



How often do community-based mental health providers educate and initiate PTSD treatment following training? Answering the question of reach

Implementation Research and Practice
Volume 2: Jan-Dec 2021 1–11
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/26334895211011771
journals.sagepub.com/home/irp

Katherine A Dondanville¹, Brooke A Fina¹,
Victoria L Steigerwald², Katherine D McCarthy³,
Courtney Worley^{4,5}, Casey L Straud^{1,6,7}, John C Moring^{1,7}
and David C Rozek²; for the STRONG STAR Training Initiative

Abstract

Background: Posttraumatic stress disorder (PTSD) is a significant problem. Clinical practice guidelines recommend evidence-based treatments (EBTs) including cognitive processing therapy (CPT) and prolonged exposure (PE) as first-line treatments. Training in EBTs for PTSD has often been limited to large-scale systems (e.g., U.S. Department of Veterans Affairs). Research has shown that veteran-serving community-based mental health providers have low rates of training and supervision in EBTs for PTSD, suggesting that training initiatives for these community providers are critical to increase accessibility. This study aimed to examine the reach of education about EBTs for PTSD and the initiation of EBT for PTSD treatment among veteran-serving community-based providers participating in a large-scale training initiative.

Methods: Participants ($N=280$) were community-based, licensed mental health providers who received training in CPT (67%) or PE (33%). Provider attitudes toward EBTs were measured with the Perceived Characteristics of Intervention Scale. Reach was calculated from provider self-reported follow-up survey data, including caseload total number of patients with PTSD, number of patients provided education on EBTs for PTSD, and patient initiation of EBT for PTSD. Reach was calculated for both education and EBT initiation.

Results: Providers reported positive attitudes toward CPT and PE. Rates of education reach for EBTs for PTSD ranged from 30% to 76%, and rates of EBTs for PTSD initiation ranged from 11% to 35% over the 5-month follow-up period. CPT providers had higher rates of education and initiation earlier in the follow-up period, although differences in initiation rates diminished after 3 months posttraining.

Conclusion: Overall, this study examined how large-scale, training programs can be used to increase the education reach and initiation reach of EBTs for PTSD among veteran-serving community-based providers. Future work should examine how best to augment these training programs to reduce the gap between education and implementation of EBTs for PTSD.

¹Department of Psychiatry and Behavioral Sciences, The University of Texas Health Science Center at San Antonio, San Antonio, TX, USA

²UCF RESTORES and Department of Psychology, University of Central Florida, Orlando, FL, USA

³Justice Resource Institute, Needham, MA, USA

⁴Central Alabama Veterans Health Care System, Montgomery, AL, USA

⁵Alabama Research Institute on Aging, The University of Alabama, Tuscaloosa, AL, USA

⁶Department of Psychology, The University of Texas at San Antonio, TX, USA

⁷South Texas Veterans Health Care System, San Antonio, TX, USA

Corresponding author:

Katherine A Dondanville, Department of Psychiatry and Behavioral Sciences, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX, 78229, USA.
Email: Dondanville@uthscsa.edu



Plain Language Summary

Posttraumatic stress disorder (PTSD) is a significant problem among veterans. Although there are effective treatments for PTSD, mental health providers in community settings rarely have access to training in these treatments. Training programs are designed to offer providers the necessary training and support to deliver the most effective therapies to their clients. In evaluating these programs, it is important to determine whether they increase the likelihood that providers will deliver the interventions in which they were trained. Valuable outcomes include the percentage of patients who were educated on the specific intervention and who began to receive it. The (STRONG STAR) Training Initiative is a large-scale, community-based program that specializes in training providers in two leading PTSD therapies: cognitive processing therapy and prolonged exposure. Participants received a 2-day workshop, online resources, and weekly consultation calls to aid in the delivery of the intervention in which they were trained. Consequently, a large number of clients on provider caseloads are now aware of these PTSD treatments, and many have chosen to receive them. It is clear that the components within the (STRONG STAR) Training Initiative increase providers' competency in delivering therapies that have been widely studied. Therefore, more community members with PTSD will have access to gold-standard care. More funding should be devoted toward competency-based training programs to increase the number of people who receive education about and who engage in delivering effective therapies. This approach will ensure high-quality care and increased quality of life for those seeking treatment from community providers.

Keywords

Reach, evidence-based treatment, PTSD, training, mental health providers

Posttraumatic stress disorder (PTSD) resulting from an exposure to a traumatic event is a significant problem, with estimated lifetime prevalence rates of 6.8% in the United States (Kessler et al., 2005). Rates of PTSD among veterans who deployed in support of combat operations in and around Iraq and Afghanistan are much higher with estimates around 13% (Dursa et al., 2014; Eber et al., 2013; Tanielian & Jaycox, 2008). Multiple clinical practice guidelines have determined cognitive processing therapy (CPT; Resick et al., 2017) and prolonged exposure (PE; Foa, Hembree, et al., 2019) as first-line treatments for PTSD, including guidelines from the American Psychological Association (APA, 2017) and the U.S. Department of Veterans Affairs and U.S. Department of Defense (VA/DoD, 2017). The VA has led the field in developing capacity and improving access to evidence-based treatments (EBTs) for PTSD through large-scale training programs for VA providers. These programs have trained thousands of mental health providers in CPT and PE, with clinical outcomes demonstrating significant reductions in PTSD and depression symptoms in veterans (Chard et al., 2012; Eftekhari et al., 2013; Karlin et al., 2010). Much of the research on EBTs for PTSD training and adoption has focused on VA providers (e.g., Cook et al., 2013; Karlin et al., 2010; Simiola et al., 2019). Veterans are increasingly receiving mental health care in community settings due to personal preference or challenges with access to VA (Finley et al., 2017; National Council for Behavioral Health, 2012). Understanding veteran-serving community-based providers' capacity and clinical decision-making processes in delivering EBTs for PTSD is critical for the downstream goal of supporting community-level access to high-quality PTSD care. Efforts to understand these community-level treatment options

must consider the diversity of community-based mental health options (e.g., grant-funded agencies, community mental health centers, private practice clinicians, insurance panel providers).

Reach is one metric of public health impact of a health-promotion initiative and a factor in treatment adoption. Regarding EBTs for PTSD, "reach" can be defined as the proportion and representativeness of individuals with PTSD who received the targeted intervention (Glasgow et al., 2019). In defining reach of EBTs for PTSD in VA settings, Sayer et al. (2017) initially proposed reach categories, with 33% being high, 20% or less being low, and the range in between being medium and later revised the low reach category to 15% to reflect current VA clinic data (Sayer et al., 2020). Recent review of VA psychotherapy notes found very low reach in the first 6 months of treatment, with only 6% of newly diagnosed patients with PTSD receiving either CPT or PE (Shiner et al., 2013). Among all VA patients who received an outpatient PTSD diagnosis ($N=630,746$) during fiscal year 2015, only 3.6% had documentation of at least one CPT or PE note template, a proxy for treatment administration (Sripada, Bohnert, et al., 2018). In addition, only 8.5% of those receiving psychotherapy for PTSD had a documented CPT or PE note template, revealing alarmingly low reach of EBTs for PTSD (Sripada, Bohnert, et al., 2018). Methods to calculate EBT reach include resource-intensive methods such as natural language processing and record review of EBT for PTSD template usage. These methods are limited due to biases in retrospective reports, which likely produce underestimates of reach. A recent large-scale study revealed that implementation facilitation was a promising implementation strategy that increased reach of EBT treatment for PTSD in VA specialty clinics from 11.41% to

28.39% (Sayer et al., 2020). While the increase in reach of EBTs for PTSD in specialty PTSD clinics is substantial, it remains unclear whether the level achieved represents the desired endpoint for EBT for PTSD treatment reach. Moreover, these VA studies have not examined the reach of education about EBTs for PTSD as a treatment option.

Patients' awareness and understanding of treatment options can impact their decisions to engage (Sayer et al., 2009; Shepherd et al., 2007). Shared decision-making includes a formalized process in which the provider shares information about the patient's PTSD symptoms, diagnosis, and treatment options, while exploring the potential outcomes, side effects, and impact on patient goals. This is done with the objective of deciding a course of PTSD treatment (Elwyn et al., 2012). In psychotherapy, there is substantial variability in the education of EBTs for PTSD in terms of the amount of time spent discussing options, information presented, and degree of patient involvement (Finley et al., 2020; McHugh & Barlow, 2012). Recent pilot studies of shared decision-making tools have shown favorable results in supporting patient engagement in an EBT (Mott et al., 2014; Raza & Holohan, 2015; Watts et al., 2015). However, little is known about this process among veteran-serving community providers, or the reach of EBTs for PTSD treatment initiation.

Recent surveys of community providers have highlighted low rates of training and supervision in EBTs for PTSD (Finley et al., 2018; Richards et al., 2017; Tanielian et al., 2014). Moreover, community providers who did receive training reported low usage of EBTs for PTSD (Finley et al., 2018). A more complete conception of EBT education reach and EBT for PTSD initiation reach is needed to better understand community-level access to EBTs for PTSD for veterans seeking care. Such knowledge may assist in informing the development of implementation strategies. Both CPT and PE have decades of well-designed clinical trials establishing their efficacy with a wide range of adult trauma populations in diverse settings (Asmundson et al., 2019; Powers et al., 2010). Research in both CPT and PE also has established efficacy for the treatment of adolescents with PTSD (Gilboa-Schechtman et al., 2010; Rosner et al., 2019). Many mental health providers in community settings serve both veteran and civilian patients. This article strives first to explore the reach of education about EBTs for PTSD and then to explore the initiation of EBT for PTSD treatment among veteran-serving community-based mental health providers participating in a competency-based training program. In this effort, the article aims to do the following: (1) determine the post-workshop rate at which providers educate eligible patients on their caseload about EBTs for PTSD; (2) determine the post-workshop rate at which providers initiate EBT for PTSD with eligible patients on their caseload; (3) investigate if there are differences in rates by treatment type; and (4) examine the rates of reach change at 5 months post-workshop.

Method

This was a prospective program evaluation of the (STRONG STAR) Training Initiative national training program. The Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) guidelines provided the framework for this article (Ogrinc et al., 2016).

Context

In 2017, the (STRONG STAR) Training Initiative launched a training program in EBTs for PTSD for veteran-serving community providers in Texas before scaling nationally in 2018 (Dondanville et al., 2020). The Bob Woodruff Foundation funded the Training Initiative with the overall goals of (1) increasing access to EBTs for PTSD for service members and veterans with PTSD seeking mental health services in community settings and (2) improving quality of life for them and their family members. We recruited veteran-serving licensed mental health providers working in community settings interested in receiving intensive training in an EBT for PTSD. This study reports on descriptives of enrolled mental health providers and patterns of EBT for PTSD reach collected from provider training cohorts during a 2-year period between January 2018 and January 2020. The sample included 280 licensed mental health providers enrolled in either CPT (67%) or PE (33%) training cohorts with the (STRONG STAR) Training Initiative national training program. Mental health providers were mostly women (83.2%), White (73.6%), and master's-level counselors (42.9%) or social workers (35.0%). Most providers worked in a group clinic or agency (76.4%) in the private sector (75.7%). Detailed demographic information for mental health providers is displayed in Table 1.

The implementation intervention. The (STRONG STAR) Training Initiative training model includes in-person, 2-day training workshops, and follow-on weekly clinical case telephone consultation support for 6–12 months, informed by the learning collaborative model (Nadeem et al., 2014). First, providers applied for a training cohort and, as applicable, received support from their organization. Applicants were accepted if they were licensed mental health providers who delivered psychotherapy services to the veteran community through grant-funded programming or insurance panels. Most providers also delivered psychotherapy services to civilian patients. In contrast to traditional learning collaboratives, private practice providers are eligible for participation in the (STRONG STAR) Training Initiative and we did not require participation from a senior leader in each organization. Despite the value of ensuring top-down familiarity with and support for EBT implementation, this requirement would have proven overly restrictive for this population of providers (Aarons et al., 2014). Next, we developed an online

provider portal as an implementation strategy that consists of assessment resources, treatment resources, demonstration videos, and advanced training webinars. The portal is available to the provider upon acceptance into a training cohort and in perpetuity. Instead of the multiple in-person training sessions, live training webinars were offered prior to the in-person workshop and after the in-person workshop, with monthly webinars covering advanced practice topics. Preworkshop webinars focused first on teaching providers procedures for the assessment of trauma and PTSD and the utilization of standardized patient assessments. A second preworkshop webinar focused on developing providers' skills in educating patients about PTSD and EBTs for PTSD, including skill-building in motivational interviewing concepts and techniques. All webinars were recorded and made available on the portal to accommodate for scheduling challenges in live attendance. Organizational consultation was offered as a resource that could be scheduled as needed at any time throughout participation. For more detailed information about the development and initial implementation of the (STRONG STAR) Training Initiative, see the publication by (Donnanville et al., 2020).

Measures

Providers completed training applications to be accepted in the SSTI training cohort. Training application included provider contact information, demographics, and selected implementation scales including the Perceived Characteristics of the Intervention Scale (PCIS; Cook et al., 2015). After completion of the 2-day workshop in the EBT for PTSD, providers received monthly three-question surveys months 1–5 to assess uptake of EBT for PTSD post-training. Provider received monthly surveys links via REDCap electronic data capture tool (Harris et al., 2009, 2019). Providers who did not respond received up to two reminder emails and up to 7 days to complete the survey.

Provider attitudes. The Perceived Characteristics of Intervention Scale (PCIS; Cook et al., 2015) is a 20-item assessment measure developed to assess mental health providers' views of interventions. The PCIS measures an individual's agreement with statements specific to the intervention on a 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*), with 3 indicating neutrality (*neither agree nor disagree*). On the PCIS, higher scores reflect more positive attitudes toward the intervention. Providers completed the PCIS when completing the training application specific to the selected training in EBT for PTSD. For example, "CPT can be adapted to my treatment setting" or "PE can be adapted to my treatment setting."

Reach. Providers received a monthly, three-question survey asking the following questions about the last 30 days: How many patients aged 15 and over with PTSD have you

treated? (Target Population); How many patients with PTSD have you talked to about EBT for PTSD? (Education Intervention); With how many patients with PTSD have you initiated EBT for PTSD? (Treatment Intervention). Providers were asked to report on their entire caseload to inform the overall uptake and reach of the EBT for PTSD.

Education reach. We calculated the education reach by dividing the total number of patients with PTSD who received education about EBTs for PTSD by the total number of patients with PTSD on provider caseloads.

Relative EBT initiation reach. We calculated relative EBT initiation reach by dividing the total number of patients with PTSD who initiated EBTs for PTSD by the total number of patients with PTSD educated about EBTs for PTSD.

EBT initiation reach. We calculated EBT initiation reach by dividing the total number of patients with PTSD who initiated EBTs for PTSD by total number of eligible patients.

Statistical analyses

Prior to completing the primary analyses, we investigated baseline demographic factors and PCIS outcome scores to identify additional factors that might explicate reach outcomes. Chi-square tests of independence (χ^2) were used to examine demographic factors associated with EBT type (CPT vs. PE). An independent sample *t* test was used to evaluate differences in baseline PCIS between PE and CPT providers. The primary aim of this study was to evaluate the association between patient reach and type of EBT (CPT vs. PE) among trained providers in the 5 months following training. At each respective month, a cohort of providers reported on the total number of patients they treated with PTSD, the proportion of patients who were given information on the EBT (discussed), and the proportion of participants who initiated the EBT (initiation). We calculated three types of reach based on these frequencies: (a) education (discussed/treated), (b) relative initiation (initiated/discussed), and (c) absolute initiation (initiated/treated). Frequency (%) estimates were calculated among provider cohorts at each month by the EBT training protocol (CPT vs. PE). Chi-square tests of independence (χ^2) were used to evaluate the relationship between EBT type (CPT vs. PE) and reach type at each follow-up month. Odds ratios (ORs) and Cohen's *d* effect sizes were also calculated to further describe the nature of significant effects for the respective statistical models. Cohen's *d* equal to 0.20, 0.50, and 0.80 can be interpreted as small, medium, and large effects, respectively, by conventional standards (Cohen, 1988). All analyses were completed in SPSS Version 26.

Ethics statement

The University of Texas Health Science Center at San Antonio Institutional Review Board reviewed the project program evaluation plan and made a non-research determination. The project was designed for internal program evaluation purposes and the findings are to be used to support our mission to improve the Training Program. As such, provider consent to participate was given by virtue of participation in the Training Program which included program evaluation.

Results

Baseline demographic characteristics and provider attitudes

As seen in Table 1, gender was the only demographic variable related to EBT type ($p = .03$). Women were more likely ($OR = 2.29$) to enroll in a CPT training compared to men who were more likely to enroll in PE. Regarding baseline PCIS, PE providers ($M = 74.49$; $SD = 8.5$) and CPT providers ($M = 78.11$; $SD = 11.19$) both indicated high positive attitudes toward the respective EBT. However, CPT providers had greater levels of positive attitude about their respective EBT compared to PE providers, $t(221) = 2.46$, $p < .015$, $d = 0.33$.

Education and initiation reach

Tables 2 and 3 summarize education and reach incidence and associations by treatment type, respectively. Figure 1 provides a visual graphic of education and reach incidents by treatment type over time. Overall, providers' rates of education reach for EBTs for PTSD ranged from 30% to 76% across follow-up time points (Table 2). CPT providers had significantly higher rates of education compared to PE

Table 1. Provider demographic characteristics.

| Variable | N=280 | % | χ^2 |
|---|-------|------|----------|
| Age | | | 5.42 |
| 20–30 | 50 | 17.9 | |
| 31–40 | 103 | 36.8 | |
| 41–50 | 66 | 23.6 | |
| 51–60 | 34 | 12.1 | |
| 61–70 | 24 | 8.6 | |
| 70+ | 3 | 1.1 | |
| Gender | | | 4.59* |
| Female | 233 | 83.2 | |
| Male | 47 | 16.8 | |
| Race | | | 4.25 |
| White | 206 | 73.6 | |
| Black | 28 | 1.0 | |
| Other | 46 | 16.4 | |
| Ethnicity | | | 0.63 |
| Hispanic/Latino | 82 | 29.3 | |
| Non-Hispanic/Latino | 193 | 68.9 | |
| Discipline | | | 3.99 |
| Counseling | 120 | 42.9 | |
| Social work | 98 | 35.0 | |
| Psychology | 44 | 15.7 | |
| Marriage and family therapist | 8 | 2.9 | |
| Other: Chaplain or Nurse | 9 | 3.2 | |
| Practice setting | | | 0.59 |
| Private practice | 66 | 23.6 | |
| Group clinic/agency | 214 | 76.4 | |
| Organization type | | | 0.07 |
| Public sector (government/non-VA/non-DoD) | 68 | 24.3 | |
| Private sector (nonprofit/for-profit) | 212 | 75.7 | |

Note. Proportion and frequency statistics differ for individual demographic variables due to missing data. VA: U.S. Department of Veterans Affairs; DoD: U.S. Department of Defense. χ^2 : chi-square test of independence. * $p < .05$.

Table 2. Incidence of reach type by treatment type over time.

| Variable | | Month 1 n (%) | Month 2 n (%) | Month 3 n (%) | Month 4 n (%) | Month 5 n (%) |
|-------------------------------|-----|------------------|------------------|------------------|------------------|------------------|
| Education reach | CPT | 358 (69) | 356 (70) | 305 (62) | 322 (58) | 316 (76) |
| | PE | 117 (30) | 158 (43) | 121 (57) | 106 (45) | 87 (58) |
| Relative EBT initiation reach | CPT | 183 (51) | 190 (53) | 172 (56) | 166 (52) | 126 (40) |
| | PE | 44 (38) | 75 (47) | 51 (52) | 47 (44) | 34 (39) |
| EBT Initiation reach | CPT | 183 (35) | 190 (37) | 172 (35) | 166 (30) | 126 (30) |
| | PE | 44 (11) | 75 (21) | 51 (24) | 47 (20) | 34 (23) |
| Total treated | CPT | 521 | 509 | 494 | 551 | 418 |
| | PE | 391 | 365 | 213 | 234 | 149 |

Note. Education Reach was calculated by dividing the number of patients with PTSD discussed EBTs for PTSD by total number of patients with PTSD treated on caseload. Relative Initiation was calculated by dividing the number of patients with PTSD initiated EBT for PTSD by number of patients with PTSD discussed. Absolute Initiation was calculated by dividing the number of patients with PTSD initiated EBT for PTSD by number of patients with PTSD by total number of patients with PTSD treated on caseload. EBT: evidence-based treatment; CPT: cognitive processing therapy; PE: prolonged exposure.

Table 3. The association and likelihood odds of reach type for CPT providers compared to PE providers following completion of the evidence-based treatment workshop.

| Time point | Education reach | | | Relative EBT initiation reach | | | EBT initiation reach | | |
|------------|-----------------|------|-----------------|-------------------------------|------|-----------------|----------------------|------|-----------------|
| | χ^2 | OR | 95% CI [LL, UL] | χ^2 | OR | 95% CI [LL, UL] | χ^2 | OR | 95% CI [LL, UL] |
| Month 1 | 134.68** | 5.14 | [3.87, 6.84] | 6.45* | 1.74 | [1.31, 2.66] | 67.40** | 4.27 | [2.97, 6.13] |
| Month 2 | 62.34** | 3.05 | [2.30, 4.04] | 1.53 | 1.27 | [0.87, 1.84] | 28.33** | 2.30 | [1.69, 3.14] |
| Month 3 | 1.51 | 1.23 | [0.89, 1.70] | 7.05** | 1.78 | [1.16, 2.72] | 8.15 | 1.70 | [1.18, 2.44] |
| Month 4 | 11.44** | 1.7 | [1.25, 2.31] | 1.66 | 1.34 | [0.86, 2.08] | 8.38* | 1.72 | [1.19, 2.48] |
| Month 5 | 15.82** | 2.21 | [1.49, 3.28] | 0.12 | 1.03 | [0.64, 1.68] | 2.91 | 1.46 | [0.94, 2.26] |

Note. CPT: cognitive processing therapy; PE: prolonged exposure; EBT: evidence-based treatment; χ^2 : chi-square test of independence; OR: odds ratio; CI: confidence interval; LL: lower limit; UL: upper limit; 95% CI [LL, UL]: 95% confidence interval [lower limit, upper limit].

* $p < .01$; ** $p < .001$.

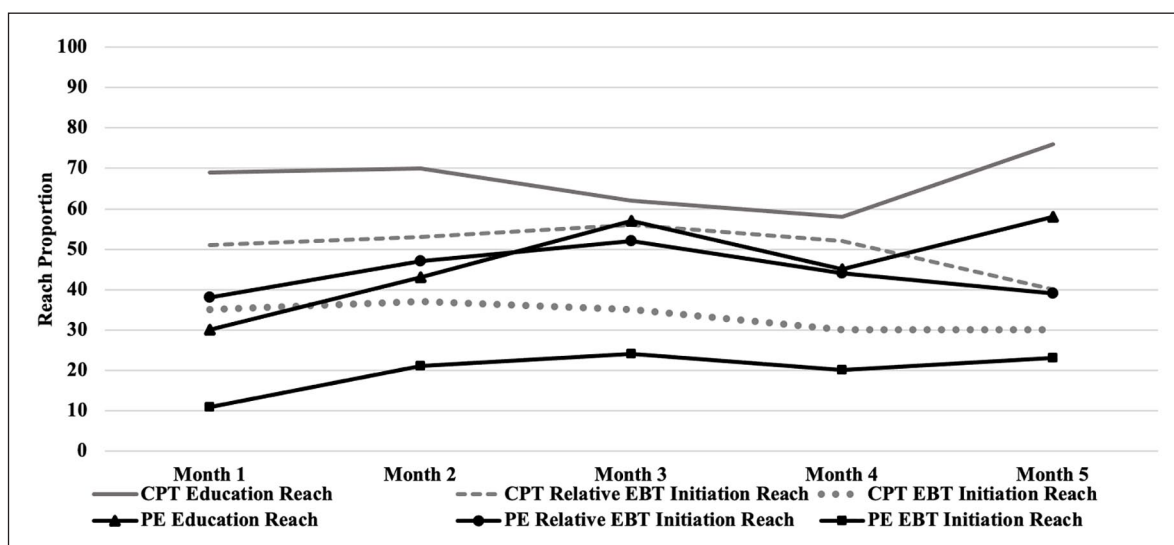


Figure 1. Incidence of reach type by treatment type over time.

EBT: evidence-based treatment; CPT: cognitive processing therapy; PE: prolonged exposure.

providers except for Month 3. Effect size ORs demonstrated that CPT providers were between 1.23 and 5.14 times as likely to educate their patients (Table 3). Rates of initiation reach were evaluated as relative (initiation/education) and absolute (initiation/total treated). Results indicated that absolute initiation rates of EBTs for PTSD ranged from 11% to 37% across the follow-up time points. CPT providers had higher rates of absolute initiation over follow-ups; however, significant differences were only observed at 1-, 2-, and 4-month follow-ups. CPT providers were more likely (ORs=1.46–4.27) to initiate treatment with patients they treated for PTSD (absolute) compared to PE providers. Initiation rates increased for both treatments when we applied the relative definition over the follow-up points (38%–56%). CPT providers had higher rates of relative initiation across time points, but significant effects were only present at the 1- and 3-month follow-ups. Across time points, CPT providers were more likely to initiate treatment with PTSD patients following education on treatment options compared to PE providers (ORs=1.03–1.74).

Discussion

Overall, 280 veteran-serving mental health providers in community settings participated in a national training program to support competency in learning and adopting CPT and PE. These providers in turn educated more than 2,200 PTSD patients about EBTs for PTSD and initiated EBT for PTSD with more than 1,000 patients. Rates of EBT for PTSD education reach ranged from 30% to 76%, and rates of EBT for PTSD initiation ranged from 11% to 35% in the 5 months post-workshop. Given the dearth of access to EBTs for PTSD in community settings cited in the literature (e.g., Finley et al., 2018; Kilpatrick et al., 2011; Tanielian et al., 2014), we believe these reach outcomes meaningfully contribute to increasing access to EBT for PTSD among both veteran and non-veteran patients receiving services from these veteran-serving, community-based providers. Our findings indicated the range of EBT for PTSD treatment initiation was higher than reported in previous research (e.g., Sayer et al., 2020;

Shiner et al., 2013; Sripada, Pfeiffer, et al., 2018) and the upper limit falls within the “high” range (above 33%) previously identified by Sayer and colleagues (2017). As similar data has yet to be reported for community practice settings, this study is the first to examine EBT for PTSD initiation reach for veteran-serving community-based providers.

Notably, there was a gender difference in this sample of providers, whereby female providers were more likely to select training in CPT and male providers in PE. We have limited interpretation of the finding and believe this is likely related to the convenience of the training location, although some research has found provider gender to be a factor in treatment preference. In these studies, female providers were less likely to do cognitive-behavioral therapy with exposure (Sprang et al., 2008), and women were more likely than men to believe that exposure causes more serve distress (Deville & Huther, 2008). It is unknown if this gender division had an impact on the differences in rates of reach.

Although overall rates of EBT reach were high, differences emerged between the reach for CPT providers and PE providers. The CPT-trained providers had high rates of education reach starting at 1 month post-workshop and were significantly more likely to educate their patients with PTSD about CPT at every month, except at 3 months post-workshop, compared to PE providers. The PE providers’ education reach started lower (30%) at 1 month post-workshop, almost doubled (60%) by 3 months post-workshop, and maintained thereafter. In the first 2 months post-workshop, CPT providers had high rates of CPT treatment initiation reach (30%–37%) and higher rates than PE providers (11%–24%). The difference in treatment initiation between treatment types diminished by 3 months post-workshop but favored CPT. This finding of unequal distribution among CPT and PE is consistent with VA review of the records, with almost 73% of EBT note templates reflecting CPT treatment (Sripada, Bohnert, et al., 2018). Even though VA researchers have defined high reach as exceeding 33% reach of EBT for PTSD treatment (Sayer et al., 2017), the optimal EBT for PTSD treatment initiation reach target is unclear. That is because some patients will decline treatment, and other patients may not be appropriate for treatment at the time of treatment planning, as noted in clinical guidelines for conducting EBTs for PTSD (APA, 2017; VA/DoD, 2017).

Interestingly, differences between treatment types were much smaller when examining the reach of EBT treatment initiation as a proportion of patients educated about EBTs for PTSD, labeled as relative initiation reach. Specifically, PE providers were more selective in educating patients about PE, but among those they educated, they initiated PE at rates similar to those of CPT providers. Although patient characteristics and provider evaluations of patient characteristics were not assessed in this study, it is also possible that providers opted not

to educate certain patients on PE, based on perceived readiness, index trauma, or clinical presentation, as found in other studies (Finley et al., 2020; Hundt et al., 2016).

While there were differences between treatments, prior to the training, providers in both CPT and PE training groups had very positive attitudes about their respective EBT, as indicated on the PCIS. In addition, PCIS scores were higher in this cohort compared to VA providers (Cook et al., 2015). Providers’ pre-training positive attitudes may in part be due to the fact that providers had to apply and be accepted to participate in our program and that they had limited availability of training opportunities elsewhere. As such, there was minimal variability in the PCIS scores, which inhibited the ability to analyze the variable as a predictor in this sample. Alternatively, the perceived scarcity of the resource through an application process may have resulted in recruitment of mental health providers with inherent positive attitudes and high investment in the program. Future research is needed to understand the relationship between pre-training attitudes and training.

Rates of PE education and relative initiation increased over the course of the 5-month follow-up period, with Month 5 relative initiation reach almost matching that of CPT (Table 2). It is possible that providers became more comfortable with or confident in PE implementation as they received additional consultation and became increasingly familiar with PE through their practice over the training period. Providers also may have gained experience working around structural barriers to delivering PE. Another potential impact on PE reach may be the fit of the intervention and the setting. PE is typically implemented in 90-min treatment sessions, but it can be adapted to 60-min treatment sessions (Foa, Zandberg, et al., 2019). Still, the traditional psychotherapy treatment hour is 50 min. That is why, even with full organizational support and no implementation barriers, CPT treatment reach is higher. For example, if a full-time provider devotes 30 hr a week to clinical work, that provider could reach a maximum of 30 CPT patients and a maximum of 20 PE patients in weekly therapy.

Previous research has focused on the reach of the intervention. Patient education about treatment options is a key intermediary step to initiating any intervention. While reach of EBT for PTSD treatment initiation is impacted by patient choice and appropriateness, the intervention of education about EBT for PTSD for patients with PTSD has no exclusions and should not be limited. From a public health perspective, this would translate to every patient with PTSD being educated about the availability of EBTs for PTSD for later treatment consideration, regardless of their current state of readiness or appropriateness. In our study, education reach rates ranged from 30% to 76% at various points during the 5 months, meaning that anywhere from 24% to 70% of the providers’ patients with PTSD received no education about EBTs for

PTSD; therefore, they were not being engaged in a shared decision-making process (Mott et al., 2014). The pre-workshop learning included a webinar focused on discussing EBTs for PTSD and encouraged providers to consider use of the PTSD Decision Aid tool (U.S. Department of Veterans Affairs, National Center for PTSD, n.d.). However, the training model did not explicitly teach shared decision-making as an implementation strategy. In addition, CPT providers and PE providers may require different training supports to increase education reach. For instance, it may be useful to address provider “stuck points” (LoSavio, Dillon, Murphy, & Resick, 2019) and to provide tailored shared decision-making tools (e.g., Dedert et al., 2020).

This study had several limitations. First, data came from provider reports of the past 30 days, with survey response rates ranging from 28% to 49% for the entire provider sample. Providers were not compensated for their completion of surveys. Their time is scarce and valuable, and it is likely compensation for survey completion would have increased the response rate. Due to the desire to limit provider burden, the survey questions were brief, with an estimated completion time of 1 min, and did not track time periods from education to initiation. Nor did they distinguish if patients were new or existing on providers’ case-loads. It is possible that the addition of this information would provide a richer understanding of the processes affecting providers after their training and assist in the interpretation of the results. The monthly provider surveys did not distinguish between veteran and civilian patients, and the community providers in this cohort predominantly worked in private sector, group clinics, or agencies who provided services to veterans through grant-funded programming or insurance panels. As a result, we cannot generalize our EBT reach results to veterans or all civilians with PTSD who seek mental health care. Also, we do not have data on the proportion of veteran versus civilian patients and therefore cannot determine the rate of EBT reach in veteran versus civilian patients. The unequal sample size in treatment groups may have impacted our ability to detect statistically significant differences in reach. Specifically, the effective sample size becomes smaller than the actual sample size when unequal groups are present. In this study, there were a greater number of CPT providers compared to PE providers, which may have decreased power to detect statistically significant differences. Despite this limitation, results inform future research and are further supported by practical significance as indicated by the corresponding odds ratio (OR) effect size. In addition, we only surveyed providers monthly for the 5 months post-workshop. Therefore, we cannot speak to the maintenance of reach over time, another important component of adoption of and access to EBT for PTSD. There may be a response bias, as the providers who responded may have been the EBT adopters

who provided EBT education and initiated treatment with their patients.

Future directions

Despite these limitations, this study is one of the first to examine education and initiation reach for community providers who participated in a competency-based training program for EBTs for PTSD. The findings indicated that education and initiation reach fell into the “high” category previously defined by Sayer et al. (2017) and that reach for CPT was slightly higher than that of PE for education, relative initiation, and initiation. This adds to the evidence of previous research demonstrating the effectiveness of competency-based training programs (LoSavio, Dillon, Murphy, Goetz, et al., 2019). The findings also highlight the need for additional evidence-based training supports tailored to individuals, institutions, and treatment modalities to further improve education and initiation reach. Although the preworkshop webinars were requirements for all participants, we were unable to track which providers viewed the on-demand webinars on the portal. Therefore, the true proportion of providers who viewed the webinars and whether these webinars had a direct impact on providers’ practice remains unclear. Future research should evaluate specific training components and their impact on intended outcomes, as well as the most appropriate time in the training process to deliver such support.

In addition, future research should consider the use of mixed methods to offer a richer understanding of provider decision-making about EBT patient education over time. Such research is necessary to inform the relationship between specific training supports and different treatment modalities to better tailor training models. It will be important for future research to examine whether the effectiveness of tools including decision aids differs based on patient characteristics, such as length of time in treatment or motivation to change, and on provider characteristics, such as years of experience and practice-setting. Overall, this study supports the use of competency-based training programs to increase the education and initiation reach of EBTs for PTSD. It also demonstrates that tailored training supports may help reduce the gap in reach between education and implementation of PE and CPT.

Acknowledgements

We would like to thank the mental health providers and their organizations for their enthusiastic engagement in this project and the important care they provide every day to veteran and non-veteran trauma survivors. We would like to thank Margaret Harrell, Samuel Holmes, and Emily Bader of the Bob Woodruff Foundation for their support, mentorship, and vision. The authors thank Julie Collins and Joel Williams, who provided editorial support for this manuscript, and Crystal Mendoza, Jeremy Karp, and Arthur Marsden, who provided project management support.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Disclaimer

The views expressed in this article are solely those of the authors and do not reflect an endorsement by or the official policy of the Department of Veterans Affairs or the U.S. Government.

Funding


The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Funding for this project was made possible by the Bob Woodruff Foundation.

ORCID iDs

Katherine A Dondanville  <https://orcid.org/0000-0003-4204-7926>

Victoria L Steigerwald  <https://orcid.org/0000-0002-5724-1257>

Katherine D McCarthy  <https://orcid.org/0000-0002-5780-892X>

Courtney Worley  <https://orcid.org/0000-0001-6528-5711>

References

- Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Sklar, M. (2014). Aligning leadership across systems and organizations to develop a strategic climate for evidence-based practice implementation. *Annual Review of Public Health, 35*, 255–274. <https://doi.org/10.1146/annurev-publhealth-032013-182447>
- American Psychological Association. (2017). *Clinical practice guideline for the treatment of posttraumatic stress disorder (PTSD) in adults*. <https://doi.org/10.1037/e501872017-001>
- Asmundson, G. J., Thorisdottir, A. S., Roden-Foreman, J. W., Baird, S. O., Witcraft, S. M., Stein, A. T., Smits, J. A., & Powers, M. B. (2019). A meta-analytic review of cognitive processing therapy for adults with posttraumatic stress disorder. *Cognitive Behaviour Therapy, 48*(1), 1–14. <https://doi.org/10.1080/16506073.2018.1522371>
- 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*(5), 667–678. <https://doi.org/10.1682/jrrd.2011.10.0198>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Academic Press.
- Cook, J. M., O'Donnell, C., Dinnen, S., Bernardy, N., Rosenheck, R., & Hoff, R. (2013). A formative evaluation of two evidence-based psychotherapies for PTSD in VA residential treatment programs. *Journal of Traumatic Stress, 26*(1), 56–63. <https://doi.org/10.1002/jts.21769>
- Cook, J. M., Thompson, R., & Schnurr, P. P. (2015). Perceived characteristics of intervention scale: Development and psychometric properties. *Assessment, 22*(6), 704–714. <https://doi.org/10.1177/1073191114561254>
- Dedert, E. A., LoSavio, S. T., Wells, S. Y., Steel, A. L., Reinhardt, K., Deming, C. A., Ruffin, R. A., Berlin, K. L., Kimbrel, N. A., Wilson, S. M., Boeding, S. E., & Clancy, C. P. (2020). Clinical effectiveness study of a treatment to prepare for trauma-focused evidence-based psychotherapies at a veterans affairs specialty posttraumatic stress disorder clinic. *Psychological Services*. Advance online publication. <https://doi.org/10.1037/ser0000425>
- Deville, G. J., & Huth, A. (2008). Perceived distress and endorsement for cognitive- or exposure-based treatments following trauma. *Australian Psychologist, 43*(1), 7–14. <https://doi.org/10.1080/00050060601089454>
- Dondanville, K. A., Fina, B. A., Straud, C. L., Finley, E. P., Tyler, H., Jacoby, V., Blount, T. H., Moring, J. C., Pruiksmas, K. E., Blankenship, A. E., Evans, W. R., & Zaturensakaya, M. for the STRONG STAR Training Initiative. (2020). Launching a Competency-Based Training Program in Evidence-Based Treatments for Posttraumatic Stress Disorder (PTSD): Supporting Veteran-Serving Community Mental Health Providers in Texas. *Community Mental Health Journal, 57*, 910–919. <https://www.doi.org/10.1007/s10597-020-00676-7>
- Dursa, E., Reinhard, M., Barth, S., & Schneiderman, A. (2014). Prevalence of a positive screen for PTSD among OEF/OIF and OEF/OIF-era veterans in a large population-based cohort. *Journal of Traumatic Stress, 27*(5), 542–549. <https://doi.org/10.1002/jts.21956>
- Eber, S., Barth, S., & Kang, H. (2013). The national health study for a new generation of United States veterans: Methods for a large-scale study on the health of recent veterans. *Military Medicine, 178*(9), 966–969. <https://doi.org/10.7205/MILMED-D-13-00175>
- 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*(9), 949–955. <https://doi.org/10.1001/jamapsychiatry.2013.36>
- Elwyn, G., Frosch, D., Thomson, R., Joseph-Williams, N., Lloyd, A., Kinnersley, P., Cording, E., Tomson, D., Dodd, C., Rollnick, S., Edwards, A., & Barry, M. (2012). Shared decision making: A model for clinical practice. *Journal of General Internal Medicine, 27*(10), 1361–1367. <https://doi.org/10.1007/s11606-012-2077-6>
- Finley, E. P., Garcia, H. A., Ramirez, V. A., Haro, E. K., Mignogna, J., DeBeer, B., & Wiltsey-Stirman, S. (2020). Treatment selection among posttraumatic stress disorder (PTSD) specialty care providers in the Veterans Health Administration: A thematic analysis. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(3), 251–259. <https://doi.org/10.1037/tra0000477>
- Finley, E. P., Mader, M., Bollinger, M. J., Haro, E. K., Garcia, H. A., Huynh, A. K., & Pugh, M. J. (2017). Characteristics associated with utilization of VA and non-VA care among Iraq and Afghanistan veterans with post-traumatic stress disorder. *Military Medicine, 182*(11–12), e1892–e1903. <https://doi.org/10.7205/MILMED-D-17-00074>
- Finley, E. P., Noël, P. H., Lee, S., Haro, E., Garcia, H., Rosen, C., Bernardy, N., Pugh, M. J., & Pugh, J. A. (2018). Psychotherapy practices for veterans with PTSD among community-based providers in Texas. *Psychological Services, 15*(4), 442–452. <https://doi.org/10.1037/ser0000143>
- Foa, E., Hembree, E., Rothbaum, B. O., & Rauch, S. A. M. (2019). *Prolonged exposure therapy for PTSD: Emotional*

- processing of traumatic experiences therapist guide* (2nd ed.). Oxford University Press.
- Foa, E. B., Zandberg, L. J., McLean, C. P., Rosenfield, D., Fitzgerald, H., Tuerk, P. W., Wangelin, B. C., Young-McCaughan, S., & Peterson, A. L., for the STRONG STAR Consortium. (2019). The efficacy of 90-minute versus 60-minute sessions of prolonged exposure for posttraumatic stress disorder: Design of a randomized controlled trial in active duty military personnel. *Psychological Trauma: Theory, Research, Practice, and Policy*, *11*(3), 307–313. <https://doi.org/10.1037/tra0000351>
- Gilboa-Schechtman, E., Foa, E. B., Shafran, N., Aderka, I. M., Powers, M. B., Rachamim, L., Rosenbach, L., Yadin, E., & Apter, A. (2010). Prolonged exposure versus dynamic therapy for adolescent PTSD: A pilot randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, *49*(10), 1034–1042. <https://doi.org/10.1016/j.jaac.2010.07.014>
- Glasgow, R. E., Harden, S. M., Gaglio, B., Rabin, B., Smith, M. L., Porter, G. C., Ory, M. G., & Estabrooks, P. A. (2019). RE-AIM planning and evaluation framework: Adapting to new science and practice with a 20-year review. *Frontiers in Public Health*, *7*, Article 64. <https://doi.org/10.3389/fpubh.2019.00064>
- Harris, P. A., Taylor, R., Minor, B. L., Elliott, V., Fernandez, M., O'Neal, L., McLeod, L., Dalacqua, G., Delacqua, F., Kirby, J., Duda, S. N., & on behalf of the REDCap Consortium. (2019). The REDCap Consortium: Building an international community of software partners. *Journal of Biomedical Informatics*, *95*, Article 103208. <https://doi.org/10.1016/j.jbi.2019.103208>
- Harris, P. A., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. G. (2009). Research electronic data capture (REDCap)—A metadata-driven methodology and workflow process for providing translational research informatic support. *Journal of Biomedical Informatics*, *42*(2), 377–381. <https://doi.org/10.1016/j.jbi.2008.08.010>
- Hundt, N. E., Harik, J. M., Barrera, T. L., Cully, J. A., & Stanley, M. A. (2016). Treatment decision-making for posttraumatic stress disorder: The impact of patient and therapist characteristics. *Psychological Trauma: Theory, Research, Practice, and Policy*, *8*(6), 728–735. <https://doi.org/10.1037/tra0000102>
- Karlin, B. E., Ruzek, J. I., Chard, K. M., Eftekhari, A., 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*(6), 663–673. <https://doi.org/10.1002/jts.20588>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 593–602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kilpatrick, D. G., Best, C. L., Smith, D. W., Kudler, H., & Cornelison-Grant, V. (2011, December). *Serving those who have served: Educational needs of health care providers working with military members, veterans, and their families*. Medical University of South Carolina, Department of Psychiatry & Behavioral Sciences, and Rural Health Program, VA Mid-Atlantic Health Care Network (VISN 6). https://www.mirecc.va.gov/docs/vsn6/Serving_Those_Who_Have_Served.pdf
- LoSavio, S. T., Dillon, K. H., Murphy, R. A., Goetz, K., Houston, F., & Resick, P. A. (2019). Using a learning collaborative model to disseminate cognitive processing therapy to community-based agencies. *Behavior Therapy*, *50*(1), 36–49. <https://doi.org/10.1016/j.beth.2018.03.007>
- LoSavio, S. T., Dillon, K. H., Murphy, R. A., & Resick, P. A. (2019). Therapist stuck points during training in cognitive processing therapy: Changes over time and associations with training outcomes. *Professional Psychology: Research and Practice*, *50*(4), 255–263. <https://doi.org/10.1037/pro0000224>
- McHugh, R. K., & Barlow, D. H. (2012). *Dissemination and implementation of evidence-based psychological interventions*. Oxford University Press. <https://doi.org/10.1093/med:psych/9780195389050.001.0001>
- Mott, J. M., Stanley, M. A., Street, R. L., Jr., Grady, R. H., & Teng, E. J. (2014). Increasing engagement in evidence-based PTSD treatment through shared decision-making: A pilot study. *Military Medicine*, *179*(2), 143–149. <https://doi.org/10.7205/milmed-d-13-00363>
- Nadeem, E., Olin, S. S., Hill, L. C., Hoagwood, K. E., & Horwitz, S. M. (2014). A literature review of learning collaboratives in mental health care: Used but untested. *Psychiatric Services*, *65*(9), 1088–1099. <https://doi.org/10.1176/appi.ps.201300229>
- National Council for Behavioral Health. (2012). *Meeting the behavioral health needs of veterans: Operation Enduring Freedom and Operation Iraqi Freedom*. <https://www.thenationalcouncil.org/wp-content/uploads/2013/02/Veterans-BH-Needs-Report.pdf?daf=375ateTbd56>
- Ogrinc, G., Davies, L., Goodman, D., Batalden, P., Davidoff, F., & Stevens, D. (2016). SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence): Revised publication guidelines from a detailed consensus process. *BMJ Quality and Safety*, *25*, 986–992. <https://doi.org/10.1136/bmjqs-2015-004411>
- Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review*, *30*(6), 635–641. <https://doi.org/10.1016/j.cpr.2010.04.007>
- Raza, G. T., & Holohan, D. R. (2015). Clinical treatment selection for posttraumatic stress disorder: Suggestions for researchers and clinical trainers. *Psychological Trauma: Theory, Research, Practice and Policy*, *7*(6), 547–554. <https://doi.org/10.1037/tra0000059>
- Resick, P. A., Monson, C. M., & Chard, K. M. (2017). *Cognitive processing therapy for PTSD: A comprehensive manual*. Guilford Press.
- Richards, L. K., Bui, E., Charney, M., Hayes, K. C., Baier, A. L., Rauch, P. K., Allard, M., & Simon, N. M. (2017). *Treating veterans and military families: Evidence based*

- practices and training needs among community clinicians. *Community Mental Health Journal*, 53(2), 215–223. <https://doi.org/10.1007/s10597-016-0013-7>
- Rosner, R., Rimane, E., Frick, U., Gutermann, J., Hagl, M., Renneberg, B., Schreiber, F., Vogel, A., & Steil, R. (2019). Effect of developmentally adapted cognitive processing therapy for youth with symptoms of posttraumatic stress disorder after childhood sexual and physical abuse: A randomized clinical trial. *JAMA Psychiatry*, 76(5), 484–491. <https://doi.org/10.1001/jamapsychiatry.2018.4349>
- Sayer, N. A., Bernardy, N. C., Yoder, M., Hamblen, J. L., Rosen, C. S., Ackland, P. E., Kehle-Forbes, S. M., Clothier, B. A., Schnurr, P. P., & Orazem, R. J. (2020). Evaluation of an implementation intervention to increase reach of evidence-based psychotherapies for PTSD in US Veterans Health Administration PTSD clinics. *Administration and Policy in Mental Health and Mental Health Services Research*, 48, 450–463. <https://doi.org/10.1007/s10488-020-01086-3>
- Sayer, N. A., Friedemann-Sanchez, G., Spont, M., Murdoch, M., Parker, L. E., Chiros, C., & Rosenheck, R. (2009). A qualitative study of determinants of PTSD treatment initiation in veterans. *Psychiatry: Interpersonal and Biological Processes*, 72(3), 238–255. <https://doi.org/10.1521/psyc.2009.72.3.238>
- Sayer, N. A., Rosen, C. S., Bernardy, N. C., Cook, J. M., Orazem, R. J., Chard, K. M., Mohr, D. C., Kehle-Forbes, S. M., Eftekhari, A., & Crowley, J. (2017). Context matters: Team and organizational factors associated with reach of evidence-based psychotherapies for PTSD in the Veterans Health Administration. *Administration and Policy in Mental Health and Mental Health Services Research*, 44(6), 904–918. <https://doi.org/10.1007/s10488-017-0809-y>
- Shepherd, H. L., Tattersall, M. H., & Butow, P. N. (2007). The context influences doctors' support of shared decision-making in cancer care. *British Journal of Cancer*, 97(1), 6–13. <https://doi.org/10.1038/sj.bjc.6603841>
- Shiner, B., D'Avolio, L. W., Nguyen, T. M., Zayed, M. H., Young-Xu, Y., Desai, R. A., Schnurr, P. P., Fiore, L. D., & Watts, B. V. (2013). Measuring use of evidence based psychotherapy for posttraumatic stress disorder. *Administration and Policy in Mental Health*, 40(4), 311–318. <https://doi.org/10.1007/s10488-012-0421-0>
- Simiola, V., Ellis, A. E., Thompson, R., Schnurr, P. P., & Cook, J. M. (2019). Provider perspectives on choosing prolonged exposure of cognitive processing therapy for PTSD: A national investigation of VA residential treatment providers. *Practice Innovations*, 4(3), 194–203. <https://doi.org/10.1037/pri0000091>
- Sprang, G., Craig, C., & Clark, J. (2008). Factors impacting trauma treatment practice patterns: The convergence/divergence of science and practice. *Journal of Anxiety Disorders*, 22(2), 162–174. <https://doi.org/10.1016/j.janxdis.2007.02.003>
- Sripada, R. K., Bohnert, K. M., Ganoczy, D., & Pfeiffer, P. N. (2018). Documentation of evidence-based psychotherapy and care quality for PTSD in the Department of Veterans Affairs. *Administration and Policy in Mental Health and Mental Health Services Research*, 45(3), 353–361. <https://doi.org/10.1007/s10488-017-0828-8>
- Sripada, R. K., Pfeiffer, P. N., Rauch, S. A. M., Ganoczy, D., & Bohnert, K. M. (2018). Factors associated with the receipt of documented evidence-based psychotherapy for PTSD in VA. *General Hospital Psychiatry*, 54, 12–17. <https://doi.org/10.1016/j.genhosppsych.2018.07.001>
- Tanielian, T., Farris, C., Batka, C., Farmer, C. M., Robinson, E., Engel, C. C., Robbins, M., & Jaycox, L. H. (2014). *Ready to serve: Community-based provider capacity to deliver culturally competent, quality mental health care to veterans and their families*. RAND Corporation. <https://doi.org/10.7249/rr806>
- Tanielian, T., & Jaycox, L. H. (2008). *Invisible wounds of war, psychological and cognitive injuries, their consequences, and services to assist recovery*. RAND Corporation. <https://www.rand.org/pubs/monographs/MG720.html>
- U.S. Department of Veterans Affairs, National Center for PTSD. (n.d.). *PTSD treatment decision aid: The choice is yours*. <https://www.ptsd.va.gov/apps/decisionaid/>
- U.S. Department of Veterans Affairs & U.S. Department of Defense. (2017). *VA/DoD clinical practice guideline for the management of posttraumatic stress and acute stress disorder*. <https://www.healthquality.va.gov/guidelines/MH/ptsd/VADoDPTSDCPGFinal.pdf>
- Watts, B. V., Schnurr, P. P., Zayed, M., Young-Xu, Y., Stender, P., & Llewellyn-Thomas, H. (2015). A randomized controlled clinical trial of a patient decision aid for posttraumatic stress disorder. *Psychiatric Services*, 66(2), 149–154. <https://doi.org/10.1176/appi.ps.201400062>