning techniques such as web based tutorials and supervision via teleconference technology may be effective and efficient (Rosenberg & Rosenberg, 2006)

5. Conduct fidelity monitoring

It has long been recognized that fidelity monitoring is essential to ensure effective long-term implementation of EBPs (e.g., Backer, Liberman, & Kuehnel, 1986; McGrew, Bond, Dietzen, & Salyers, 1994). Without such monitoring, protocol deviations inevitably occur, including the introduction of theoretically incompatible or inert/unsupported treatment strategies. For example, we found that clinicians being trained in the use of cognitive-behavioral treatment for PTSD were often tempted to fall back on “old habits” (e.g., avoiding discussion of trauma exposure details or PTSD symptoms) or to use elements of other PTSD interventions they learned about (e.g., “trust exercises,” “journaling”). However, fidelity efforts will be most effective if they are relatively quick, user-friendly, and cost-efficient (Schoenwald & Henggeler, 2003). Strategies could include checklists to ensure session content areas were covered, peer-review, and formal supervision in group or individual format, which includes review of audio or videotaped sessions.

6. Ensure accountability to the extent possible

The final, and perhaps most difficult to implement, component of dissemination is accountability at all levels of the organization. Once an organization has made the decision to change, has implemented new procedures and services, and clinicians are trained and prepared to implement PTSD-related EBPs, accountability is what keeps the engine on the tracks. Two pieces are critical to introducing practice accountability: (1) developing familiarity and comfort with ongoing assessment of protocol adherence (e.g., fidelity monitoring) and clinical

outcomes, which can be used to help ensure accountability; and (2) dedicated ongoing supervision and fidelity monitoring to help address problems with client progress and success. Further, strategies must be developed to incorporate goal-obtainment accountability at provider, facility, and system levels. This should include both incentives for success; and feedback, guidance, and ultimately consequences if goals are not met. Quite frankly, this may be the most difficult challenge to surmount in publicly-funded agencies, and requires committed and creative leadership throughout the system.

Conclusions

Implementation of EBPs is critical to improving patient outcomes, yet is widely lacking in public-sector clinics (Drake et al., 2001), especially with regard to PTSD and trauma-related services (Frueh et al., 2001; Rosenberg et al., 2001) for which assessment procedures and treatments do exist. Thus, it is past time that public-sector systems begin to align their clinical services with the available empirical data on trauma exposure and PTSD among adults with SMI and the literature on the assessment and treatment of PTSD. As Schoenwald & Hoagwood (2001) noted, the “process of moving efficacious treatments to usual-care settings is complex and may require adaptations of treatments, settings, and service systems (p. 1196).” Above we have outlined challenges to implementing EBPs for PTSD in public-sector practice settings and proposed strategies for surmounting these challenges, which include efforts at every level of the organization: provider, facility, and system.

Through an extensive dissemination effort in South Carolina, standardized trauma history and PTSD screening are now conducted in 12 of 17 community mental health centers across the state (Cusack et al., 2007). Further, we implemented efforts to train and supervise clinicians in cognitive behavioral treatment of PTSD in adults with SMI. Such efforts resulted in the development of clinical services for trauma survivors in at least four community mental health centers. Unfortunately, we did not fully resolve the challenge of ensuring accountability. By including patient representatives in every aspect of our efforts, we maintained high visibility within the system and moderate accountability to an important constituent group. However, specific incentives and contingencies were not formally introduced for goal-obtainment at any level on a scale large enough to truly facilitate widespread practice accountability.

These and other related efforts are still in progress and much work remains to be done, in South Carolina and most other public-sector systems. Additionally, there is urgent need to (1) enhance the empirical database on EBPs for PTSD in this population, including randomized clinical trials of interventions; (2) conduct and systematically evaluate related dissemination strategies and outcomes; (3) expand the empirical database on EBPs and dissemination efforts for PTSD in other highly vulnerable populations (e.g., prisoners, veterans, low-income females, children, persons with substance abuse disorders); (4) examine and initiate widespread change efforts related to mental health practices in public-sector agencies; and (5) incorporate changes to graduate and medical training curriculums to reflect the advances in EBPs for PTSD in adults with SMI.

Acknowledgments

This work was partially supported by grants MH065248 and MH074468 from the National Institute of Mental Health (NIMH). We are grateful for the support and collaboration of the South Carolina Department of Mental Health and the Charleston/Dorchester Community Mental Health Centers. We also wish to acknowledge important contributions by: Debbie Calcote, Victoria C. Cousins, Deborah DiNovo, Rhonda Faughender, Thom G. Hiers, Lynwood Magee, Chris Molnar, Julie A. Sauvageot, and Chris Wells.

References

- Addis ME. Methods for disseminating research products and increasing evidence-based practice: Promises, obstacles and future directions. *Clinical Psychology: Science and Practice* 2002;9:367–378.
- Addis ME, Krasnow AD. A national survey of practicing psychologists' attitudes toward psychotherapy treatment manuals. *Journal of Consulting and Clinical Psychology* 2000;68:331–339. [PubMed: 10780134]
- Addis ME, Waltz J. Implicit and untested assumptions about the role of psychotherapy treatment manuals in evidence-based mental health practice. *Clinical Psychology: Science and Practice* 2002;9:421–424.
- Amaya-Jackson L, Davidson JR, Hughes DC, Swartz M, Reynolds V, George LK, Blazer DG. Functional impairment and utilization of services associated with posttraumatic stress in the community. *Journal of Traumatic Stress* 1999;12:709–724. [PubMed: 10646189]
- Backer TE, Liberman RP, Kuehnel TG. Dissemination and adoption of innovative psychosocial interventions. *Journal of Consulting and Clinical Psychology* 1986;54:111–118. [PubMed: 3958295]
- Ballenger JC, Davidson JR, Lecrubier Y, Nutt DJ, Foa EB, Kessler RC, et al. Consensus statement on posttraumatic stress disorder from the International Consensus Group on Depression and Anxiety. *Journal of Clinical Psychiatry* 2000;61:60–66. [PubMed: 10761680]
- Barlow DH, Levitt JT, Bufka LF. The dissemination of empirically supported treatments: A view to the future. *Behaviour Research and Therapy* 1999;37:S147–S162. [PubMed: 10402700]
- Barrowclough C, Haddock G, Lobban F, Jones S, Siddler R, Roberts C, Gregg L. Group cognitive-behavioural therapy for schizophrenia. Randomized controlled trial. *British Journal of Psychiatry* 2006;189:527–532. [PubMed: 17139037]
- Cook JJ, Schnurr PP, Foa EB. Bridging the gap between posttraumatic stress disorder research and clinical practice: The example of exposure therapy. *Psychotherapy: Theory, Research, Practice, Training* 2004;41:374–387.
- Corcoran C, Walker E, Huot R, Mittal V, Tessner K, Kestler L, Malaspina D. The stress cascade and schizophrenia: Etiology and onset. *Schizophrenia Bulletin* 2003;29:671–692. [PubMed: 14989406]
- Corrigan P, McCracken S, Blaser B. Disseminating evidence-based mental health practices. *Evidence-Based Mental Health* 2003;6:4–5. [PubMed: 12588813]
- Corrigan PW, Steiner L, McCracken SG, Blaser B, Barr M. Strategies for disseminating evidence-based practices to staff who treat people with serious mental illness. *Psychiatric Services* 2001;52:1598–1606. [PubMed: 11726749]
- Cusack KJ, Frueh BC, Brady KT. Trauma history screening in a Community Mental Health Center. *Psychiatric Services* 2004;55:157–162. [PubMed: 14762240]
- Cusack KJ, Grubaugh AL, Knapp RG, Frueh BC. Unrecognized trauma and PTSD among public mental health consumers with chronic and severe mental illness. *Community Mental Health Journal* 2006;42:487–500. [PubMed: 16868841]
- Cusack KJ, Wells CB, Grubaugh AL, Hiers TG, Frueh BC. An update on the South Carolina Trauma Initiative. *Psychiatric Services* 2007;58:708–710. [PubMed: 17463355]
- Drake RE, Goldman HH, Leff HS, Lehman AF, Dixon L, Mueser KT, Torrey WC. Implementing evidence-based practices in routine mental health service settings. *Psychiatric Services* 2001;52:179–182. [PubMed: 11157115]
- Foa EB. Psychosocial therapy for posttraumatic stress disorder. *Journal of Clinical Psychiatry* 2006;67 (suppl 2):40–45. [PubMed: 16602814]
- Foa EB, Dancu CV, Hembree EA, Jaycox LH, Meadows EA, Street GP. A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology* 1999;67:194–200. [PubMed: 10224729]
- Foa EB, Hembree EA, Cahill SP, Rauch SA, Riggs DS, Feeny NC, Yadin E. Randomized trial of prolonged exposure of posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology* 2005;73:953–964. [PubMed: 16287395]

- Frueh BC, Buckley TC, Cusack KJ, Kimble MO, Grubaugh AL, Turner SM, Keane TM. Cognitive-behavioral treatment for PTSD among people with severe mental illness: A proposed treatment model. *Journal of Psychiatric Practice* 2004;10:26–38. [PubMed: 15334985]
- Frueh BC, Cousins VC, Hiers TG, Cavanaugh SD, Cusack KJ, Santos AB. The need for trauma assessment and related clinical services in a state public mental health system. *Community Mental Health Journal* 2002;38:351–356. [PubMed: 12166921]
- Frueh BC, Cusack KJ, Grubaugh AL, Sauvageot JA, Wells C. Clinician perspectives on cognitive-behavioral treatment for PTSD among public-sector consumers with severe mental illness. *Psychiatric Services* 2006;57:1027–1031. [PubMed: 16816289]
- Frueh BC, Cusack KJ, Hiers TG, Monogan S, Cousins VC, Cavanaugh SD. Improving public mental health services for trauma victims in South Carolina. *Psychiatric Services* 2001;52:812–814. [PubMed: 11376230]
- Frueh BC, Grubaugh AL, Cusack KJ, Kimble MO, Elhai JD, Knapp RG. Exposure-based cognitive behavioral treatment of PTSD in adults with schizophrenia or schizoaffective disorder. Manuscript submitted for publication. 2008
- Ganju V. Implementation of evidence-based practices in state mental health systems: Implications for research and effectiveness studies. *Schizophrenia Bulletin* 2003;29:125–131. [PubMed: 12908667]
- Gaudiano B. Cognitive behavior therapies for psychotic disorders: Current empirical status and future directions. *Clinical Psychology: Science and Practice* 2005;12:33–50.
- Goodman LA, Rosenberg SD, Mueser KT, Drake RE. Physical and sexual assault history in women with serious mental illness: Prevalence, correlates, treatment, and future research directions. *Schizophrenia Bulletin* 1997;23:685–696. [PubMed: 9366004]
- Goodman LA, Salyers MP, Mueser KT, Rosenberg SD, Swartz M, Essock SM, Osher FC, Butterfield MI. Recent victimization in women and men with severe mental illness: Prevalence and correlates. *Journal of Traumatic Stress* 2001;14:615–632. [PubMed: 11776413]
- Goodman LA, Thompson KM, Weinfurt K, Corl S, Acker P, Mueser KT, Rosenberg SD. Reliability of reports of violent victimization and posttraumatic stress disorder among men and women with serious mental illness. *Journal of Traumatic Stress* 1999;12:587–599. [PubMed: 10646178]
- Gray MJ, Elhai JD, Schmidt LO. Trauma professionals' attitudes towards and utilization of evidence-based practices. *Behavior Modification* 2007;31:732–748. [PubMed: 17932233]
- Greco PJ, Eisenberg JM. Changing physician practices. *New England Journal of Medicine* 1993;329:1271–1274. [PubMed: 8413397]
- Greenberg PE, Sisitsky T, Kessler RC, Finkelstein SN, Berndt ER, Davidson JR, Ballenger JC, Fyer AJ. The economic burden of anxiety disorders in the 1990s. *Journal of Clinical Psychiatry* 1999;60:427–435. [PubMed: 10453795]
- Grubaugh AL, Elhai JD, Cusack KJ, Wells C, Frueh BC. Screening for PTSD in public-sector mental health settings: The diagnostic utility of the PTSD Checklist. *Depression and Anxiety* 2007;24:124–129. [PubMed: 16892418]
- Hamner MB, Frueh BC, Ulmer HG, Arana GW. Psychotic features and illness severity in combat veterans with chronic posttraumatic stress disorder. *Biological Psychiatry* 1999;45:846–852. [PubMed: 10202572]
- Hanson TC, Hesselbrock M, Tworkowski SH, Swan S. The prevalence and management of trauma in the public domain: An agency and clinician perspective. *Journal of Behavioral Health Services Research* 2002;29:365–380. [PubMed: 12404932]
- Hidalgo RB, Davidson JRT. Posttraumatic stress disorder: Epidemiology and health-related considerations. *Journal of Clinical Psychiatry* 2000;61(suppl 7):5–13. [PubMed: 10795604]
- Hoagwood K, Burns BJ, Kiser L, Ringeisen H, Schoenwald SK. Evidence-based practice in child and adolescent mental health services. *Psychiatric Services* 2001;52:1179–1189. [PubMed: 11533391]
- Kessler RC. Posttraumatic stress disorder: The burden to the individual and to society. *Journal of Clinical Psychiatry* 2000;61(supple 5):4–12. [PubMed: 10761674]
- Lomas J. Words without action? The production, dissemination, and impact of consensus recommendations. *Annual Review of Public Health* 1991;12:41–65.

- McGrew JH, Bond GR, Dietzen L, Salyers M. Measuring the fidelity of implementation of a mental health program model. *Journal of Consulting and Clinical Psychology* 1994;62:670–678. [PubMed: 7962870]
- Mueser KT, Bolton E, Carty PC, Bradley MJ, Ahlgren KF, DiStaso DR, Gilbride A, Liddell C. The Trauma Recovery Group: A cognitive behavioral program for posttraumatic stress disorder in persons with severe mental illness. *Community Mental Health Journal* 2007;43:281–304. [PubMed: 17235698]
- Mueser KT, Goodman LA, Trumbetta SL, Rosenberg SD, Osher FC, Vidaver R, Auciello P, Foy DW. Trauma and posttraumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology* 1998;66:493–499. [PubMed: 9642887]
- Mueser KT, Rosenberg RD, Goodman LA, Trumbetta SL. Trauma, PTSD, and the course of severe mental illness: An interactive model. *Schizophrenia Research* 2002;53:123–143. [PubMed: 11728845]
- Mueser KT, Rosenberg RD, Jankowski MK, Hamblen JL, Descamps J. A cognitive-behavioral treatment program for posttraumatic stress disorder in persons with severe mental illness. *American Journal of Psychiatric Rehabilitation* 2004;7:107–146.
- Mueser KT, Salyers MP, Rosenberg SD, Ford JD, Fox L, Carty P. Psychometric evaluation of trauma and posttraumatic stress disorder assessments in persons with severe mental illness. *Psychological Assessment* 2001;13:110–117. [PubMed: 11281032]
- Mueser KT, Salyers MP, Rosenberg SD, Goodman LA, Essock SM, Osher FC, Swartz MS, Butterfield MI. 5 Site Health and Risk Study Research Committee. Interpersonal trauma and posttraumatic stress disorder in patients with severe mental illness: Demographic, clinical, and health correlates. *Schizophrenia Bulletin* 2004;30:45–57. [PubMed: 15176761]
- Mueser KT, Torrey WC, Lynde D, Singer P, Drake RE. Implementing evidence-based practices for people with severe mental illness. *Behavior Modification* 2003;27:387–411. [PubMed: 12841590]
- Resnick SG, Bond GR, Mueser KT. Trauma nad posttraumatic stress disorder in people with schizophrenia. *Journal of Abnormal Psychology* 2003;112:415–423. [PubMed: 12943020]
- Rosenberg SD, Rosenberg H. Personal communication. 2006 December 8;;2006.
- Rosenberg SD, Lu W, Mueser KT, Jankowski MK, Cournos F. Correlates of adverse childhood events among adults with schizophrenia spectrum disorders. *Psychiatric Services* 2007;58:245–253. [PubMed: 17287383]
- Rosenberg SD, Mueser KT, Friedman MJ, Gorman PG, Drake RE, Vidaver RM, Torrey WC, Jankowski MK. Developing effective treatments for posttraumatic disorders among people with severe mental illness. *Psychiatric Services* 2001;52:1453–1461. [PubMed: 11684740]
- Rosenberg SD, Mueser KT, Jankowski MK, Salyers MP, Acker K. Cognitive Behavioral Treatment of PTSD in severe mental illness: Results of a pilot study. *American Journal of Psychiatric Rehabilitation* 2004;7:171–186.
- Schoenwald SK, Henggler SW. Current strategies for moving evidence-based interventions into clinical practice: Introductory comments. *Cognitive & Behavioral Practice* 2003;10:275–277.
- Schoenwald SK, Hoagwood K. Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services* 2001;52:1190–1197. [PubMed: 11533392]
- Shevlin M, Dorahy MJ, Adamson G. Trauma and psychosis: An analysis of the National Comorbidity Survey. *American Journal of Psychiatry* 2007;164:166–169. [PubMed: 17202562]
- Shumway M, Sentell TL. An examination of leading mental health journals for evidence to inform evidence-based practices. *Psychiatric Services* 2004;55:649–653. [PubMed: 15175461]
- Sullivan G, Duan N, Mukherjee S, Kirchner J, Perry D, Henderson K. The role of health services researchers in facilitating intervention research. *Psychiatric Services* 2005;56:537–542. [PubMed: 15872160]
- Torrey WC, Drake RE, Dixon L, Burns BJ, Flynn L, Rush AJ, Clark RE, Klatzker D. Implementing evidence-based practices for persons with severe mental illness. *Psychiatric Services* 2001;52:45–50. [PubMed: 11141527]
- Turkington D, Dudley R, Warman DM, Beck AT. Cognitive behavior therapy for schizophrenia: A review. *Journal of Psychiatric Practice* 2004;10:5–16. [PubMed: 15334983]
- Turkington D, Kingdom D, Weiden PJ. Cognitive behavior therapy for schizophrenia. *American Journal of Psychiatry* 2006;163:365–373. [PubMed: 16513854]

Walker E, Diforio D. Schizophrenia: A neural diathesis-stress model. *Psychological Review* 1997;104:667–685. [PubMed: 9337628]