Journal of Traumatic Stress
February 2013, *26,* 56–63

ISTSS International Society for Traumatic Stress Studies

A Formative Evaluation of Two Evidence-Based Psychotherapies for PTSD in VA Residential Treatment Programs

Joan M. Cook,[1,2] Casey O'Donnell,[1] Stephanie Dinnen,[1] Nancy Bernardy,[2,3,4] Robert Rosenheck,[1] and Rani Hoff[1,2]

[1]Department of Psychiatry, Yale School of Medicine, New Haven, Connecticut, USA
[2]National Center for PTSD Northeast Program Evaluation Center, West Haven, Connecticut, USA
[3]Geisel School of Medicine at Dartmouth, Lebanon, New Hampshire, USA
[4]National Center for PTSD, White River Junction, Vermont, USA

Between July 2008 and March 2011, 38 U.S. Department of Veterans Affairs (VA) residential treatment programs for posttraumatic stress disorder (PTSD) participated in a formative evaluation of their programmatic services, including evidenced-based treatments (EBTs). Face-to-face qualitative interviews were conducted with over 250 staff by an independent psychologist along with onsite participant observations. This evaluation coincided with a national VA dissemination initiative to train providers in two EBTs for PTSD: prolonged exposure (PE) and cognitive processing therapy (CPT). A substantial proportion of eligible (based on professional background) residential treatment providers received training in PE (37.4%) or CPT (64.2%), with 9.5% completing case consultation or becoming national trainers in each therapy respectively. In semistructured interviews, providers reported that their clinical programs had adopted these EBTs at varying levels ranging from no adoption to every patient receiving the full protocol. Suggestions for improving the adoption of PE and CPT are noted, including distilling manualized treatments to essential common elements.

Implementation of evidence-based treatments (EBTs) into community settings is a public health priority (U.S. Department of Health and Human Services, 2006). Despite evidence for the efficacy of specific psychotherapies, gaps exist between practices identified as effective by research and routine clinical care. Until recently much of the research concerning adoption of EBTs was anecdotal, based on case studies or involved highly controlled experiments (McHugh & Barlow, 2010). In addition, most research did not focus on multiple programs or whole institutions (Greenhalgh, Glenn, Bate, Macfarlane, & Kyriakidou, 2005). Greater understanding of processes supporting the adoption of EBTs at the organization, department, or treatment team level is needed.

Formative evaluation, which assesses service delivery and fosters its improvement, can capture complex features of health care that may influence EBT adoption (Stetler et al., 2006). Qualitative methods, particularly those assessing provider attitudes and current practices, can provide unique insights on EBT adoption. This type of knowledge might be used to support the delivery of EBTs.

The U.S. Department of Veterans Affairs (VA) is among the largest and most comprehensive providers of health care services in the world. Although in some respects unique, the VA also represents an integrated laboratory for studying implementation. Lessons learned in VA may allow for the setting of realistic goals in other less uniformly managed and resourced health care settings.

In the past 5 years, the VA has instituted national initiatives to provide training and consultation in two EBTs for posttraumatic stress disorder (PTSD), prolonged exposure (PE; Foa, Hembree, & Rothbaum, 2007) and cognitive processing therapy (CPT; Karlin et al., 2010; Resick & Schnicke, 1993). In 2010, the VA and U.S. Department of Defense (DoD) used a published evidence grading system as the basis for recommending PE and CPT as first-line treatments for PTSD. These EBTs have undergone randomized controlled trials with both nonveteran (e.g., Foa et al., 2005; Resick et al., 2008) and veteran samples (Forbes et al., 2012; Monson et al., 2006; Schnurr et al., 2007). Prolonged exposure is an 8- to 15-session trauma-focused manualized therapy based on emotional processing theory (Foa & Kozak, 1986). It involves four main components: education

This project described was supported by Award Numbers K01-MH070859 and RC1-MH088454 from the National Institute of Mental Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health, the National Institutes of Health, or the U.S. Department of Veterans Affairs.

Correspondence concerning this article should be addressed to Joan M. Cook, Yale School of Medicine, NEPEC/182, 950 Campbell Avenue, West Haven, CT 06516. E-mail: Joan.Cook@yale.edu

DOI: 10.1002/jts.21769

about reactions to trauma and PTSD; breathing training; exposure to trauma-related situations that are objectively safe, but avoided due to trauma-related distress (in vivo exposure); and exposure to trauma memories through repeated recounting out loud by the client of the details of their most disturbing event (imaginal exposure). CPT is a 12-session trauma-focused manualized therapy that can be delivered in individual or group format. Adapted from cognitive techniques (Beck & Emery, 1985), CPT begins with the trauma memory and focuses on feelings, beliefs, and thoughts that directly emanate from the trauma.

The first VA trainings for CPT and PE took place in July and November of 2007, respectively (Karlin et al., 2010), and have continued to present. There is little information available on actual use of these therapies among the more than 2,000 providers trained (Karlin et al., 2010). Anecdotal reports have ranged from disapproval (Hagemoser, 2009) to enthusiasm (Zappert & Westrup, 2008). Formative evaluation of the training in and use of PE and CPT in VA residential PTSD treatment settings provides an opportunity to understand the effects of national psychotherapy dissemination initiatives.

Residential PTSD treatment programs have been a cornerstone of VA for the past 40 years (Rosenheck, Fontana, & Errera, 1997). Typically, these programs serve veterans whose need for treatment exceeds what can be provided in an outpatient setting. For example, these veterans may be more likely to be in crisis, have more severe symptoms and longstanding problems, and less community support than outpatients. The increased intensity, frequency, and duration of residential treatment as well as the creation of a safe, supportive treatment environment without interference and disruption of normal everyday stressors is viewed as essential for intensive treatment.

The network of VA PTSD residential programs provides formal mental health services within a therapeutic treatment community. Additional services, such as social, recreational, vocational, and family counseling, are facility-specific and dependent upon site-specific resources and staff interests. Some programs specialize in treating PTSD populations with specific comorbidities (e.g., substance abuse) or specialized populations (e.g., women, traumatic brain injury). There are multiple types of residential programs with variability in intensity, length of stay, and treatment goals. These include day hospital, offering 4–8 hours of treatment with the option to board for 1–3 weeks; evaluation and brief treatment units that offer short-term inpatient intervention from 14–28 days; residential rehabilitation programs that offer treatment for 28–90 days with a goal of community reintegration; specialized inpatient units that provide 28–90 days of treatment in a more restricted hospital setting; and domiciliaries that aim to transition the veteran into outpatient care.

In this article, we report data from a larger formative evaluation of services in VA PTSD residential treatment programs (Cook et al., 2011). The larger study objectives were to (a) identify a broad range of effective therapeutic program elements noted by providers, (b) facilitate sharing of therapeutic strategies, and (c) develop an ongoing learning community of providers and programs. We specifically report findings here on the initial adoption of PE and CPT in these settings during the initial stages of the system-wide dissemination. The number of providers who received training in PE and CPT and the level of training attained were documented along with reports of program use of PE and CPT and reasons for adoption or nonadoption. Whether formal training increased the likelihood of adoption was also examined.

Method

Participants and Procedure

From July 2008 through March 2011, the VA's National Center for PTSD conducted a formative evaluation to identify favored services and facilitate interprogram exchanges in the residential PTSD treatment programs that have participated in a longstanding outcome monitoring initiative led by VA's Northeast Program and Evaluation Center (NEPEC; $N = 38$). The timing of this effort coincided with the initial stages of VA's dissemination of PE and CPT. These 38 sites represent programs operating in each of the 22 Veterans' Integrated Service Networks across the United States. Not included were seven programs not participating in NEPEC outcome monitoring. The study was approved by the West Haven, Connecticut VA Institutional Review Board and Yale School of Medicine Behavioral Sciences Human Investigation Committee. Participants signed a consent to be audio-recorded at the start of each interview.

At each program, 2-day site visits were conducted during which a clinical psychologist (CO) interviewed program directors, providers, and staff. A semistructured interview guide, which was refined during the first few visits, included questions regarding treatments offered (e.g., any VA or non-VA training in PE or CPT, use of EBTs, perceived effective treatment elements, etc.) and program organization (e.g., leadership, communication, etc.). Interviews were recorded on a voluntary basis with written permission. Additionally, when deemed appropriate, participant observations in treatment team meetings and groups were permitted. Immediately following each visit, field notes were taken and the investigative team (JC, NB) was debriefed. Interviews, participant observation, and field notes were used as data sources for these analyses.

Data Analysis

Verbatim transcripts of interviews and field notes were independently reviewed. Two investigative team members (CO, SD) extracted information on provider and program use of PE and CPT. These data were abstracted, condensed, and converted into ratings of adoption levels through team consensus (with JC). CO and SD then independently coded each site for level of PE and CPT adoption (i.e., quantified the qualitative data;

Sandelowski, 2000). The following levels of PE and CPT adoption were identified: (a) treatment was not adopted, (b) some elements of treatment were offered, (c) treatment was offered on a selective individual basis, (d) different treatment "tracks" were developed and those in a particular track received treatment, (e) full-treatment protocol was given to all patients, and (f) treatment was de-adopted. The adoption levels and providers' perception for this choice are described below.

Initial unweighted kappa coefficients for level of adoption between the two raters were .68 for PE and .73 for CPT. We did not use a weighted kappa because adoption categories were not entirely ordinal. In particular, attempting to place de-adoption on a continuum with the other groupings is arbitrary. Because the data were truly categorical, not ordinal, we used an unweighted kappa. Where discrepancies arose, the team (JC, SD, CO) discussed the ratings until consensus was reached. Procedures used to optimize internal validity included interview standardization, audio-taping and professional transcription, standardized data coding in the qualitative package Atlas.ti 6.0, and an iterative approach to analysis. Level of training was captured through a forced option response (e.g., did not complete training, informal training within the VA, training received outside of the VA, read the manual, completed workshop, completed case consultation, became certified trainer for the VA). Because both level of training and level of adoption were ordinal, Kruskal-Wallis analyses were used to examine the relationship between the two variables for both PE and CPT.

Results

There were no significant differences between the 38 programs that currently report outcome data to NEPEC and the seven that do not in regards to number of beds ($M = 18.24$, $SD = 11.11$; $M = 14.71$, $SD = 9.95$, respectively), number of fulltime employees ($M = 11.06$, $SD = 6.81$; $M = 9.53$, $SD = 5.47$) or type of program, $\chi^2(2, N = 45) = 0.30$, *ns*.

Descriptive information on the participating programs and providers is included in Table 1. The majority were residential rehabilitation programs followed by domiciliaries. These two program types have become increasingly similar in recent years and represent a less intensively staffed level of care than inpatient units. The programs had a wide number of currently occupied beds from zero (day hospital, with optional lodging) to 48 ($M = 15.26$; $SD = 10.65$) and a targeted length of stay from 5 to 98 days ($M = 47.97$, $SD = 21.15$). Across the sites, 267 staff members were interviewed. The most frequently reported profession was psychologist, followed by social worker, nurse, and other, including psychiatrist, admission coordinator, and chaplain. Staff reported a range of program service length from a few weeks to more than 25 years.

As shown in Table 2, data on PE and CPT training only include staff eligible per VA training requirements at the time of site visits ($n = 179$) and included psychologists, social workers, psychiatrists, and nurses with advanced degrees. A substantial proportion received training in PE (37.4%) or CPT (64.2%), with 9.5% and 9.5% completing case consultation or becoming national trainers, respectively. Of these, 51 received training in both PE and CPT. Although the majority of residential staff (67%) was not eligible to receive the trainings, they played influential roles within the programs and thus were included in the analyses below.

Table 1
Program and Provider Characteristics of 38 PTSD Residential Treatment Sites

Variable	*n*	%
Type of program		
Residential rehabilitation and psychosocial residential rehabilitation	22	57.9
Domiciliary	8	21.1
Other	8	21.1
Average length of stay (days)		
0–20	5	13.2
21–35	5	13.2
36–50	16	42.1
51–65	8	21.1
>65	4	10.6
Type of provider ($N = 267$)		
Psychiatrist	18	6.7
Psychologist	109	40.8
Social worker	56	21
Nurse	38	14.2
Other	46	17.3
Provider years on unit		
<1	35	13.1
1–3	106	39.7
4–5	28	10.5
6–10	34	12.7
11–18	37	13.9
>19	27	10.1

Note. PTSD = posttraumatic stress disorder.

Levels of adoption identified by the treatment team are examined below with supporting quotations from the semistructured interviews included.

Treatment Not Adopted

Some programs reported no use of PE ($n = 21$, 55.3%) or CPT ($n = 12$, 31.6%). The most commonly reported reasons were structural incompatibility (e.g., short length of stay, low staff census), and insufficient time for training or consultation. "This program is too short. We can't effectively implement the EBT in the way it was meant to be done." "I would love to do individual PE . . . but where am I going to find time to do 90-minute sessions?"

Staff from some programs expressed a belief that not all veterans should engage in formal trauma processing due to the

Table 2
VA Residential Providers' Training and Delivery of PE and CPT

	PE		CPT	
Variable	*n*	%	*n*	%
Training level				
Did not complete any training	110	61.3	61	34.1
Informal training within VA	1	.6	3	1.7
Training outside of VA	2	1.1	0	0
Read the manual	1	.6	4	2.2
Completed 2-/4-day training	48	26.9	94	52.5
Completed case consultation	14	7.8	14	7.8
Became trainers for VA	3	1.7	3	1.7
Delivery modality				
None	132	73.7	82	45.8
Individual	40	22.3	25	14.0
Group	5	2.8	47	26.3
Individual and group	2	1.1	25	14.0

Note. $n = 179$. Providers who were eligible to receive PE and CPT trainings due to their clinical responsibilities and advanced degrees in particular professions (e.g., psychologists, social workers, psychiatrists, and nurses with advanced degrees). PE = prolonged exposure; CPT = cognitive processing therapy.

potential risk of symptom exacerbation, dropout, and presence of other more pressing treatment needs. These programs delivered coping or skill-based treatments only. In addition, providers explained that it would take too much time to address potential patient ambivalence towards trauma processing particularly in programs with shorter lengths of stay. Likewise, administrative responsibilities surrounding admission, discharge planning, and case management are reportedly time-consuming and interfere with the ability to deliver EBTs.

> We offer an alternative for people who cannot tolerate doing intensive trauma work.

> There is the rare patient that comes through here who . . . it would often be cruel to put them through . . . they have been beating their wife, they got arrested, they've gotten tazed by the police, they've been using methamphetamines, is that really the time to be doing PE?

Concern was occasionally expressed about the effect of requiring delivery of manualized treatment in a therapeutic milieu because it might compromise provider autonomy or fail to accommodate veteran refusal. "Clinicians are being told that what they have done for years is wrong." "Folks might wonder why we don't use CPT or PE up front, because we already tried to do that and people stayed away from us in droves. They won't do it."

There are some programs that have not adopted PE or CPT as providers believed that the effective mechanisms of these treatments were already being delivered. "I think we are doing a lot of things that CPT would have us do because we do focus on going back to that trauma and what their thoughts and emotions were at that trauma and try to change that whole mindset . . . we just don't have the proper name on it." "We're doing exposure. But what's really nice is it's kind of not according to a prescribed methodology."

In particular, seven programs offer a trauma or warzone-focused group that might be viewed as a type of exposure where there is no or minimal repetition. This approach predated the official dissemination effort. "It used to be in the 80s, we did trauma-focused work which now is called PE . . . a lot of it is kind of a little different spin." "I've been doing exposure work for 20 plus years. This is not new. It just got packaged."

Some Elements of Treatment Were Offered

Some providers reported that their programs use PE ($n = 5$, 13.2%) and CPT ($n = 3$, 7.9%), without consistent protocol adherence. Rather, they integrate a portion of these treatments. For example, although as a full protocol PE was often viewed as structurally incompatible, in vivo exposure was one component more readily integrated. In some programs, in vivo exercises were formally given and monitored.

Similarly, CPT was viewed by some as difficult to deliver due to the number of structured sessions, modules, and amount of homework assigned. Instead, specific modules, worksheets, or elements were utilized. This type of "off-label" integration of treatment elements was noted as appealing to providers who, for programmatic reasons or preference, did not implement the treatment in its entirety. "I use the beginning part of CPT, the impact statement, just across the board, because I think that that's a real nice shift for people when they first get here."

Treatment Offered to Select Patients

Some programs offered PE ($n = 8$, 21.1%) or CPT ($n = 7$, 18.4%) on an individual basis to select patients, in part because providers reported there were limited time or resources and/or that not every veteran was ready for the EBT.

> We tend to be a demand-heavy/supply-poor environment, so my choice for who gets it is who I think is gonna benefit the most. PE, of course, is not for everyone. I think it's a powerful therapy. And it's extremely effective for those veterans who are ready for it. Everybody's not ready.

Selective use of EBTs reportedly affords providers an opportunity to be more discerning about which patients would most benefit. In this level of adoption, patient "readiness for treatment" (e.g., prior experience with CBT, level of literacy, stabilized substance use, housing, familial or other psychosocial needs) was factored into treatment decision making.

Some programs reported adopting treatments selectively because of a lack of perceived advantage over other treatment programming (i.e., current practices were perceived as equally or more effective). In particular, eye movement desensitization and reprocessing (EMDR; Shapiro, 2001) is an EBT for PTSD recognized by both VA and the DoD (2010). The use of EMDR in some programs predated the VA dissemination of PE and

CPT. In these programs, EMDR has not been displaced by PE or CPT, but is being offered as an alternative. Eye movement desensitization and reprocessing is viewed by these programs as equally effective and less distressing. "The repetition involved in PE is tough. EMDR doesn't seem to be as grueling."

Within this level of adoption, there were modifications made to the protocols–abbreviations, extensions, or additional treatments added. According to these providers, patient needs often necessitate a change in session content and sequence. "I don't go in with the expectation that guys are gonna be done in nine to 12-sessions. It's probably more like 15 to 20 for these folks and ... they have other treatment needs."

Those in Particular Track Receive Treatment

Several programs developed treatment tracks offering PE ($n = 2, 5.3\%$) or CPT ($n = 5, 13.2\%$). Some offered a trauma-focused track that included the treatment, a separate skill-building track, and occasionally a third track that met a specific need (e.g., substance abuse). Within this category, modifications might be made, such as an addition of a full autobiography to CPT.

Treatment Was Core of Program

Some programs integrated the EBT (PE: 0; CPT: $n = 10, 26.3\%$) as the core of the program and offered it to every patient. Often treatment "language" was integrated across all programming (e.g., all staff use "stuck point" terminology), suggesting a true assimilation of the treatment into program culture. "CPT's become sort of the foundation of the program."

Prolonged exposure was not identified by any program as the core of treatment, likely in part because it was not originally designed to be offered nor has it been tested in a group format.

Treatment Was De-adopted

In a few instances PE ($n = 2$, 5.3%) or CPT ($n = 1$, 2.6%) were de-adopted. Reasons include provider belief in greater effectiveness or compatibility of an alternative treatment or structural incompatibility. One program previously utilizing PE instead adopted acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999).

> We ultimately decided that when we started to look at ACT that would be a better fit in the fact that it allows for exposure... but it does it in such a way that the person can kind of titrate the amount of exposure that they're willing to experience. It puts the patient more in control of the exposure.

A second program de-adopted PE in favor of CPT after reporting PE to be less compatible with the treatment structure. "We found that doing individual PE regardless of how ready the patient was, by the time they ended the program it got to be where we saw more symptoms and that's where we decided that PE probably wasn't a good thing to do in a residential program."

Only one program de-adopted CPT, reportedly because trained providers left the setting. The program returned to delivering a warzone focus group.

There was a significant relationship between provider level of PE training and its adoption, χ^2 (6, $N = 179$) = 16.03, $p = .01$, as well as a significant relationship between provider level of CPT training and its adoption, $\chi^2(6, N = 179) = 36.50$, $p < .001$.

Discussion

This is the first report on the initial training in and providers' perspectives on adoption of PE and CPT within VA residential PTSD treatment programs. Though many providers reported being trained in these EBTs, adoption was by no means universal. Adoption generally occurred along a discernable continuum ranging from no adoption, to use of only one aspect (e.g., specific worksheets), and in the case of CPT only, strict manual adherence with all patients. These findings are encouraging and suggest an expedited transfer of knowledge from research to practice. Traditionally, dissemination of new knowledge generated by randomized controlled trials into practice takes an average of 17 years (Institute of Medicine, 2001).

In no instance was PE delivered to every patient. Providers were generally of the opinion that CPT was a better fit than PE for residential treatment. This may have been a pragmatic decision as there is an evidence-based manual for group CPT as well as the evidence-based option on whether to deliver the trauma narrative (Resick et al., 2008). To date there are no evidence-based group protocols for PE.

Although most providers reported that the barriers to PE adoption were primarily structural, others perceived difficulties in implementing exposure with chronic PTSD patients. This is consistent with other work noting potential barriers to PE such as marked psychological impairment, treatment noncompliance, and unresolved life crises (Becker, Zayfert, & Anderson, 2004; Litz, Blake, Gerardi, & Keane, 1990). This is inconsistent with recent uncontrolled demonstrations of PE in veterans (e.g., Tuerk et al., 2010). For example, Rauch et al. (2009) found significant reductions in PTSD after PE use in an outpatient sample of 10 veterans, many of whom had psychiatric comorbidities. Veterans participating in residential treatment, however, may include the most chronic, difficult to treat cases. Provider concern was also expressed that imaginal exposure might cause symptom exacerbation, although this has not been substantiated elsewhere (Foa, Zoellner, Feeney, Hembree, & Alvarez-Conrad, 2002). Indeed, no differences were found in dropout rates among exposure and other EBTs, suggesting that PE may not be less tolerable than alternate cognitive–behavioral approaches (Hembree et al., 2003).

A significant minority of the providers expressed concern regarding loss of autonomy and clinical judgment in the use of EBTs, a belief that the key elements of treatment were already in use, or that alternative treatments (e.g., ACT, EMDR)

may be equally efficacious. These perspectives appeared to contribute to provider and site-level adoption. Although it is generally preferential to use treatments that have sound empirical evidence, use of EBTs does not negate the possible benefits of aspects of treatment as usual, clinician judgment, or other EBTs not selected as part of this national dissemination.

Within a majority of the identified adoption categories, protocols were typically modified from their original format. One key to adoption may be the separation of EBTs into components and promotion of only those elements that are congruent with residential settings (e.g., accommodating to length of stay, admission type). Indeed, prominent investigators have argued against maintaining strict fidelity to original treatment manuals and favor a more flexible adaptation to settings and populations (Chorpita & Regan, 2009; McHugh, Murray, & Barlow, 2009). In a randomized controlled trial, a modular treatment approach produced significantly steeper trajectories of improvement than usual care and standard treatment on multiple clinical outcomes (Weisz et al., 2012). Experiments to assist in streamlining PE and CPT by eliminating or de-emphasizing nonessential components may also help identify new combinations of effective ingredients. Adaptation may facilitate transportability as well as improve potential cost effectiveness (McHugh et al., 2009). Hoge (2011) argued that there are five core components among all EBTs for PTSD: (a) narration, (b) cognitive restructuring, (c) in vivo exposure, (d) stress inoculation, and (e) psychoeducation. Further, as long as these five components are applied sufficiently, the "packaging" of treatments is less important. Future investigations might examine if the various ways these components are packaged have comparable effects on patient outcomes. This approach may be a better fit for practical, evolving and adaptive clinical settings (Glasgow, & Chambers, 2012).

It is important to highlight that some providers in this study had not received formal VA training in PE or CPT, although all were familiar with both treatments, and some had been trained prior to the VA initiative, during graduate school, or in other professional settings. In interpreting these initial findings, it is important to take into account a dynamic temporal perspective. The majority of this data was collected between April 2009 and December 2010; thus, this was in the early stages of the national dissemination effort. In addition, there was a significant relationship between provider level of EBT training and its site adoption; training in and use of these treatments has likely evolved since.

One unexplored issue was the effect of dissemination strategies for the two therapies and subsequent rates of adoption. For example, training philosophies, strategy, and timeline of the PE and CPT dissemination were different and may have affected uptake. Namely, CPT training occurred over 2 days and was open to all interested VA clinicians, whereas PE training was 4 days and required a nomination from VA regional networks. Additionally, the consultation and provider certification processes for these EBTs differed.

Relatively little attention has been paid to de-adoption of EBTs (Massatti, Sweeney, Panzano, & Roth, 2007). Factors affecting discontinuation are in need of investigation and may indicate to administrators and treatment developers better ways to facilitate continued practice or future dissemination efforts.

Another consideration for future dissemination efforts is whether the goal is to engage in a "zero-defect approach" or to have some portion of programs or providers implement the treatments. There is evidence that some patients who participate in PE or CPT either fail to make clinically significant gains or continue to experience PTSD symptoms (Alvarez et al., 2011; Hembree, Cahill, & Foa, 2004). In addition, some patients drop out or refuse to participate in these therapies (Schottenbauer, Glass, Arnkoff, Tendick, & Gray, 2008). In veterans with chronic PTSD, goal setting may need to be more modest to include aims such as broad psychosocial rehabilitation.

There are several limitations of this investigation that warrant mention. The VA dissemination efforts were directed at all qualifying providers treating veterans with PTSD, whereas this study involved only residential programs. Although a number of the findings may apply to outpatient programs, residential programs are a unique microcosm of the many and diverse VA PTSD services. Additionally, although kappa coefficients for independent raters coding adoption level were modest, final ratings were based on consensus. The most frequent discrepancy in independent ratings came from those programs categorized as "some elements offered" and "not adopted." Though direct assessment of the reliability of provider self- and site-assessment was not formally conducted, an independent consistent single observer conducted the site visits and interviews. Further triangulation of provider reports of practice use may have better substantiated these findings.

These data are derived from a formative evaluation, and allowed for a semiprospective examination of the effects of dissemination rather than a purely retrospective analysis, which may be biased by recall and reconstruction. This work is now being extended by a systematic theory-driven empirically based data collection to evaluate the process and outcome of implementation of PE and CPT in these settings. The information presented here will serve as a baseline for examining the maintenance and modifications of treatments over time.

References

Alvarez, J., McLean, C., Harris, A. H. S., Rosen, C. S., Ruzek, J. I., & Kimerling, R. (2011). The comparative effectiveness of cognitive processing therapy for male veterans treatment in a VHA posttraumatic stress disorder residential rehabilitation program. *Journal of Consulting and Clinical Psychology, 79*, 590–599. doi:10.1037/a0024466

Beck, A. T., & Emery, G. (1985). *Anxiety disorders and phobias: A cognitive perspective*. New York: Basic Books.

Becker, C. B., Zayfert, C., & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research and Therapy, 42*, 277–292. doi:10.1016/S0005-7967(03)00138-4

Cook, J. M., O'Donnell, C., Dinnen, S., Bernardy, N., Rosenheck, R., & Desai, R. (2011). *VA residential treatment for posttraumatic stress disorder:*

Preliminary report from a national quality improvement effort. West Haven, CT: Northeast Program Evaluation Center.

Desai, R., Spencer, H., Gray, S., & Pilver, C. (2010). *The long journey home XVIII: Treatment of posttraumatic stress disorder in the Department of Veterans Affairs.* West Haven, CT: Northeast Program Evaluation Center.

Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A., Riggs, D. S., Feeny, N. C., & Yadin, E. (2005). Randomized controlled trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology, 73,* 953–964. doi:10.1037/0022-006X.73.5.953

Foa, E. B., Hembree, E. A., & Rothbaum, B. O. (2007). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences therapist guide.* New York: Oxford University Press.

Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20–35. doi:10.1037/0033-2909.99.1.20

Foa, E. B., Zoellner, L. A., Feeney, N. C., Hembree, E. A., & Alvarez-Conrad, J. (2002). Does imaginal exposure exacerbate PTSD symptoms? *Journal of Consulting and Clinical Psychology, 70,* 1022–1028. doi:10.1037/0022-006X.70.4.1022

Forbes, D., Lloyd, D., Nixon, R. D. V., Elliott, P., Varker, T., Perry, D., . . . Creamer, M. (2012). A multisite randomized controlled effectiveness trial of cognitive processing therapy for military-related posttraumatic stress disorder. *Journal of Anxiety Disorders, 26, 442–452.* doi:10.1016/j.janxdis.2012.01.006

Glasgow, R. E., & Chambers, D. (2012). Developing robust, sustainable, implementation systems using rigorous, rapid and relevant science. *Clinical and Translational Science, 5,* 48–55. doi:10.1111/j.1752-8062.2011.00383.x

Greenhalgh, T., Glenn, R., Bate, P., Macfarlane, F., & Kyriakidou, O. (2005). *Diffusion of innovations in health service organizations: A systematic literature review.* Oxford, England: Blackwell.

Hagemoser, S. D. (2009). Braking the bandwagon: Scrutinizing the science and politics of empirically-supported therapies. *Journal of Psychology, 143,* 601–614.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy.* New York: Guilford Press.

Hembree, E. A., Cahill, S. P., & Foa, E. B. (2004). Impact of personality disorders on treatment outcome for female assault survivors with chronic posttraumatic stress disorder. *Journal of Personality Disorders, 18,* 117–127. doi:10.1521/pedi.18.1.117.32767

Hembree E. A., Foa, E. A., Dorfan, N. M., Street, G. P., Kowalksi, J., & Tu, X. (2003). Do patients drop out prematurely from exposure therapy for PTSD? *Journal of Traumatic Stress, 16,* 555–562. doi:10.1023/B:JOTS.0000004078.93012.7d

Hoge, C. (2011). Interventions for war-related posttraumatic stress disorder: Meeting veterans where they are. *Journal of the American Medical Association, 306,* 549–551. doi:10.1001/jama.2011.1096

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century.* Washington, DC: National Academy Press.

Karlin, B. E., Ruzek, J. I., Chard, K. M., Monson, C. M., Hembree, E. A., Resick, P. 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

Litz, B. T., Blake, D. B., Gerardi, R. G., & Keane, T. M. (1990). Decision making guidelines for the use of direct therapeutic exposure in the treatment of post-traumatic stress disorder. *The Behavior Therapist, 13,* 91–93.

Massatti, R. R., Sweeney, H. A., Panzano, P. C., & Roth, D. (2007). The de-adoption of innovative mental health practices (IMHP): Why organizations choose not to sustain an IMHP. *Administration and Policy in Mental Health and Mental Health Services Research, 35,* 50–65. doi:10.1007/s10488-007-0141-z

McHugh, K. R., & Barlow, D. H. (2010). The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. *American Psychologist, 65,* 73–84. doi:10.1037/a0018121

McHugh, R. K., Murray, H. W., & Barlow, D. H. (2009). Balancing fidelity and adaptation in the dissemination of empirically supported treatments: The promise of transdiagnostic interventions. *Behavior Research and Therapy, 47,* 946–953. doi:10.1016/j.brat.2009.07.005

Monson, C. M., Schnurr, P. P., Resick, P. A., Friedman, M. J., Young-Xu, Y., & Stevens, S. P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 74,* 898–907. doi:10.1037/0022-006X.74.5.898

Rauch, S. A. M., Defever, E., Favorite, T., Duroe, A., Garrity, C., Mattis, B., . . . Liberzon, I. (2009). Prolonged exposure for PTSD in a Veterans Health Administration PTSD clinic. *Journal of Traumatic Stress, 22,* 60–64. doi:10.1002/jts.20380

Rosenheck, R. A., Fontana, A. F., & Errera, P. (1997). Inpatient treatment of war-related PTSD: A twenty-year perspective. *Journal of Traumatic Stress, 10,* 407–413. doi: 10.1023/A:1024837220247

Resick, P. A., Galovski, T. E., Uhlmansick, M. O., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology, 76,* 243–258. doi:10.1037/0022-006X.76.2.243

Resick, P. A., & Schnicke, M. (1996). *Cognitive processing therapy for rape victims: A treatment manual.* Newbury Park: Sage.

Sandelowski, M. (2000). Combining qualitative and quantitative sampling, data collection, and analysis techniques in mixed-method studies. *Research in Nursing & Health, 23,*246–255. doi:10.1002/1098-240X(200006)23:3<246::AID-NUR9>3.0.CO;2-H

Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T., Chow, B. K., . . . Bernard, N. (2007). Cognitive-behavioral therapy for posttraumatic stress disorder in women: A randomized controlled trial. *Journal of the American Medical Association, 297,* 820–830. doi:10.1001/jama.297.8.820

Schottenbauer, M. A., Glass, C. R., Arnkoff, D. B., Tendick, V., & Gray, S. H. (2008). Nonresponse and dropout rates in outcome studies on PTSD: Review and methodological considerations. *Psychiatry: Interpersonal and Biological Processes, 71,* 134–168. doi: 10.1521/psyc.2008.71.2.134

Shapiro, F. (2001). *Eye movement desensitization and reprocessing, basic principles, protocols and procedures* (2nd ed.). New York: Guilford Press.

Stetler, C. B., Legro, M. W., Wallace, C. M., Bowman, C., Guihan, M., Hagedorn, H., . . . Smith, J. L. (2006). The role of formative evaluation in implementation research and the QUERI experience. *Journal of General Internal Medicine, 21,* S1–S8. doi:10.1111/j.1525-1497.2006.00355.x

Tuerk, P. W., Yoder, M., Grubaugh, A., Myrick, H., Hamner, M., & Acierno, R. (2010). Prolonged exposure therapy for combat-related posttraumatic stress disorder: An examination of treatment effectiveness for veterans of the wars in Afghanistan and Iraq. *Journal of Anxiety Disorders, 25,* 397–403. doi:10.1016/j.janxdis.2010.11.002

U.S. Department of Health and Human Services. (2006). *The road ahead: Research partnershipsto transform services. A report by the National Advisory Mental Health Council's Workgroup on Services and Clinical Epidemiology Research.* Bethesda, MD: National Institutes of Health, National Institute of Mental Health.

U.S. Department of Veterans Affairs and Department of Defense. (2010). *VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress*. Washington, DC: Author.

Weisz, J. R., Chorpita, B. F., Palinkas, L. A., Schoenwald, S. K., Miranda, J., Bearman, S. K., ... Research Network on Youth Mental Health. (2012). Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth. *Archives of General Psychiatry*, *69*, 274–282. doi:10.1001/archgenpsychiatry.2011.147

Zappert, L. N., & Westrup, D. (2008). Cognitive processing therapy for post-traumatic stress disorder in a residential treatment setting. *Psychotherapy Theory, Research, Practice, Training*, *3*, 361–376. doi:10.1037/0033-3204.45.3.361