



# PTSD *Research Quarterly*

ADVANCING SCIENCE AND PROMOTING UNDERSTANDING OF TRAUMATIC STRESS

#### Published by:

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## Implementation of Evidence-Based Treatment for PTSD

There is relatively little adoption of evidence-based treatments (EBTs) into routine practice. Dissemination of EBTs or practice guidelines through traditional educational activities (e.g., formal continuing education programs) has limited impact on day-to-day clinical practice. Implementation science is an emerging field that has developed as the gap between research and practice has been identified across a variety of health care settings. The field is concerned with the study of methods to promote the integration of research findings into health care practice and policy.

A high priority need exists for implementation of EBTs for PTSD in a broad range of mental health training and service delivery organizations (Ruzek & Rosen, 2009). Large-scale dissemination of EBTs for PTSD and other trauma-related problems is well underway in the United States (US) and abroad (e.g., CATS Consortium, 2007; Ebert et al., 2012; Karlin et al., 2010). For example, beginning in 2006-2007, the US Department of Veterans Affairs (VA) developed national training initiatives to disseminate two EBTs for PTSD, Prolonged Exposure (PE) and Cognitive Processing Therapy (CPT). These sizable endeavors have been the subject of research on factors that impact implementation success. Although much of the research has been observational in nature rather than experimental, there have been studies comparing EBT implementation to usual care. Research indicates that when EBTs are implemented into routine care settings, patients with PTSD and related disorders experience substantial symptom reduction. For example, program evaluation data from mental health providers who have participated in the VA PE and CPT training initiatives indicate significant improvements in their patients' PTSD and depressive symptomatology (Chard, Ricksecker, Healy, Karlin, & Resick, 2012; Eftekhari et al., 2013).

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Similarly, Ehlers and colleagues (2013) demonstrated substantial PTSD symptom reduction among a large consecutive sample of patients in a United Kingdom National Health Service outpatient clinic. Recent work in developing countries using a task-shifting strategy in which health workers without advanced degrees deliver the EBTs indicates that these treatments can be effective in under-resourced settings. CPT is more effective than usual care even when adapted significantly for non-literate women in high-conflict areas (Bass et al., 2013). Similarly, Murray and colleagues (2015) demonstrated that lay counselors in developing countries can be trained to effectively deliver Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) to traumatized orphans. Despite evidence showing that clinicians can be trained to effectively deliver trauma-focused EBTs, several studies indicate that their use is relatively low in outpatient mental health settings (e.g., Finley et al., 2015; Shiner et al., 2013; Sigel, Benton, Lynch, & Kramer, 2013). Implementation researchers have been working to determine what factors predict initial and sustained use of EBTs. Over the past two decades, implementation frameworks have been developed to guide implementation efforts and their formal study (Tabak, Khoong, Chambers, & Brownson, 2012). These models specify factors to consider at the level of the provider and patient dyad, the intervention itself, and the organization and system into which new treatments are implemented. The existing research evidence strongly suggests that factors at each level are predictive of implementation success, and that there may be interactions between levels that influence such success.

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Relatively few studies on implementation of EBTs for PTSD use a theoretical model (e.g., Cook et al., 2015; Couineau & Forbes, 2011; Watts et al., 2014). While the lack of operationalization and psychometrically strong measures of relevant constructs from implementation models has likely hindered progress in the traumatic stress field, more recently, validated measures have been developed or used (Cook, Thompson, & Schnurr, in press; Cook et al., 2012). Cook and colleagues (2015) used a well-known framework, *Diffusion of Innovations*, to study PE and CPT in 38 VA residential PTSD programs across the United States. They found that supportive context (dedicated time and resources and incentives and mandates) as well as positive views of the treatments were related to successful implementation. They also developed a Perceived Characteristics of Innovation Scale, in which favorable attitudes towards each of these EBTs appear unidimensional, and were associated with greater self-reported adoption. Watts et al. (2014) used the *Promoting Action on Research Implementation in Health Services* framework to study the implementation of PE and CPT in New England VA specialty PTSD clinics. Several factors were associated with increased use of EBTs, including prior use of the treatments, customization of training, and extended interaction with the training team. Couineau and Forbes (2011) utilized a behavior change model to promote CBT trauma-focused interventions in Australia. They found while providers' knowledge, skills, and confidence improved through training and supervision, successful implementation depended on providers' views on perceived risks associated with providing these types of therapies as well as on beliefs about the best timing of the interventions. Despite these concerns, however, there was a significant increase of imaginal exposure in the treatment plans of patients with PTSD.

Some research exists on the role of providers or clinic administrators in the implementation of EBTs for PTSD. For example, VA providers' treatment orientation, professional discipline, level of clinical experience treating PTSD, and prior PE training experience were unrelated to their PE patients' outcome in therapy (Eftekhari et al., 2015). Although many VA residential providers did not perceive any patient factors that dissuaded their use of PE or CPT, three broad categories emerged regarding reasons that patients were perceived to be less suitable or "ready" for the treatments: the presence of psychiatric comorbidities, cognitive limitations, and low levels of patient motivation (Cook, Dinnen, Simiola, Thompson, & Schnurr, 2014). There is also some evidence that providers' theoretical orientation and setting are associated with attitudes toward EBTs, with those who endorse CBT orientations and those who work in PTSD specialty care settings less likely to endorse a belief that PE would increase patient distress (Ruzek et al., 2014). These findings regarding perceived appropriateness, readiness for and timing or sequencing in the delivery of EBTs for PTSD have been echoed elsewhere (Couineau & Forbes, 2011; Hamblen et al., 2015).

Further exploration is needed on the perceptions of EBTs for PTSD from multiple stakeholders, including patients. A recent study that examined preferences for medication versus different CBTs for PTSD, found that Veteran patients preferred combined medication and therapy, with over half preferring CPT over several other CBTs and other therapies (Schumm, Walter, Bartone & Chard, 2015). One innovative way for increasing engagement in EBTs for PTSD is to work directly with patient and provider dyads through shared decision-making (Mott, Stanley, Street, Grady & Teng, 2014). Given the substantial variability in the way EBT treatment decisions are likely made, current evidence indicates that a brief shared decision-making intervention to assist providers in explaining the treatment rationale standardized to their patients along with a framework for treatment decisions could positively impact preference for and engagement in an EBT for PTSD.

A variety of strategies to assist in the implementation of EBTs for PTSD, such as mandates, provision of organization-level support through involvement of site supervisors or evidence-based coordinators, and an assessment of organizational culture, have been used (Karlin et al., 2010) but rarely formally studied. Training has been one of the most extensively researched implementation strategies. A number of studies focused on PTSD and related problems have attempted to identify the most effective strategies for training clinicians. Kolko and colleagues (2013) conducted a randomized controlled trial (RCT) of training strategies and demonstrated that the use of workshop training and consultation in Alternatives for Families-Cognitive Behavioral Therapy (AF-CBT) for families resulted in greater knowledge and use of AF-CBT, as well as lower rates of clinician turnover, than training as usual (TAU). Ebert and colleagues (2014) demonstrated the feasibility of a Learning Collaborative model, which uses a blend of training and support strategies, to implement integrated smoking cessation with PTSD care. Train-the-trainer models have also been tested as potentially accessible strategies for scaling up EBT implementation in under-resourced settings. For instance, Jacob and colleagues' (2014) RCT found evidence that clinicians trained by newly-trained peers can produce clinical outcomes that are comparable to treatment delivered by expert-trained clinicians. Two ongoing RCTs are testing the impact of different consultation and supervision strategies for TF-CBT and CPT on treatment fidelity and clinical outcomes (e.g., session review, model fidelity, outcome monitoring, skill-building; Dorsey et al., 2013; Stirman et al., 2013) and thus should provide information on how to optimally support providers delivering EBTs for PTSD.

The role of web-based technologies in increasing the dissemination and implementation of EBTs for PTSD has only recently received empirical attention. National trainers in TF-CBT noted the potential value of innovative, technology-based solutions to enhance provider fidelity and competence as well as patient engagement (Hanson et al., 2014). Other studies have investigated the use of technology to enhance training and consultation outcomes and to examine more scalable models of EBT training (Ruzek et al., 2014).

In conclusion, tremendous progress has been made in the dissemination of EBTs for PTSD in children and adults. However, their integration into everyday practice remains a challenge. A large majority of the treatment implementation literature in the traumatic stress field is descriptive rather than experimental. We need formal studies of the implementation process using a theory-driven or empirically guided theoretical model with solid operationalization and measurement of implementation constructs. Closing the gap between science and practice is a complex process that involves multiple levels of a health care system from training and supervising providers to competently deliver the treatments to addressing organizational and systems barriers to their delivery. Whereas research has confirmed some factors related to implementation success, further methodologically sound research is needed to understand optimal dissemination and implementation strategies to assist providers to use EBTs with a balance between fidelity and flexibility. Advancing the treatment of PTSD in public and private health care systems and with independent providers is critical to improving the lives of traumatized individuals. Implementation science is crucial in this endeavor.

## FEATURED ARTICLES

Bass, J.K., Annan, J., Mclvor Murray, S., Kaysen, D., Griffiths, S., Cetinoglu, T., . . . Bolton, P.A. (2013). **Controlled trial of psychotherapy for Congolese survivors of sexual violence.** *New England Journal of Medicine*, 368, 2182-2191. doi:10.1056/NEJMoa1211853

Survivors of sexual violence have high rates of depression, anxiety, and PTSD. Although treatment for symptoms related to sexual violence has been shown to be effective in high-income countries, evidence is lacking in low-income, conflict-affected countries. In this trial in the Democratic Republic of Congo, we randomly assigned 16 villages to provide CPT (1 individual session and 11 group sessions) or individual support to female sexual-violence survivors with high levels of PTSD symptoms and combined depression and anxiety symptoms. One village was excluded owing to concern about the competency of the psychosocial assistant, resulting in 7 villages that provided therapy (157 women) and 8 villages that provided individual support (248 women). Assessments of combined depression and anxiety symptoms (average score on the Hopkins Symptom Checklist [range, 0 to 3, with higher scores indicating worse symptoms]), PTSD symptoms (average score on the PTSD Checklist [range, 0 to 3, with higher scores indicating worse symptoms]), and functional impairment (average score across 20 tasks [range, 0 to 4, with higher scores indicating greater impairment]) were performed at baseline, at the end of treatment, and 6 months after treatment ended. A total of 65% of participants in the therapy group and 52% of participants in the individual-support group completed all three assessments. Mean scores for combined depression and anxiety improved in the individual-support group (2.2 at baseline, 1.7 at the end of treatment, and 1.5 at 6 months after treatment), but improvements were significantly greater in the therapy group (2.0 at baseline, 0.8 at the end of treatment, and 0.7 at 6 months after treatment) ( $P < 0.001$  for all comparisons). Similar patterns were observed

for PTSD and functional impairment. At 6 months after treatment, 9% of participants in the therapy group and 42% of participants in the individual-support group met criteria for probable depression or anxiety ( $P < 0.001$ ), with similar results for PTSD. In this study of sexual-violence survivors in a low-income, conflict-affected country, group psychotherapy reduced PTSD symptoms and combined depression and anxiety symptoms and improved functioning.

Chard, K.M., Ricksecker, E.G., Healy, E.T., Karlin, B.E., & Resick, P.A. (2012). **Dissemination and experience with cognitive processing therapy.** *Journal of Rehabilitation Research and Development*, 49, 667-678. doi:10.1682/JRRD.2011.10.0198 Clinical practice guidelines suggest that cognitive behavioral therapies are recommended for the treatment of PTSD. One of these treatments, CPT, is an EBT that has been shown to be effective at treating combat, assault, and interpersonal violence trauma in randomized controlled trials. The VA Office of Mental Health Services has implemented an initiative to disseminate CPT as part of a broad effort to make evidence-based psychotherapies widely available throughout the VA healthcare system. This article provides an overview of CPT and reviews the efficacy and program evaluation data supporting its use in a variety of settings. In addition, we report on survey data from individuals who have participated in the VA initiative and on outcome data from patients treated by rollout-trained therapists. Our data suggest that many clinicians trained in the rollout show good adoption of the CPT model and demonstrate solid improvements in their patients' PTSD and depressive symptomatology. Finally, we offer recommendations for using CPT in clinical settings.

Cook, J.M., Dinnen, S., Thompson, R., Ruzek, J., Coyne, J.C., & Schnurr, P.P. (2015). **A quantitative test of an implementation framework in 38 VA residential PTSD programs.** *Administration and Policy in Mental Health and Mental Health Services Research*, 42, 462-473. doi:10.1007/s10488-014-0590-0 This study examines the implementation of two evidence-based psychotherapies, PE and CPT, in the VA residential PTSD treatment programs. Two hundred and one providers from 38 programs completed an online survey concerning implementation of PE delivered on an individual basis and CPT delivered in individual and group formats. For PE, a supportive organizational context (dedicated time and resources, and incentives and mandates) and overall positive view of the treatment was related to its implementation. For both group and individual CPT, only the supportive organizational context was significantly associated with outcome. Implications for implementation efforts are discussed.

Couineau, A.-L., & Forbes, D. (2011). **Using predictive models of behavior change to promote evidence-based treatment for PTSD.** *Psychological Trauma: Theory, Research, Practice, and Policy*, 3, 266-275. doi:10.1037/a0024980 While there is a strong evidence base regarding effective treatment of PTSD, and an increased number of treatment guidelines available internationally, research indicates that there is significant variation in clinical practice. This study aimed to identify effective ways to promote adoption of trauma-focused interventions in community services



offering mental health care to people who have experienced trauma. The study sought to do so by identifying factors influencing the uptake of evidence-based practice at both an individual and organizational level, and trialing competency training and support strategies based on these factors across 6 community trauma services. The effectiveness of the training and support strategies was investigated using self-report surveys and prospective recording of clinicians' treatment planning for PTSD clients. The study found that while lack of skills and confidence were identified as significant barriers to the uptake of trauma-focused interventions, expectations about treatment outcomes and organizational factors also influenced clinical behavior. This finding highlighted the importance of considering factors other than knowledge and skills when developing training and other interventions to support the implementation of evidence-based practice. Furthermore, it was found that a training and implementation process tailored to organizational and individual barriers, and based on currently recognized theories of behavior change, led to a significant increase in the use of imaginal exposure in the treatment plans of clients assessed as having PTSD. This change was maintained 6 months following training.

Ebert, L., Malte, C., Hamlett-Berry, K., Beckham, J., McFall, M., & Saxon, A. (2014). **Use of a learning collaborative to support implementation of integrated care for smoking cessation for veterans with posttraumatic stress disorder.** *American Journal of Public Health, 104*, 1935-1942. doi:10.2105/AJPH.2013.301776

We evaluated the feasibility of incorporating integrated care (IC) for smoking cessation into routine treatment for PTSD at the VA Medical Centers and the utility of the Learning Collaborative (LC) model in facilitating implementation. *Methods:* We conducted two LCs aimed at implementing IC for smoking cessation using multidisciplinary teams comprising 70 staff members from 12 VA PTSD clinics. Using questionnaires, we evaluated providers' perceptions of the LC methodology and the effectiveness and feasibility of routine IC delivery. We assessed number of providers delivering and patients receiving IC using medical record data. More than 85% of participating VA staff considered the LC to be an effective training and implementation platform. The majority thought IC effectively addressed an important need and could be delivered in routine PTSD care. All LC participants who planned to deliver IC did so ( $n = 52$ ). Within 12 months of initial training, an additional 46 locally trained providers delivered IC and 395 Veterans received IC. The LC model effectively facilitated rapid and broad implementation of IC. Facilitators and barriers to sustained use of IC are unknown and should be identified to understand how best to promote ongoing access to EBT for smoking cessation in mental health populations.

Eftekhari, A., Crowley, J.J., Ruzek, J.I., Garvert, D.W., Karlin, B.E., & Rosen, C.S. (2015). **Training in the implementation of prolonged exposure therapy: Provider correlates of treatment outcome.** *Journal of Traumatic Stress, 28*, 65-68. doi:10.1002/jts.21980

The authors examined the degree to which provider characteristics, such as profession, treatment orientation, prior experience in treating PTSD, prior experience with PE therapy, and attitudes about PE, were related to the clinical outcomes of Veterans

receiving care from clinicians participating in the national VA PE Training Program. Positive patient outcomes were achieved by providers of every profession, theoretical orientation, level of clinical experience treating PTSD, and prior PE training experience. With 1,105 providers and 32 predictors (13 provider variables), power was at least 90% power to detect an effect of  $\beta = .15$ . Profession was the only provider characteristic significantly related to outcomes, but the mean effect (a two point difference on the PTSD Checklist) was too small to be clinically meaningful. The results support the intensive training model used in the VA PE training program and demonstrate that clinicians of varying backgrounds can be trained using interactive training workshops followed by case consultation to deliver PE effectively.

Eftekhari, A., Ruzek, J.I., Crowley, J.J., Rosen, C.S., Greenbaum, M.A., & Karlin, B.E. (2013). **Effectiveness of national implementation of prolonged exposure therapy in Veterans Affairs care.** *JAMA Psychiatry, 70*, 949-955. doi:10.1001/jamapsychiatry.2013.36

*Importance:* PTSD is a pervasive and often debilitating condition that affects many individuals in the general population and military service members. Effective treatments for PTSD are greatly needed for both Veterans returning from Iraq and Afghanistan and Veterans of other eras. PE therapy has been shown to be highly efficacious in clinical trials involving women with noncombat trauma, but there are limited data on its effectiveness in real-world clinical practice settings and with Veterans. *Objective:* To evaluate the effectiveness of PE as implemented with Veterans with PTSD in a large health care system. *Design, Setting, and Participants:* This evaluation included 1931 Veterans treated by 804 clinicians participating in the VA PE Training Program. After completing a 4-day experiential PE training workshop, clinicians implemented PE (while receiving consultation) with a minimum of 2 Veteran patients who had a primary diagnosis of PTSD. *Main Outcomes and Measures:* Changes in PTSD and depression symptoms were assessed with the PTSD Checklist and the Beck Depression Inventory II, measured at baseline and at the final treatment session. Multiple and single imputation were used to estimate the posttest scores of patients who left treatment before completing 8 sessions. Demographic predictors of treatment dropout were also examined. *Results:* Intent-to-treat analyses indicate that PE is effective in reducing symptoms of both PTSD (pre-post  $d = 0.87$ ) and depression (pre-post  $d = 0.66$ ), with effect sizes comparable to those reported in previous efficacy trials. The proportion of patients screening positive for PTSD on the PTSD Checklist decreased from 87.6% to 46.2%. *Conclusions:* Clinically significant reductions in PTSD symptoms were achieved among male and female Veterans of all war eras and Veterans with combat-related and noncombat-related PTSD. Results also indicate that PE is effective in reducing depression symptoms, even though depression is not a direct target of the treatment.

Ehlers, A., Grey, N., Wild, J., Stott, R., Liness, S., Deale, A., . . . Clark, D.M. (2013). **Implementation of cognitive therapy for PTSD in routine clinical care: Effectiveness and moderators of outcome in a consecutive sample.** *Behaviour Research and Therapy, 51*, 742-752. doi:10.1016/j.brat.2013.08.006

Trauma-focused psychological treatments are recommended as first-line treatments for PTSD,

but clinicians may be concerned that the good outcomes observed in RCTs may not generalize to the wide range of traumas and presentations seen in clinical practice. This study investigated whether Cognitive Therapy for PTSD (CT-PTSD) can be effectively implemented into a UK National Health Service Outpatient Clinic serving a defined ethnically mixed urban catchment area. A consecutive sample of 330 patients with PTSD (age 17–83) following a wide range of traumas were treated by 34 therapists, who received training and supervision in CT-PTSD. Pre- and post-treatment data (PTSD symptoms, anxiety, and depression) were collected for all patients, including dropouts. Hierarchical linear modeling investigated candidate moderators of outcome and therapist effects. CT-PTSD was well tolerated and led to very large improvement in PTSD symptoms, depression and anxiety. The majority of patients showed reliable improvement/clinically significant change: intent-to-treat: 78.8%/57.3%; completer: 84.5%/65.1%. Dropouts and unreliable attenders had worse outcome. Statistically reliable symptom exacerbation with treatment was observed in only 1.2% of patients. Treatment gains were maintained during follow-up ( $M = 280$  days,  $n = 220$ ). Few of the selection criteria used in some RCTs, demographic, diagnostic and trauma characteristics moderated treatment outcome, and only social problems and needing treatment for multiple traumas showed unique moderation effects. There were no random effects of therapist on symptom improvement, but therapists who were inexperienced in CT-PTSD had more dropouts than those with greater experience. The results support the effectiveness of CT-PTSD and suggest that trauma-focused cognitive behavior therapy can be successfully implemented in routine clinical services treating patients with a wide range of traumas.

Jacob, N., Neuner, F., Maedl, A., Schaal, S., & Elbert, T. (2014). **Dissemination of psychotherapy for trauma spectrum disorders in postconflict settings: A randomized controlled trial in Rwanda.** *Psychotherapy and Psychosomatics*, *83*, 354–363. doi:10.1159/000365114 *Background:* Dissemination of psychotherapeutic modules to local counselors seems a key requirement for coping with mental health disasters in conflict regions. We tested a train-the-trainer (TTT) dissemination model for the treatment of PTSD. *Methods:* We randomly assigned widowed or orphaned survivors of the 1994 Rwandan genocide with a PTSD diagnosis to narrative exposure therapy (NET) treatment (NET-1,  $n = 38$ ) or to a 6-month waiting list (WL) condition to be followed by treatment (WL/ NET-2,  $n = 38$ ). Expert therapists trained a first dissemination generation of local Rwandan psychologists in NET complemented by 2 sessions of interpersonal psychotherapy modules. Under the supervision of the experts, these Rwandan psychologists (a) provided NET to the NET-1 participants and (b) subsequently trained and supervised a second generation of local psychologists. This second dissemination generation provided treatment to the WL/NET-2 group. The primary outcome measure was the Clinician-Administered PTSD Scale total score before therapy and at 3- and 12-month follow-ups. *Results:* At the 3-month follow-up, the NET-1 participants suffered significantly and substantially less from PTSD symptoms than the participants in the WL group. The treatment gains of NET-1 were maintained and increased at follow-up, with a

within-group effect size of Cohen's  $d = 1.47$  at the 12-month follow-up. After treatment by the second dissemination generation of therapists, the WL/NET-2 participants improved to an extent similar to that of the NET-1 group at follow-ups, with an effect size of Cohen's  $d = 1.37$  at the 12-month follow-up. *Conclusions:* A TTT model of PTSD treatment dissemination can be effective in resource-poor post-conflict societies.

Kolko, D.J., Baumann, B.L., Herschell, A.D., Hart, J.A., Holden, E.A., & Wisniewski, S.R. (2012). **Implementation of AF-CBT by community practitioners serving child welfare and mental health: A randomized trial.** *Child Maltreatment*, *17*, 32–46. doi:10.1177/1077559511427346 The Partnerships for Families project is a randomized clinical trial designed to evaluate the implementation of Alternatives for Families: A CBT (AF-CBT), an EBT for family conflict, coercion, and aggression, including child physical abuse. To evaluate the effectiveness of a training program in this model, 182 community practitioners from 10 agencies were randomized to receive AF-CBT training ( $n = 90$ ) using a learning community model (workshops, consultation visits) or TAU ( $n = 92$ ) which provided trainings per agency routine. Practitioners completed self-report measures at four time points (0, 6, 12, and 18 months following baseline). Of those assigned to AF-CBT, 89% participated in at least one training activity and 68% met a “training completion” definition. A total of 80 (44%) practitioners were still active clinicians in the study by 18-month assessment in that they had not met our staff turnover or study withdrawal criteria. Using an intent-to-train design, hierarchical linear modeling analyses revealed significantly greater initial improvements for those in the AF-CBT training condition (vs. TAU condition) in CBT-related knowledge and use of AF-CBT teaching processes, abuse-specific skills, and general psychological skills. In addition, practitioners in both groups reported significantly more negative perceptions of organizational climate through the intervention phase. These significant, albeit modest, findings are discussed in the context of treatment training, research, and work force issues as they relate to the diverse backgrounds, settings, and populations served by community practitioners.

Murray, L.K., Skavenski, S., Kane, J.C., Mayeya, J., Dorsey, S., Cohen, J.A., . . . Bolton, P.A. (2015). **Effectiveness of trauma-focused cognitive behavioral therapy among trauma-affected children in Lusaka, Zambia: A randomized clinical trial.** *JAMA Pediatrics*. doi:10.1001/jamapediatrics.2015.0580 Orphans and vulnerable children (OVC) are at high risk for experiencing trauma and related psychosocial problems. Despite this, no randomized clinical trials have studied EBTs for OVC in low-resource settings. To evaluate the effectiveness of lay counselor-provided TF-CBT to address trauma and stress-related symptoms among OVC in Lusaka, Zambia. This randomized clinical trial compared TF-CBT and treatment as usual (TAU) (varying by site) for children recruited from August 1, 2012, through July 31, 2013, and treated until December 31, 2013, for trauma-related symptoms from five community sites within Lusaka, Zambia. Children were aged 5 through 18 years and had experienced at least one traumatic event and reported significant trauma-related symptoms. Analysis was with intent to treat. The intervention group received 10 to 16 sessions of TF-CBT ( $n = 131$ ). The TAU group ( $n = 126$ ) received usual community services offered to OVC. The primary outcome

was mean item change in trauma and stress-related symptoms using a locally validated version of the UCLA Posttraumatic Stress Disorder Reaction Index (range, 0-4) and functional impairment using a locally developed measure (range, 0-4). Outcomes were measured at baseline and within 1 month after treatment completion or after a waiting period of approximately 4.5 months after baseline for TAU. At follow-up, the mean item change in trauma symptom score was  $-1.54$  (95% CI,  $-1.81$  to  $-1.27$ ), a reduction of 81.9%, for the TF-CBT group and  $-0.37$  (95% CI,  $-0.57$  to  $-0.17$ ), a reduction of 21.1%, for the TAU group. The mean item change for functioning was  $-0.76$  (95% CI,  $-0.98$  to  $-0.54$ ), a reduction of 89.4%, and  $-0.54$  (95% CI,  $-0.80$  to  $-0.29$ ), a reduction of 68.3%, for the TF-CBT and TAU groups, respectively. The difference in change between groups was statistically significant for both outcomes ( $P < .001$ ). The effect size (Cohen  $d$ ) was 2.39 for trauma symptoms and 0.34 for functioning. Lay counselors participated in supervision and assessed whether the intervention was provided with fidelity in all 5 community settings. The TF-CBT adapted for Zambia substantially decreased trauma and stress-related symptoms and produced a smaller improvement in functional impairment among OVC having experienced high levels of trauma.

Ruzek, J.I., & Rosen, R.C. (2009). **Disseminating evidence-based treatments for PTSD in organizational settings: A high priority focus area.** *Behaviour Research and Therapy*, *47*, 980-989. doi:10.1016/j.brat.2009.07.008 Dissemination of EBTs for PTSD has become an important focus of activity in the aftermath of recent terrorist attacks (e.g., London underground and US 9/11 attacks), natural disasters (e.g., Indian Ocean tsunami and Hurricane Katrina), and wars (e.g., in Iraq and Afghanistan). This has become a high-priority need for all mental health training and service delivery organizations. Researchers and educators have begun to examine clinician and client perceptions and preferences regarding PTSD treatment processes, and health care systems are organizing more comprehensive efforts at training and system change. As this evolution of services moves forward, effective dissemination should be a major focus of health policy research for the next decade or more. This review critically evaluates the PTSD-related research and emerging theory related to four major sets of variables that affect dissemination: (1) Practitioner factors, (2) Training methods, (3) The practice innovation(s) being disseminated; and (4) Organization or system factors. We evaluate findings from recent studies in light of emerging models of dissemination, and in the final section of the paper, we consider five broad topics with particular implications for dissemination of PTSD-specific treatments. They are: (1) The content of dissemination (i.e., which treatment protocols or intervention methods should be prioritized); (2) Strict adherence versus flexibility in the use of treatment manuals and the role of fidelity assessment; (3) The need for collaboration with user audiences; (4) The potential role of web-based technologies in increasing the effectiveness and efficiency of dissemination; and (5) Development of dissemination infrastructures within organizations.

Schumm, J.A., Walter, K.H., Bartone, A.S., & Chard, K.M. (2015). **Veteran satisfaction and treatment preferences in response to a posttraumatic stress disorder specialty clinic orientation group.**

*Behaviour Research and Therapy*, *69*, 75-82. doi:10.1016/j.brat.2015.04.006 To maximize accessibility to EBTs for PTSD, the VA has widely disseminated CPT and PE therapy to VA clinicians. However, there is a lack of research on Veteran preferences when presented with a range of psychotherapy and medication options. This study uses a mixed-method approach to explore Veteran satisfaction with a VA PTSD specialty clinic pre-treatment orientation group, which provides education about available PTSD treatment options. This study also tested differences in treatment preference in response to the group. Participants were 183 US Veterans. Most were White, male, and referred to the clinic by a VA provider. Results indicated high satisfaction with the group in providing an overview of services and helping to inform treatment choice. Most preferred psychotherapy plus medications (63.4%) or psychotherapy only (30.1%). Participants endorsed a significantly stronger preference for CPT versus other psychotherapies. PE was significantly preferred over nightmare resolution therapy and present-centered therapy, and both PE and cognitive-behavioral conjoint therapy were preferred over virtual reality exposure therapy. Results suggest that by informing consumers about EBTs for PTSD, pre-treatment educational approaches may increase consumer demand for these treatment options.

Shiner, B., D'Avolio, L.W., Nguyen, T.M., Zayed, M.H., Young-Xu, Y., Desai, R.A., . . . Watts, B.V. (2013). **Measuring use of evidence based psychotherapy for posttraumatic stress disorder.** *Administration and Policy in Mental Health and Mental Health Services Research*, *40*, 311-318. doi:10.1007/s10488-012-0421-0 To improve methods of estimating use of evidence-based psychotherapy for PTSD in the Veteran's health administration, we evaluated administrative data and note text for patients newly enrolling in six Veterans Health Administration (VHA) outpatient PTSD clinics in New England during the 2010 fiscal year ( $n = 1,924$ ). Using natural language processing, we developed machine learning algorithms that mimic human raters in classifying note text. We met our targets for algorithm performance as measured by precision, recall, and F-measure. We found that 6.3 % of our study population received at least one session of evidence-based psychotherapy during the initial 6 months of treatment. Evidence-based psychotherapies appear to be infrequently utilized in VHA outpatient PTSD clinics in New England. Our method could support efforts to improve use of these treatments.

Watts, B.V., Shiner, B., Zubkoff, L., Carpenter-Song, E., Ronconi, J.M., & Coldwell, C.M. (2014). **Implementation of evidence-based psychotherapies for posttraumatic stress disorder in VA specialty clinics.** *Psychiatric Services*, *65*, 648-653. doi:10.1176/appi.ps.2013.00176 *Objectives:* The VA has engaged in substantial efforts to promote the use of evidence-based psychotherapies for PTSD. The authors evaluated the effectiveness of these efforts. *Methods:* This study used a cross-sectional, mixed-methods evaluation of treatment provided by the VA at specialty PTSD clinics in New England during the first six months of fiscal year 2010. Natural language processing algorithms were applied to clinical notes to determine utilization of evidence-based psychotherapy (prolonged exposure therapy and cognitive-processing therapy) among patients who were newly diagnosed as having PTSD.



## FEATURED ARTICLES *continued*

Data regarding efforts to implement evidence-based psychotherapy and other clinic characteristics were obtained through qualitative interviews with clinical and administrative staff ( $N = 30$ ), and the Promoting Action on Research Implementation in Health Services framework was used to identify clinic factors associated with use of evidence-based psychotherapy. *Results:* Six percent of patients ( $N = 1,924$ ) received any sessions of an evidence-based psychotherapy for PTSD (median=five sessions). Several clinic factors were associated with an increased rate of implementation, including prior experience with use of the treatments, customization of training, and prolonged contact with the implementation and training team. Facilitation with broad training goals and clinics with highly organized systems of care were negatively associated with implementation. *Conclusions:* Few patients with PTSD received evidence-based psychotherapy for PTSD during their first six months of treatment at a VA specialty PTSD clinic. The implementation framework poorly predicted factors associated with uptake of evidence-based psychotherapy. These results suggest that additional research is needed to understand implementation of evidence-based therapy in mental health settings.

## ADDITIONAL CITATIONS

CATS Consortium. (2007). **Implementing CBT for traumatized children and adolescents after September 11: Lessons learned from the Child and Adolescent Trauma Treatments and Services (CATS) Project.** *Journal of Clinical Child and Adolescent Psychology, 36*, 581-592. doi:10.1080/15374410701662725 The Child and Adolescent Trauma Treatments and Services Consortium (CATS) was the largest youth trauma project associated with the September 11 World Trade Center disaster, created as a collaborative project involving New York State policymakers; academic scientists; clinical treatment developers; and routine practicing clinicians, supervisors, and administrators. The CATS project was established to deliver evidence-based cognitive-behavioral trauma treatments for children and adolescents affected by the September 11 terrorist attack in New York City and to examine implementation processes and outcomes associated with delivery of these treatments. This article outlines the major challenges, describes strategies CATS employed to address them, and makes recommendations based on critical lessons learned.

Cook, J.M., Dinnen, S., Simiola, V., Thompson, R., & Schnurr, P.P. (2014). **VA residential provider perceptions of dissuading factors to the use of two evidence-based PTSD treatments.** *Professional Psychology: Research and Practice, 45*, 136-142. doi:10.1037/a0036183 Providers ( $N = 198$ ) from 38 Department of Veterans Affairs residential PTSD treatment programs across the US completed qualitative interviews regarding implementation of two EBTs: prolonged exposure and cognitive processing therapy. Many indicated that they did not perceive any patient factors that dissuaded their use of either evidence-based treatment, but three broad categories emerged regarding perceived suitability candidates for treatment: the presence of psychiatric comorbidities, cognitive limitations, and low levels of patient motivation.

## ADDITIONAL CITATIONS *continued*

Cook, J.M., O'Donnell, C., Dinnen, S.D. Coyne, J.C., Ruzek, J.I., & Schnurr, P.P. (2012). **Measurement of a model of implementation for health care: Toward a testable theory.** *Implementation Science, 7*, 59. doi:10.1186/1748-5908-7-59 The present paper represents a first step in operationalizing Greenhalgh et al.'s model of implementation of innovations in health care organizations (2004) by providing background, rationale, working definitions and measurement of key constructs. A systematic review of the literature and iterative process of team consensus identified three types of data that can be used to operationalize the constructs in the model: survey items, interview questions and administrative data. Testing of psychometric properties and subsequent refinement should enhance the utility of the measures.

Cook, J.M., Thompson, R., & Schnurr, P.P. (in press). **Perceived Characteristics of Intervention Scale: Development and psychometric properties.** *Assessment*. doi:10.1177/1073191114561254 The Perceived Characteristics of Intervention Scale (PCIS), a 20-item assessment measure was developed to assess health care providers' views of interventions. In a study with two hundred and fifteen Department of Veterans Affairs' residential treatment providers from 38 programs across the United States, the PCIS was demonstrated to be a reliable measure of perceived characteristics of interventions, with some preliminary support for its validity.

Dorsey, S., Pullmann, M.D., Deblinger, E., Berliner, L., Kerns, S.E., Thompson, K., . . . Garland, A.F. (2013). **Improving practice in community-based settings: A randomized trial of supervision – study protocol.** *Implementation Science, 8*, 89. doi:10.1186/1748-5908-8-89 This current federally-funded investigation leverages the Washington State Trauma-Focused Cognitive Behavioral Therapy Initiative to describe usual supervision practices and to test the impact of systematic implementation of gold standard supervision strategies on treatment fidelity and clinical outcomes. Study results will provide insight into how supervisors can optimally support clinicians delivering EBTs, and will be one of the first experimental studies of gold standard supervision strategies in community mental health, yielding needed information about how to leverage supervision to improve clinician fidelity and client outcomes.

Ebert, L., Amaya-Jackson, L., Markiewicz, J.M., Kisiel, C., & Fairbank, J.A. (2012). **Use of the Breakthrough Series Collaborative to support broad and sustained use of evidence-based trauma treatment for children in community practice settings.** *Administration and Policy in Mental Health and Mental Health Services Research, 39*, 187-199. doi:10.1007/s10488-011-0347-y This observational study evaluates the feasibility and utility of adapting the Institute for Healthcare's Breakthrough Series Collaborative (BSC) to support the broad implementation and sustained use of TF-CBT in community practice settings. Study findings indicated that agency staff in diverse roles viewed the BSC methodology as a valuable practicable, and potentially effective approach for facilitating skillful delivery of TF-CBT with fidelity.

Finley, E.P., Garcia, H.A., Ketchum, N.S., McGeary, D.D., McGeary, C.A., Stirman, S.W., & Peterson, A.L. (2015). **Utilization of evidence-based psychotherapies in Veterans Affairs posttraumatic stress disorder outpatient clinics.** *Psychological Services, 12*, 73-82. doi:10.1037/ser0000014 A national survey of providers ( $N = 128$ ) within VA PTSD clinical teams (PCTs) was conducted to describe utilization of PE and CPT and to identify individual and organizational factors associated with treatment uptake and adherence. Perceived effectiveness of PE and CPT were significantly associated with utilization of and adherence to those treatments. Reported number of hours conducting supportive care was positively associated with feeling the clinic was not sufficiently staffed ( $p = .05$ ), and adherence to the PE treatment manual was positively associated with receiving emotional support from coworkers ( $p < .01$ ).

Hamblen, J.L., Bernardy, N.C., Sherrieb, K., Norris, F.H., Cook, J.M., Louis, C.A., & Schnurr, P.P. (2015). **VA PTSD clinic director perspectives: How perceptions of readiness influence delivery of evidence-based PTSD treatment.** *Professional Psychology: Research and Practice, 46*, 90-96. doi:10.1037/a0038535 Qualitative interviews were conducted with a nationally representative sample of 38 directors of specialized PTSD outpatient programs in VA medical centers about implementation of two EBTs. While every director confirmed that EBTs, specifically prolonged exposure and cognitive processing therapy, were provided in their program, it was nearly universal for these treatments to be preceded by preparatory groups. The concept of readiness for trauma-focused EBTs guided program development and flow throughout the programs.

Hanson, R.F., Gros, K.S., Davidson, T.M., Barr, S., Cohen, J., Deblinger, E., . . . Ruggiero, K.J. (2014). **National trainers' perspectives on challenges to implementation of an empirically supported mental health treatment.** *Administration and Policy in Mental Health and Mental Health Services Research, 41*, 522-534. doi:10.1007/s10488-013-0492-6 Thematic interviews were conducted with 19 approved national (TF-CBT) trainers to assess their perspectives about challenges to implementation of TF-CBT and to explore their perceptions about the potential value of innovative, technology-based solutions to enhance provider fidelity and improve quality of care. These data offer some important insights and implications for training in EBTs, provider fidelity and competence, and patient engagement, particularly for those interventions targeting trauma-related symptoms among youth.

Karlin, B.E., Ruzek, J.I., Chard, K.M., Eftekhari, A., Monson, C.M., Hembree, E.A., . . . Foa, E.B. (2010). **Dissemination of evidence-based psychological treatments for posttraumatic stress disorder in the Veterans Health Administration.** *Journal of Traumatic Stress, 23*, 663-673. doi:10.1002/jts.20588 The VA has developed national initiatives to train mental health staff in the delivery of CPT and PE therapy and has implemented a variety of strategies to promote local implementation. In this article, the authors examine VA's national CPT and PE training initiatives and report initial patient, therapist, and system-level program evaluation results.

Meyers, L.L., Strom, T.Q., Leskela, J., Thuras, P., Kehle-Forbes, S.M., & Curry, K.T. (2013). **Service utilization following participation in cognitive processing therapy or prolonged exposure therapy for post-traumatic stress disorder.** *Military Medicine, 178*, 95-99. doi:10.7205/MILMED-D-12-00302 Data on VA health service utilization and health care costs were obtained from national VA databases for 70 Veterans who completed prolonged exposure or cognitive processing therapy at a Midwestern VA medical center. Results demonstrated a significant decrease in the use of individual and group psychotherapy, as well as a 39.4% decrease in direct costs associated with mental health care. Primary care and emergency department services remained unchanged.

Mott, J.M., Stanley, M.A., Street, R.L., Grady, R.H., & Teng, E.J. (2014). **Increasing engagement in evidence-based PTSD treatment through shared decision-making: A pilot study.** *Military Medicine, 179*, 143-149. doi:10.7205/MILMED-D-13-00363 This study sought to develop (phase 1) and pilot test the feasibility and potential effectiveness (phase 2) of a brief shared decision-making intervention to promote engagement in evidence-based PTSD treatment. Among the 20 study completers, a greater proportion of participants in the intervention condition preferred an EBT and received an adequate ( $\geq 9$  sessions) dose of psychotherapy.

Powell, B.J., Waltz, T.J., Chinman, M.J., Damschroder, L.J., Smith, J.L., Matthieu, M.M., . . . Kirchner, J.E. (2015). **A refined compilation of implementation strategies: Results from the Expert Recommendations for Implementing Change (ERIC) project.** *Implementation Science, 10*, 21. doi:10.1186/s13012-015-0209-1 Using a modified Delphi process, a panel of experts in implementation and clinical practice generated consensus on 73 implementation strategies and definitions. This list can be helpful in constructing multifaceted, multilevel implementation strategies for implementation efforts or comparative effectiveness research.

Ruzek, J.I., Rosen, R.C., Garvert, D.W., Smith, L.D., Sears, K.C., Marceau, L., . . . Stoddard, A.M. (2014). **Online self-administered training of PTSD treatment providers in cognitive-behavioral intervention skills: Results of a randomized controlled trial.** *Journal of Traumatic Stress, 27*, 703-711. doi:10.1002/jts.21977 This study compared web-based training in 3 intervention skills (motivation enhancement [ME], goal setting [GS], behavioral task assignment [BTA]) with web-based training plus telephone consultation, and a no-training control. The overall tests of differences among the groups were statistically significant for ME and BTA skills ( $p < .001$  and  $p = .005$ , respectively), but not for GS ( $p = .245$ ). Overall, these findings support the use of web-based dissemination for large-scale training programs for trauma providers in health care delivery systems.

Sigel, B.A., Benton, A.H., Lynch, C.E., & Kramer, T.L. (2013). **Characteristics of 17 statewide initiatives to disseminate trauma-focused cognitive-behavioral therapy (TF-CBT).** *Psychological Trauma: Theory, Research, Practice, and Policy, 5*, 323-333. doi:10.1037/a0029095 The purpose of this study was to explore large-scale initiatives and dissemination models in the United States to promote TF-CBT, an evidence-based practice



for childhood PTSD. Approximate total costs, approximate number of therapists trained, and duration of training and consultation ranged considerably across 17 statewide projects. Differences between two dissemination models in duration of training and approximate number of trained therapists were noted; however, approximate funding per year, and approximate total costs did not differ between the two models.

Stirman, S.W., Shields, N., Deloria, J., Landy, M.S.H., Belus, J.M., Maslej, M.M., & Monson, C.M. (2013). **A randomized controlled dismantling trial of post-workshop consultation strategies to increase effectiveness and fidelity to an evidence-based psychotherapy for posttraumatic stress disorder.** *Implementation Science*, 8, 82. [doi:10.1186/1748-5908-8-82](https://doi.org/10.1186/1748-5908-8-82) This study investigates whether clinicians receiving different forms of post-workshop support (six-month duration) will deliver CPT with greater fidelity (i.e., psychotherapy adherence and competence) and have improved patient outcomes compared with clinicians receiving no formal post-workshop support. The study results will inform how best to implement and transfer evidence-based psychotherapy (e.g., CPT) to clinical settings to attain comparable outcomes to those observed in research settings.

Tabak, R.G., Khoong, E.C., Chambers, D.A., & Brownson, R.C. (2012). **Bridging research and practice: Models for dissemination and implementation research.** *American Journal of Preventive Medicine*, 43, 337-350. [doi:10.1016/j.amepre.2012.05.024](https://doi.org/10.1016/j.amepre.2012.05.024) This paper provides a synthesis of 61 implementation theories and frameworks used in research. These findings provide guidance on how to select a model to inform implementation science study design and execution.