

Development and Pilot Test of a Therapist-Assisted Self-Management Program for Completers of Trauma-Focused Therapy for Posttraumatic Stress Disorder

Shannon M. Kehle-Forbes, *Center for Care Delivery & Outcomes Research, Minneapolis VA Healthcare System, National Center for PTSD Women's Health Sciences Division at VA Boston Healthcare System, University of Minnesota*

Tara Galovski, *National Center for PTSD Women's Health Sciences Division at VA Boston Healthcare System and Boston University Chobanian & Avedisian School of Medicine*

Melissa A. Polusny, *Center for Care Delivery & Outcomes Research, Minneapolis VA Healthcare System and University of Minnesota*

Kyle Possemato, *VA Center for Integrated Healthcare*

Sean Nugent and Eliza McManus, *Center for Care Delivery & Outcomes Research, Minneapolis VA Healthcare System*

Allison L. Baier, *National Center for PTSD Women's Health Sciences Division at VA Boston Healthcare System and Boston University Chobanian & Avedisian School of Medicine*

Veterans who complete an evidence-based trauma-focused therapy (TFT) for posttraumatic stress disorder (PTSD) report continued treatment needs to build self-efficacy, promote continued skill application, and bolster engagement in valued activities. This paper describes the rationale, development, and treatment structure of a novel 4-session therapist-assisted self-management program, named EMPOWER, for TFT completers. A mixed methods approach was used to evaluate the acceptability and feasibility of the intervention in an open pilot trial with 12 veterans. Therapists delivered the treatment with fidelity and participants reported high acceptability and satisfaction with EMPOWER. Quantitatively, participants reported meaningful improvements in quality of life and small improvements in community engagement; however, there were no clinically meaningful changes in self-efficacy, PTSD symptoms, depression, or functioning pre- to postintervention. Qualitatively, participants noted EMPOWER met their post TFT needs and that the structure of treatment was helpful in continuing to practice TFT skills. They also noted improvements in self-efficacy for self-managing PTSD symptoms and an increase in valued activities. Findings suggest EMPOWER is feasible, acceptable, and meets veterans' post-TFT treatment needs. A larger-scale, randomized trial of EMPOWER is warranted to evaluate the impact of EMPOWER on self-efficacy, clinical symptoms, functioning, and quality of life.

POSTTRAUMATIC stress disorder (PTSD) is characterized by reexperiencing symptoms such as nightmares or emotional reactions to trauma-related triggers, avoidance of trauma reminders, disruptions in mood and cognitions, and increased hyperarousal

following exposure to an event involving death, serious injury, or sexual violence. Left untreated, PTSD is often chronic and is associated with depression and other comorbidities, functional impairments, poor quality of life, and suicidality (Kessler et al., 2005; Pietrzak et al., 2011; Schnurr et al., 2006). Fortunately, evidence-based treatment options for PTSD exist and have been widely disseminated throughout the Veterans Health Administration (VHA) and other health-care settings (Rosen et al., 2017). Individually delivered trauma-focused therapies (TFT), including prolonged exposure (PE) and cognitive processing

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therapy (CPT), are first-line treatments for PTSD in all published clinical practice guidelines (Hamblen et al., 2019) and result in clinically meaningful symptom improvements for up to 70% of veterans, with 30–50% no longer meeting criteria for PTSD posttreatment (Schnurr et al., 2022; Steenkamp et al., 2015, 2020).

Despite the successful development and spread of effective psychotherapies for PTSD, limitations persist and there is room for improvement as evidenced by lingering PTSD symptomatology and impairments in functioning (Steenkamp et al., 2015). For example, in a randomized clinical trial comparing PE to present-centered therapy (a non-trauma-focused treatment option), over two-thirds of veterans who received PE still experienced anger or irritability, sleep disruptions, trouble concentrating, emotional and physiologic distress following trauma reminders, hypervigilance, and exaggerated startle response at a clinical level (Schnurr & Lunney, 2019). Further, despite desired improvements in relationships and functioning among veterans seeking treatment for PTSD, improvements in functioning and quality of life are consistently smaller following TFT than reductions in the core symptoms of PTSD (Schnurr et al., 2022).

Residual treatment needs are also evident in data regarding ongoing mental health service use. While there is a documented decrease in mental health service use following TFT completion (Meyers et al., 2013; Tuerk et al., 2013), utilization remains high. In a national sample of veterans who completed TFT, patients attended an average of 27.64 VHA mental health appointments in the year following completion, averaging one appointment every other week (Baier et al., in preparation). Fewer than 2% of veterans in the sample had no mental health visits in the year following completion.

Recent qualitative studies have shed light on veterans' own perceived needs for treatment following TFT. One qualitative study of veterans who completed TFT found that 86–92% perceived additional mental health treatment needs (Hundt et al., 2017). In a second qualitative study, a national sample of TFT completers were interviewed to characterize those perceived needs more fully (Baier et al., in preparation). A common theme, particularly among those with low to moderate residual symptoms, was the need to continue to practice the strategies and apply the principles learned in TFT. Other common themes included the need for accountability and emotional support as they continued to implement TFT strategies and the presence of a safety net in the face of fear and uncertainty about the permanence of gains made during TFT. Veterans who experienced full or

partial symptom improvement expressed low self-efficacy for continued application of TFT principles to maintain or further gains, and desired ongoing therapist contact to ensure continued success. While less common, veterans also discussed an interest in activities focused on reengaging in valued life domains (e.g., increasing social connectedness) and gaining additional coping skills. Of note, a substantial minority of veterans expected and planned to continue with mental health services although they were not able to articulate a clear treatment goal or target.

Taken together, these findings suggest a clear perceived need for continued services following TFT completion among veterans, including among those who benefitted from treatment. The VA/Department of Defense Clinical Practice Guideline recommends that in the case of symptom improvement without remission, therapists allow sufficient time for clinically meaningful response while considering a range of options including continuing or adjusting therapy, optimizing the frequency, changing the level of care, and facilitating social support (Department of Veterans Affairs/Department of Defense, 2017). However, the guideline acknowledges a lack of data to guide which of these options to pursue and the potential effectiveness of these approaches. The PE and CPT manuals both recommend that patients continue to practice skills learned in treatment (Foa et al., 2019; Resick et al., 2016) and the CPT manual specifically recommends a booster session 1–2 months following completion (Resick et al., 2016). Beyond those recommendations, there are currently no evidence-based treatments or approaches for veterans who have completed TFT. This leaves therapists delivering a relatively high volume of care to TFT completers without guidance on how to most effectively and efficiently do so to meet veterans' needs.

Therapist-Assisted Self-Management to Meet Veterans' Post-TFT Needs

The treatment needs expressed by partial and full TFT responders are well-suited to a therapist-assisted self-management approach. Self-management protocols teach patients to be responsible for the day-to-day management of their symptoms, thereby emphasizing patients' (rather than providers') roles in wellness (Lorig & Holman, 2003). This occurs through promoting the daily application of illness management skills, encouraging the maintenance or development of meaningful activities, and managing emotions that arise during the self-management process (Corbin & Strauss, 1988; Lorig & Holman, 2003). Participation in self-management programs has been shown to increase patients' self-efficacy in managing chronic ill-

nesses in a variety of settings and contexts (Bodenheimer, 2002; Lorig et al., 2001; Sarkar et al., 2006). Self-efficacy is future-oriented, emphasizes personal agency, and involves belief in one's capacity to manage and respond in specific ways that produce a desired outcome, such as maintaining one's mental health (Bandura, 1982). Not surprisingly, greater self-efficacy is associated with better mental health and well-being. Further, self-efficacy specific to coping following a trauma or stressor has been associated with lower PTSD symptoms and may foster recovery by facilitating positive coping (Gallagher et al., 2020). Thus, stepping down from TFT to a self-management program has promise to facilitate greater self-efficacy, promote ongoing skill application, and encourage engagement in patients' day-to-day lives.

While self-management programs have historically been studied in the context of chronic physical health problems such as diabetes (e.g., Sherifali et al., 2015), there has been a proliferation of PTSD-focused self-management programs in recent years. These PTSD self-management programs have been either stand-alone interventions (e.g., Klein et al., 2010; Litz et al., 2007) or the first step in a stepped-care model (e.g., Kuhn et al., 2014). They have primarily focused on providing psychoeducation, teaching general coping skills, and facilitating motivation for continued care; however, findings regarding their effectiveness have been mixed. While some individual self-management studies have shown benefit (e.g., Kuhn et al., 2017), a recent meta-analysis of smartphone-based self-management interventions for PTSD found that although they resulted in moderate decreases in PTSD symptoms, they did not significantly differ from waitlist control groups (Goreis et al., 2020). Adding support and accountability, whether via a professional or support person in the individual's natural environment, improves outcomes (e.g., Possemato et al., 2023). Furthermore, greater accountability may be achieved when a "coach" and patient collaboratively agree on expectations and when the coach is seen as trustworthy, benevolent, and having expertise (Mohr et al., 2011). These factors taken alongside veterans' stated needs and preferences suggest that a therapist-guided self-management program may be particularly beneficial for TFT completers.

To the best of our knowledge, the intervention described below is the first self-management program to assist with stepping down to self-management following completion of an evidence-based treatment protocol. This therapist-assisted self-management program for TFT completers, named EMPOWER, is highly consistent with TFT protocols (Foa et al., 2019; Resick et al., 2016) and is a direct extension of what is learned

in active therapy. The primary goals of this novel 4-session program are to build self-efficacy for managing PTSD symptoms, maintain or further build upon reductions in PTSD symptoms achieved during TFT, and increase engagement in valued activities. In this paper, we describe the development and treatment structure of EMPOWER, illustrated using a case example. We then provide the results from an initial open pilot test of the intervention among 12 veterans who completed TFT with at least partial symptom reduction.

Treatment Development and Overview

Treatment Development Process

An initial detailed treatment outline was developed after identifying goals for EMPOWER from the qualitative interviews with 60 veterans who had recently completed PE or CPT as described above (Baier et al., under review). Guided by the Supportive Accountability Model of self-management (Mohr et al., 2011) and Bandura's theory of self-efficacy (Bandura, 1982), EMPOWER's goals are to increase veterans' self-efficacy for managing their PTSD, enable the maintenance or build upon gains made in TFT (e.g., formalize the expectation for continued practice of TFT skills and provide structure for the ongoing use of skills), and encourage engagement in meaningful activities. In developing the program, we also considered the evidence regarding characteristics of effective self-management programs. Specifically, effective self-management interventions must (1) facilitate problem solving, (2) guide decision making, (3) encourage the use of existing resources, (4) promote an ongoing relationship with providers, (5) support action, and (6) be tailored to the patient (see Table 1; Lorig & Holman, 2003).

The first author (SMKF) developed an initial draft of a detailed intervention outline and study co-investigators (TG, MAP, KP) provided additional feedback and refinement. We then sought to refine EMPOWER through eliciting feedback from experienced TFT providers on the draft intervention outline. We completed semistructured qualitative interviews with eight VHA mental health providers (5 PE; 3 CPT) from the Minneapolis VA Health Care System. Providers were asked if they thought the proposed goals and format of EMPOWER would meet veterans' post-TFT needs, what EMPOWER components may be unnecessary, what content was missing, what they liked and what they thought could be improved for each existing program component, what strategies and materials they currently use to help patients meet similar goals, and perceived therapist training needs.

Table 1
EMPOWER Treatment Components, Goals, and Purpose

Treatment Component	Goal	Element of Effective Self-Management Program Targeted
Self-monitoring of symptoms	<ol style="list-style-type: none"> 1. Identify normal fluctuations in symptoms vs. those that require therapist involvement 2. Evaluate effectiveness of problem-solving strategies 	Problem solving skills; Decision making
Continued practice of PE/CPT strategies	<ol style="list-style-type: none"> 1. Finish exercises not completed during active treatment 2. Apply strategies to new situations and contexts (e.g., generalization) 3. Increase self-efficacy & encourage greater engagement with environment 	Problem solving skills; Taking action
Acquisition/application of additional coping skills	<ol style="list-style-type: none"> 1. Address psychosocial stressors & residual/comorbid symptoms 2. Increase self-efficacy & encourage greater engagement with environment 	Problem solving skills; Identification & utilization of existing resources
Engagement in meaningful activities	<ol style="list-style-type: none"> 1. Identify and pursue non-symptom management goals 2. Encourage greater engagement with environment/community participation 3. Encourage social support within natural (non-Mental Health Service) environment 	Identification & utilization of existing resources
Therapist assistance	<ol style="list-style-type: none"> 1. Tailor intervention to patient 2. Provide accountability & emotional support 3. Assist with problem solving & goal setting 4. Evaluate and address symptom exacerbation 	Relationship with provider
Goal setting	<ol style="list-style-type: none"> 1. Develop strategy for enacting self-management strategies with a focus on short-term (1–2 week) goals 2. Teach Veteran to effectively set short-term goals 	Taking action

The patient workbook, therapist materials, and training resources used in the open pilot were then developed and reviewed by study co-investigators prior to therapist training and veteran recruitment for the open pilot.

Treatment Structure

EMPOWER was developed for patients who have completed a course of individually delivered PE or CPT with clinically significant gains and who would likely benefit from support continuing to practice the strategies learned in TFT and generalizing those strategies to new situations and contexts. The determination of whether EMPOWER may be helpful is intended to be made in collaboration with the patient: factors such as engagement in and perceived benefit of treatment components, degree of treatment response, and perceived need for continued support in applying skills learned during treatment may be considered. The program is not recommended for those who did not benefit from TFT as additional PTSD treatment would be warranted. It is also not intended for patients who ben-

efitted but have decided with their provider's input to pursue another active psychotherapy for PTSD or a specific non-PTSD target (e.g., couple therapy) as EMPOWER's focus on stepping down mental health treatment would conflict with ongoing active therapy.

EMPOWER's components, the element of effective self-management programs addressed by each component, and the specific goals associated with the components are outlined in [Table 1](#). Therapists assist patients with tailoring their plan to reflect their goals, strengths, and the TFT completed. Although CPT and PE include different components, both are rooted in cognitive-behavioral theories of behavior change and employ cognitive-behavioral strategies. Thus, EMPOWER's cognitive-behavioral approach is consistent with both therapies, even though specific skills and strategies for which self-efficacy is being developed will differ. PE and CPT-specific modules are used for components that necessitate TFT-specific content (e.g., practice of TFT skills).

EMPOWER includes four planned therapist contacts with the same therapist who administered the

TFT over 10 weeks following TFT completion. Specifically, TFT therapists meet with patients in person or via video conferencing at the conclusion of TFT during an expanded final session (preferred if feasible) or in the week following completion for a 30- to 45-minute EMPOWER session. Thereafter, therapists and patients meet by phone for a brief check-in 2 weeks after the completion of TFT (15 minutes), approximately 4 weeks after the completion of TFT (45 minutes) in person or via video conferencing, and by phone 10 weeks after the completion of TFT (30 minutes). The shift to telephone sessions is included as a titration strategy, with the goal of sessions becoming less in depth as EMPOWER progresses. Therapists and patients can exercise flexibility in the timing of the sessions to meet the patient's needs and accommodate schedules, although the final session should be held no later than 12-weeks post-TFT. Therapists are available for additional contact as needed by patients and as feasible for the provider; however, application of self-management strategies should be encouraged prior to therapist intervention and as patients develop greater self-efficacy, their need for therapist contact should decrease.

EMPOWER encourages a shift in the roles of the therapist and patient, with the therapist increasingly taking on a consultant/backseat role as EMPOWER progresses. Sessions are to be primarily directed by the patient, with guidance from the therapist; suggested session agendas are provided to the patient in the EMPOWER workbook. This change in roles is presented to the patient in the EMPOWER workbook and addressed by the therapist in the first EMPOWER session. The primary roles of the therapist, as outlined in the therapist materials, are to provide accountability and support, answer questions and assist with problem solving, tailor the intervention to the patient, and address any instances of symptom exacerbation. The therapist should also ensure that the focus of the sessions is self-management rather than traditional psychotherapy. Patients are provided with an EMPOWER workbook that explains the treatment components, presents proposed agendas for each therapist contact, and includes needed worksheets. Patients are instructed to interact with the EMPOWER material daily. The workbook is designed for continued use beyond the final planned therapist contact. Therapists are provided with the EMPOWER workbook and therapist materials that include session goals and checklists for each planned contact.

Session 1

EMPOWER Session 1 begins with a discussion of the potential pros and cons of stepping down from ther-

apy. Patients identify remaining concerns regarding stepping down (e.g., missing the support of one's therapist, fears about getting worse, and worries about being able to access care if needed). Motivators for self-management are also elicited. The program structure (number and timing of sessions), role of the therapist and patient, and patient responsibilities are reviewed. Next, "leftovers" from PE or CPT are identified. For patients who completed PE, the goal is to identify in vivo exposure exercises that were not practiced during PE, were practiced but continue to elicit anxiety, or were not originally identified as hierarchy items. Patients construct a new "leftover" hierarchy and are given instructions for continuing to work through those items. For those who completed CPT, patients are instructed to identify stuck points, core beliefs, or faulty patterns of thinking that are continuing to elicit symptoms or impair functioning. Patients construct a log of "leftover" stuck points to address with Challenging Beliefs Worksheets and are given strategies for continuing to work through the list. In both instances, patients are instructed to set a specific schedule and strategy for practice, set reminders and tell others of the plan for increased accountability, and reward themselves for their ongoing work. Working through the "leftovers" is EMPOWER's priority and continues throughout the program (including after therapist contacts end if needed) until all items are complete. Patients are then introduced to the concept of living a "PE/CPT-consistent life," including turning unexpected trauma-reminders into opportunities to practice skills and purposefully seeking out situations that provide the chance to further apply treatment principles. Patients are also introduced to the concept of S. M.A.R.T. goals to facilitate patient-led goal setting in future sessions.

Finally, patients develop a plan for self-monitoring weekly PTSD symptoms (e.g., via PTSD Checklist (PCL-5; [Blevins et al., 2015](#)), overall well-being, and progress towards goals. EMPOWER encourages the patient to take responsibility for interpreting the data that self-monitoring provides and to use that information to modify their efforts towards managing their PTSD. Daily self-monitoring occurs through the use of a diary card where patients initially rate completion of planned practice of PE/CPT skills and how well they have embraced a PE/CPT-consistent lifestyle; additional items are added to the daily diary card as EMPOWER progresses. In collaboration with their therapist, patients also set individualized benchmarks for changes in weekly PTSD symptoms that reflect (a) normal, expected changes, (b) changes that suggest modifications are needed in self-management activities (e.g., increased application of treatment principles),

and (c) changes that suggest it is time to reconnect with their provider. Strategies for modifying self-management activities and a specific plan for how to contact providers are developed.

Session 2

Session 2 is structured as a brief check-in where no additional material is introduced. Rather, the goal is for the therapist to provide support, accountability, and assist in problem solving as needed. Patients share their self-monitoring data and problem solve any challenges to adherence. Those data are then used to discuss progress with completing PE/CPT leftovers and embracing a PE/CPT-consistent lifestyle, and to adjust patients' plans for continuing to engage in those activities.

Session 3

Session 3 begins with a review of self-monitoring data, progress with leftovers (if items remain), and efforts to embrace a PE/CPT-consistent lifestyle. The therapist provides encouragement, support, and participates in veteran-led problem-solving regarding challenges encountered. Patients are then encouraged to further expand the skills learned in PE or CPT to life stressors not directly related to PTSD (e.g., worry, relationship problems, work stress). Psychoeducation is provided about how the principle of approach rather than avoidance (for those who completed PE) or identifying and challenging maladaptive thoughts (for CPT completers) can be helpful in reducing non-trauma-related stress, anxiety, and depression. In collaboration with their therapists, patients develop a plan for using PE/CPT strategies to address life stressors. Recognizing that not all problems are amenable to PE/CPT principles, patients are also encouraged to generate strategies not at odds with the TFT principles they have used successfully in the past to manage distress and facilitate wellness. S.M.A.R.T. goals related to applying PE/CPT principles to life stressors and engaging in wellness activities are developed and added to the daily diary. Finally, patients complete an inventory of valued activities (e.g., family relationships, volunteer work, hobbies) derived from the values clarification activity in behavioral activation for depression (Martell et al., 2021), select two domains in which they would like to work toward building more meaning in their lives, and set S.M.A.R.T. goals within the two selected domains.

Session 4

The goals of Session 4 are to review progress made in EMPOWER and solidify the plan for successfully stepping down from this episode of mental health care.

Self-management activities since the last session are reviewed as applicable (e.g., self-monitoring, leftovers, PE/CPT consistent lifestyle, coping with non-PTSD stressors, and making meaning). Patients then develop a plan to continue broadly applying treatment principles, review successes in building more meaning in their lives, and set S.M.A.R.T. goals to continue building upon those changes. A strategy for continued self-monitoring is developed and a specific plan for reengaging in a new episode of mental health care, if needed, is agreed upon. Finally, patients are encouraged to identify sources of support and accountability for self-managing their PTSD.

Clinical Case Example

Mr. Smith was a 57-year-old, male, White, Air Force veteran who presented to mental health following referral from primary care to address PTSD symptoms resulting from experiencing a near drowning during a military training accident. At treatment initiation, he met criteria for PTSD and had a PCL-5 score of 44. At intake, he reported moderate symptoms of depression and denied current or historical suicidal ideation or past suicide attempts. He used alcohol socially and denied the use of other drugs. He reported "several" close relationships. When given the choice between PE and CPT, Mr. Smith opted for PE. His score on the PCL-5 following a full course of PE (10 sessions) via telehealth was 24 (a 20-point decrease). At treatment conclusion, he had minimal distress during imaginal exposure to his index trauma and completed a range of in vivo exposure exercises (e.g., purposefully getting his face wet in the shower, taking a bath).

EMPOWER Session 1

The veteran completed the first session of EMPOWER immediately following his final PE session (i.e., in a combined PE/EMPOWER session). Prior to the session, he completed the relevant sections of the patient manual. He did not have questions about the goals and structure of EMPOWER or concerns about stepping down his mental health care. He reported that he was excited about the program because "It will teach me how to handle other situations that may come up, things that I may not be able to expect right now." He indicated he committed to the program to (a) help him feel more confident, (b) be more in control of his feelings, and (c) further decrease trauma-related dreams. Prior to the session, he had successfully constructed a hierarchy of leftover in vivo exercises ranging in difficulty from 40–100 Subjective Units of Distress (SUDs; e.g., swimming in a pool, swimming with head underwater, viewing

videos of large waves) and set a specific plan for practice. His therapist helped him incorporate rewards for completing the ongoing practice (e.g., buying a new book). Mr. Smith and his therapist discussed living a PE-consistent life; the veteran was able to identify numerous situations in the past that he had avoided in day-to-day life that he would now use as an opportunity for exposure (e.g., sitting on a dock with friends). He decided to complete daily self-monitoring in his daily planner before bed and record the presence of nightmares in the morning (his most disruptive remaining symptom) and additionally used the PCL-5 for weekly monitoring, choosing to set benchmarks for individual items of concern rather than overall score. His therapist applauded his use of tailoring the self-monitoring to fit his needs and preferences and provided support and praise for Mr. Smith's work and engagement. Although the veteran presented as being prepared for the session, the therapist largely led the agenda and session structure.

EMPOWER Session 2

The brief check-in was primarily led by Mr. Smith, who had been actively engaged in EMPOWER activities over the prior 3 weeks and was excited to share his progress with his therapist. The discussion focused on the veteran's continued practice of in vivo exposures and finding opportunities to practice approach behaviors in day-to-day life. He recounted an exposure that unexpectedly closely mirrored his traumatic event and caused a large spike in distress (SUDs = 100). He recognized that he needed to build up to that exposure and constructed a mini hierarchy that would enable him to slowly reapproach the activity as he had learned to do in PE. Finally, he proudly reported watching a television show that he thought would cause his SUDs to spike to 100, but found he was able to watch the entire program. The veteran self-monitored consistently and was able to see connections between his symptoms and his exposure exercises; he was excited to see his severity rating for nightmares decrease since Session 1. Throughout the check-in, the therapist provided praise and support for his successful application of principles and self-management. The check-in was longer than planned; it lasted about 30 minutes, although it was planned for 15 minutes. With the veteran leading the check-in, maintaining the desired length was a challenge.

EMPOWER Session 3

Mr. Smith began the session by indicating he had prepared less in advance of the session than was typical for him due to contracting COVID-19 and experienc-

ing increased fatigue since the last meeting. Despite this fatigue, he reported ongoing completion of in vivo leftovers and provided numerous examples of living a PE-consistent life. Of note, the veteran reported he had gone swimming in a pool since his last session. He noted how remarkable this was given that when he started PE, he avoided water near his face in any circumstance. The veteran indicated increased self-efficacy following this success. He stated, "It's just like I'm climbing stairs. So now it's, nothing. I just keep doing it and I know if I have a hard time, I step back again. Let everything come down. Then just keep going further and further." Although assigned for this session, Mr. Smith did not complete workbook activities related to other coping strategies and working toward valued activities; thus, his therapist helped him identify valued activities he would like to focus on improving and developed related S.M.A.R.T. goals. No specific goals were set regarding other coping strategies.

EMPOWER Session 4

As in prior sessions, Mr. Smith was focused on reviewing the success he had with continued exposures and highlighting how he uses his self-monitoring to continue to push himself to engage in previously avoided activities. He stated, "I look at it and keep coming up with things that I can do to progress." He indicated that he plans to continue with self-monitoring and decided against making changes to his monitoring plan or his previously set benchmarks that he would use to determine if additional care was needed. The veteran and his therapist agreed upon who he would contact if he needed another episode of care in the future. In reviewing his goals following EMPOWER, the veteran reported looking forward to continuing to push himself with in vivo activities, particularly swimming in open water once the weather allowed. His therapist encouraged him to also set specific goals related to his valued activities and other non-trauma-related stressors, something that he had not yet done independently, despite discussing this in the previous session.

At the conclusion of the session, the therapist conveyed her confidence in the ability of the veteran to self-manage. She said, "You have continued to maintain the progress you have made in PE without me. I have passed the baton. I feel really confident that you will be able to do so in the future." Approximately 4 weeks after his final EMPOWER session, he stopped by his therapist's office to say hello in person while he was at the hospital for a medical appointment. At that time, he reported he continued to apply the principles he learned in PE and EMPOWER, was confident

in his ability to self-manage, and indicated he did not need additional mental health care.

Pilot Open Trial Method

Participants

Participants were 12 veterans at the Minneapolis VA who (a) completed an individually delivered TFT with a study provider trained to deliver EMPOWER, (b) experienced a clinically significant improvement in PTSD symptomology, operationalized as a decrease of at least 10 points on the PCL-5, from pre- to post-TFT, and (c) provided informed consent. Participants were excluded if (a) they completed TFT as part of another research study, (b) they were planning to initiate another active course of therapy immediately following TFT completion, or (c) their therapist had safety concerns about their stepping down to self-management given the participant's current level of suicidal ideation and intent.

Procedures

All procedures were approved by the Institutional Review Board at the Minneapolis VA and all participants provided written informed consent for participation. Potential participants were identified via referrals from study therapists; study therapists referred their own patients to whom they then delivered EMPOWER. Study staff contacted interested veterans to describe the project in greater detail and screen for eligibility. Screening included administration of the PCL-5 to ensure clinically significant treatment response; pre-treatment PCL-5 scores were extracted from the electronic medical record. Following screening, eligible participants completed informed consent and were provided with the EMPOWER patient workbook.

Participants were invited to complete survey assessments immediately before their final TFT session (baseline) and 2 weeks after their final EMPOWER therapist contact (follow-up). The baseline survey was administered in person; the follow-up survey was administered via mail using a modified Dillman protocol (Dillman et al., 2014). Veterans were also asked to complete a 45- to 60-minute semistructured interview 2 weeks after the final EMPOWER therapist contact. Participants received \$20 for completing each the baseline and follow-up survey and an additional \$25 for completing the interview, for a possible total of \$85. The number of EMPOWER sessions attended by each veteran was extracted by study staff from the electronic medical record.

Therapist Training and Fidelity

EMPOWER was delivered by five clinic-based PE and CPT therapists at the Minneapolis VA. Study therapists completed a 3-hour in-person training on EMPOWER, were given copies of the therapist materials and veteran workbook, and participated in monthly group consultation. All sessions were audio-recorded. One session per participant was randomly selected for fidelity rating by the study Principal Investigator using a fidelity checklist developed for the project.

Survey Measures

The primary outcomes for this pilot were treatment credibility and client satisfaction. Clinical outcomes, qualitative of life and functioning, and PTSD-related self-efficacy were secondary.

Credibility-Expectancy Questionnaire—Credibility Subscale (CEQ; Devilly & Borkovec, 2000). The Credibility Scale of the CEQ was used to assess participants' perceived acceptability of EMPOWER. The subscale is comprised of 3 items each rated 1–9; the average of the three items indicates the overall credibility score, with higher ratings indicating better credibility. The CEQ was administered at baseline only. Pretreatment Cronbach's $\alpha = 0.71$ for the measure.

Client Satisfaction Scale (CSS-8; Nguyen et al., 1983). The CSS was used to assess participants' satisfaction with EMPOWER. Participants rate eight items on a scale of 1–4; the overall satisfaction score is the sum of the items (range 8–32), with higher rating indicating higher satisfaction. The CSS was administered at follow-up only. Posttreatment Cronbach's $\alpha = 0.77$.

PTSD Checklist Version-5 (PCL-5; Blevins et al., 2015). The PCL-5 is a 20-item self-report measure of PTSD symptom severity, with each item assessing one of the 20 symptoms of PTSD. Total severity scores range from 0–80, with higher scores indicating greater severity. The PCL-5 was administered at baseline and follow-up. Pre- and posttreatment Cronbach's α were 0.89 and 0.96 respectively.

Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a 9-item measure of depression frequently used to monitor the severity of depressive symptoms over time. The range is 0–27, with higher scores indicating more severe depressive symptoms. The PHQ-9 was administered at baseline and follow-up. Pre- and posttreatment Cronbach's α were 0.83 and 0.73 respectively.

World Health Organization Quality of Life-BREF (WHOQOL-BREF; World Health Organization,

1996). The WHOQOL-BREF is a frequently used measure of current quality of life ranging from 0–100, with higher scores reflecting better quality of life. The WHOQOL-BREF was administered at baseline and follow-up. Pre- and posttreatment Cronbach's α were 0.85 and 0.62 respectively.

Brief Inventory of Psychosocial Functioning (B-IPR; Kleiman et al., 2018). PTSD-related psychosocial functioning in the past 30 days was measured by the B-IPR at baseline and follow-up. The measure has a range of 0–49, with higher scores demonstrating more impairment. Pre- and posttreatment Cronbach's α were 0.72 and 0.83 respectively.

Military to Civilian Questionnaire (M2C; Sayer et al., 2014). Community engagement was measured at baseline and follow-up using M2C, which was developed to evaluate veterans' difficulties with community integration following deployment. Sixteen items assess a variety of domains, such as making friends, functioning at work or school, and enjoying free time. The total score is an average of items, with a range of 0–4, with higher scores reflecting more difficulty. Pre- and posttreatment Cronbach's α were 0.90 and 0.92 respectively.

Illness Perception Questionnaire–Revised–Personal Control Subscale (IPQ-R-PCS; Moss-Morris et al., 2002). The IPR-R-PCS was used to assess patients' perceived self-efficacy for managing PTSD symptoms. Scale items include “What I do can determine whether my PTSD gets better or worse” and “The course of my PTSD depends on me.” Administered at baseline and follow up, the range is 1–5 with higher scores reflected greater perceived control. Pre- and posttreatment Cronbach's α were 0.75 and 0.91 respectively.

Qualitative Interviews

Follow-up interviews were conducted by phone and were audio-recorded and transcribed verbatim. A semistructured interview guide was used to ensure that the same topics were explored within each interview while also allowing for the emergence of new themes and the development of rapport. The interviews queried participants' (1) attitudes regarding EMPOWER components (e.g., intervention targets), structure (e.g., level of therapist contact), and intervention materials; (2) suggestions for improving the acceptability and efficacy of the intervention; (3) engagement with EMPOWER and perceived barriers/facilitators to engagement; and (4) perceptions of the impact of the program on the intervention targets (e.g. self-efficacy, improved self-management).

Analytic Plan

To assess the acceptability of the treatment program, we calculated the percentage of participants who reported neutral or better treatment credibility on the CEQ and examined the distribution of scores on the CSS. We then triangulated the quantitative data with qualitative themes related to acceptability by creating data displays in which the qualitative themes were presented alongside numeric quantitative data from relevant measures. We calculated the direction and magnitude of change (Cohen's d) from baseline to follow-up for the outcome variables and the percentage of participants who improved, worsened, and experienced no change for each of the measures. A change of 5 points on the PCL-5 was used to quantify reliable improvement/worsening; for other measures, a change of both one and two standard deviations (SD) was examined. The quantitative data were triangulated with qualitative themes regarding self-efficacy and other hypothesized EMPOWER outcomes.

The qualitative data were analyzed using a rapid approach that uses data reduction, rather than coding, as the first step of analysis (Hamilton, 2013). Structured templates, based on the interview guide, were used to summarize interview content. The templates summarized content related to each primary question and included exemplar quotes. Using matrix analytic techniques (Averill, 2002), the lead author developed a matrix summarizing themes for each main topic of inquiry. Finally, following a meeting during which the study investigators gave input on the matrix contents, the lead author created a memo summarizing the findings and noting key themes.

Pilot Open Trial Results

Twelve veterans were consented and began the EMPOWER intervention. Table 2 summarizes the sample baseline characteristics. The average number of EMPOWER sessions completed was 3.83 ($SD = 0.58$); all but one participant ($n = 11$, 91%) completed all four EMPOWER sessions. One veteran presented to the emergency department between Sessions 2 and 3 with cardiac concerns and was hospitalized during which his urine drug analysis revealed recent drug use. It was determined he needed a higher level of care and he was withdrawn from the treatment and future assessments. Eighty-two percent ($n = 9$) of treatment completers finished the follow-up survey and 82% ($n = 9$) participated in the follow-up interview; all treatment completers provided either quantitative or qualitative data at follow-up. Qualitatively, all veterans reported engaging with the EMPOWER workbook, with approximately half of participants reporting

Table 2
Baseline Characteristics ($n = 12$)

Variable	<i>N</i> or <i>M</i>	% or <i>SD</i>
Gender		
Female	4	33%
Male	8	67%
Therapy Completed		
Cognitive Processing Therapy	6	50%
Prolonged Exposure Therapy	6	50%
Race		
Black/African American	2	17%
White	9	75%
Biracial	4	8%
Ethnicity		
Hispanic/Latino	0	0%
Service Era		
Iraq/Afghanistan	9	75%
Gulf War I/Post-Vietnam	1	8%
Vietnam	2	17%
Pretreatment PTSD Checklist (PCL-5)	52.27	13.00
Posttreatment PTSD Checklist (PCL-5)	27.25	13.01

Note. The Pretreatment PTSD Checklist score reflects PTSD severity prior to initiation of Prolonged Exposure or Cognitive Processing Therapy. The Posttreatment PTSD Checklist score reflects PTSD severity at the completion of Prolonged Exposure or Cognitive Processing Therapy/immediately prior to the start of EMPOWER.

engagement with all intervention components. Therapist fidelity to the treatment protocol was good; 75% of rated sessions included all necessary therapy elements and only two sessions included fewer than 70% of required therapy elements. Therapists' competence ratings were also high ($M = 5.17$, possible range = 0–6), with only one session rated lower than “very good.”

Credibility and Acceptability

All survey respondents reported neutral or better treatment credibility on the CEQ pre-EMPOWER, with

Table 3
Acceptability and Effectiveness of EMPOWER Intervention

Variable	Baseline		Follow-Up		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Credibility-Expectancy Questionnaire – Credibility Subscale	6.39	1.73	–	–	–
Client Satisfaction Scale	–	–	29.67	2.74	–
PTSD Checklist – 5	25.0	12.05	23.2	13.35	0.14
Patient Health Questionnaire – 9	7.56	4.36	7.38	3.85	0.04
WHO Quality of Life – BREF	88.63	10.24	95.00	6.30	0.75
Brief Inventory of Psychosocial Functioning	23.99	19.79	28.44	20.47	0.22
Military to Civilian Questionnaire	1.46	0.68	1.20	0.71	0.37
Illness Perception Questionnaire – Revised – Personal Control Subscale	24.89	2.32	25.22	2.59	0.13

Note. Baseline and follow-up scores presented for follow-up survey responders ($n=9$)

the mean score reflecting that participants found EMPOWER to be at least somewhat credible prior to beginning the intervention (see Table 3). The CSQ-8 indicated a high level of satisfaction at follow-up ($M = 29.67$, $SD = 2.74$; range = 26–32). Qualitatively, participants reported high satisfaction (see Table 4). Interviewees liked EMPOWER, reported that it met their treatment needs, and did not report any negative experiences associated with participation.

Treatment Effects

There was not a clinically meaningful change in self-efficacy as measured by the IPQ-R and no participants reported either a one or two *SD* change on the measure. Overall, there was no clinically meaningful change from pre- to post-EMPOWER on the PCL-5 (see Table 3). Looking at individual-level change, 33% ($n = 3$) of participants reported at least a five-point improvement on the PCL-5, 11% ($n = 1$) reported worsening of a least five points, and the remainder did not experience change. Participants' reports on the WHOQOL-BREF indicated an improvement of moderate magnitude in quality of life from pre- to post-EMPOWER. No participants reported a two *SD* magnitude change on the WHOQOL-BREF; 33% ($n = 3$) improved at least one *SD*. There was a small improvement in community engagement as measured by M2C. One participant reported improvement in community engagement of more than one *SD*, no participants reported worsening of one *SD*, and there were no two *SD* changes in either direction. The effect size suggested no difference between the two groups on the PHQ-9 and no participants reported a two *SD* magnitude change; 11% ($n = 1$) improved and 11% ($n = 1$) worsened at least one *SD* from pre- to posttreatment. Unexpectedly, there was an overall worsening of functioning from pre- to post-EMPOWER, although the magnitude of change was not clinically meaningful. One participant reported functional worsening of more than one *SD* on the B-IPF, no participants

Table 4
Summary of Qualitative Themes and Exemplar Quotes

Theme	Exemplar Quotes
EMPOWER met post-TFT needs	“I think it gives structure in the way that it’s set up. It really does break down everything that needs to be done to manage yourself.”
Structure for continuing practice of TFT helpful	“I thought it was beneficial to not just cut off. It let me go back into the real world without checking in all the time and kind of managing stuff on my own.” “Practicing what I just learned was the biggest thing that I wanted to do. . . using CPT skills as a lifestyle was the main goal that we had.”
Self-monitoring enhanced veterans’ understanding & control of symptoms	“I was able to practice things on my own and apply it, and then when I had the contact with [my therapist] I got feedback that I had done exactly what she would have told me. It was a good way to practice what I was taught.” “The PCL worked really well because it gave me a score to compare to. . . It allowed me to see that things were coming down, and every now and then, it would spike back up, but those were the exception and not the rule.”
Gradual taper facilitated confidence	“I liked the self-monitoring. . . I didn’t realize how I was until I did my weekly monitoring and I realized [my symptoms had worsened].” “I like the slow transition back into normal life without going to therapy every week; I couldn’t imagine just stopping CPT and just being done and just feeling kind of out there on your own all of a sudden after being every week with someone.” “I feel like [ending meetings with therapist after PE], that would have been too quick. It was nice to be able to still have somebody there while you’re trying to take it over for yourself.”
EMPOWER increased self-efficacy for managing PTSD	“[The amount of therapist contact] was good. Any more and I would have been wondering if I was actually making progress or if I was using her as a crutch. Any less, and I think I would have felt like I was kind of abandoned.” “Towards the very end, it was fully engrained in my head that I was doing it more and more in my head constantly that it wasn’t very hard for me to kind of go through the steps.”
Veterans increasingly engaged in valued activities	“I think it increased my confidence and it just added a little bit more tools to the tool belt. It kind of gives you a better understanding of how to just take it upon yourself not to rely upon your providers.” “It taught me how to handle certain situations, and it gave me the confidence to know that I was doing it correctly, and also establishing the rapport with the doctor that I know that if anything happens. . . I can always call her.” “I’ve gotten back into exercising and running. . . the therapist helped me figure out how to get that into my life and structure it.” “I started to [volunteer and] engage with other people in the morning and coffee and stuff.”

reported improvements of one *SD* and there were no changes in either direction of two *SD*.

Qualitative Findings

An overview of the themes from the post-EMPOWER qualitative interviews are presented in Table 4. Most participants described increased self-efficacy for self-managing their PTSD symptoms following EMPOWER. Veterans indicated confidence in continuing to apply the skills learned in TFT and acknowledged they would feel comfortable reaching out to their provider if needed in the future. Three elements of EMPOWER were reported to contribute to the increased self-efficacy: (a) the schedule of therapist contacts, (b) the structured plan for ongoing practice, and (c) the use of self-monitoring to understand one's symptoms. Some participants also described increased engagement in valued activities, although this theme was less common than improvements in self-efficacy. Interestingly, improvements in the core symptoms of PTSD were rarely described by veterans. Elements of EMPOWER other than self-monitoring, therapist contact schedule, and ongoing TFT practice were rarely or never mentioned by participants. Some participants voiced aspects of EMPOWER that they did not like (e.g., felt the materials were too basic, did not like the phone sessions), but no specific dislikes or suggestions for improvement were noted by multiple veterans. However, several veterans indicated that they would prefer the EMPOWER materials be delivered via an app rather than a paper workbook. Nearly all participants indicated their intent to continue using the EMPOWER strategies and materials to self-manage their PTSD symptoms; veterans most often cited their intent to continue self-monitoring. Finally, several participants noted that use of TFT skills had become well-generalized and habitual. As one veteran said, "I don't even realize I'm doing half the stuff anymore. It's just second nature."

Discussion

Findings suggest EMPOWER was both feasible and acceptable. Overall, clinic-based therapists were able to deliver the treatment with fidelity and participants reported regularly engaging with the treatment materials. Nearly all veterans (91.7%) finished EMPOWER and reported that they intended to continue utilizing the principles to self-manage their PTSD in the future. Importantly, given the emphasis on stepping down the level of care to self-management, veterans rated EMPOWER as highly satisfactory and qualitatively reported that it met their post-TFT treatment needs. The VA/DoD PTSD Clinical Practice Guidelines recommend treatment be titrated or discontinued follow-

ing a clinically meaningful treatment response to TFT (Department of Veterans Affairs/Department of Defense, 2017). However, this model of mental health care is at odds with VHA's historical model of providing long-term, continuous services to veterans, particularly those with PTSD (Watkins et al., 2011). Increasing veteran self-efficacy and self-management of symptoms may promote the episodic model of care for TFT completers. Mental health service use should be examined in future studies to evaluate whether episodic care is achieved following EMPOWER. Further, the impact of a move to episodic care on veterans and the system should be studied to confirm whether hypothesized benefits are realized (e.g., greater self-efficacy and engagement in meaningful activities among veterans; reduced system pressure and increased sustainability of TFTs within clinics) and to examine the possibility of intended consequences.

Evidence regarding EMPOWER's impacts on clinical outcomes of interest were less clear, in part due to a mismatch between the quantitative and qualitative findings. For example, quantitative data did not find a meaningful change in self-efficacy for self-managing PTSD symptoms, while improved self-efficacy was one of the most prominent themes in the qualitative data. Further, in the qualitative interviews several veterans specifically noted elements of EMPOWER that were designed to impact self-efficacy (e.g., titrating therapist contact, broader application of TFT skills) and their perception of their impact on the veteran's ability to self-manage. It is possible that the quantitative measure of self-efficacy may not have been specific or nuanced enough to capture the changes noted in the qualitative interviews. The questions focused on control of PTSD more broadly (e.g., "Nothing I do will affect my PTSD"), not self-management of symptoms. Veterans who recently completed TFT may have already experienced an improvement in self-efficacy in the context of provider support, which could have obscured findings on the intervention's ability to increase self-efficacy specific to self-management of PTSD symptoms. Given evidence demonstrating changes in self-efficacy following self-management across a range of physical health conditions (Lorig & Holman, 2003) and the qualitative findings from the pilot open trial, further examination of the potential of EMPOWER to improve self-efficacy is warranted. Further, in developing EMPOWER we conceptualized self-efficacy as a potential mechanism, in which increasing self-efficacy may lead to further improvements in PTSD symptoms and reductions in service use. Future study of EMPOWER should examine these potential associations.

There was convergence in the qualitative and quantitative findings regarding the potential positive impact

on quality of life and community engagement. Quantitatively, EMPOWER yielded a moderate impact on quality of life and small impact on community engagement; an identified qualitative theme was increased engagement in valued activities. These findings are particularly encouraging given that improvements in social functioning and community engagement are perceived post-TFT treatment needs (Baier et al., under review). While PE and CPT have been found to improve quality of life (e.g., Schnurr et al., 2022) and functioning (Rauch et al., 2009; Wachen et al., 2014), the effects are small. EMPOWER may continue to build on these gains to yield more robust improvements.

EMPOWER appears to be more associated with maintenance of gains from TFT than further reductions of PTSD symptoms. There was not a meaningful reduction in mean PTSD symptoms from pre- to post-EMPOWER and changes in PTSD symptoms did not emerge as a theme in the qualitative interviews, although overall symptoms were low and continued a downward trajectory. One-third of survey responders experienced a reduction of PTSD symptoms that exceeded our a priori threshold of reliable change and all but one veteran at least maintained their TFT gains through self-management. The average magnitude of change that can be expected regarding PTSD symptoms may be relatively small. TFT yields large improvements in PTSD symptoms that among civilians are well maintained an average of 6 years posttreatment (Resick et al., 2012). While less is known about long-term stability of gain in veterans, there may be a floor effect for some where further reduction in PTSD symptoms is unlikely. However, for completers who do not achieve remission, additional practice and generalization of TFT skills would be expected to further improve symptoms. Further, the continued, broad application of skills may be useful in preventing long-term return of symptoms for some, as such practice would be expected to strengthen new pathways established during TFT. The impact of EMPOWER on PTSD symptoms in comparison to typical post-TFT over a longer-term follow-up should be evaluated. A scalable intervention that yields only small PTSD improvements (or even that is noninferior to usual post-TFT care) but facilitates increased self-efficacy, high patient satisfaction, and a successful move to episodic care could have meaningful patient and system-level impacts.

Limitations of the current study should be considered in interpreting findings and planning for future evaluations of EMPOWER. Importantly, the sample was small and there was not a control group, which limits conclusions. A larger randomized trial is needed to confirm initial findings and clarify the discrepancies

between the qualitative and quantitative findings. Further, the study was conducted within one medical center, limiting the generalizability of the findings. Specifically, it is possible that EMPOWER's acceptability and feasibility may vary across settings and more diverse patient populations. Additionally, this study's sample had a larger decrease in PTSD from pre- to post-TFT than is typically observed in veteran samples. While EMPOWER is developed specifically for veterans who have benefit from TFT, future studies should include veterans with greater variability of response.

Prior to a randomized evaluation of EMPOWER, several modifications to the intervention are warranted based on provider and veteran feedback. Veterans indicated that non-TFT coping skills were the least used section of the program. Further, providers discussed potential benefits of introducing engagement in valued activities earlier in the protocol. Taken alongside data suggesting that providers had difficulty keeping sessions to the prescribed length, we intend to streamline the materials regarding non-TFT coping skills, move that content later in the program, and move the introduction of valued activities earlier. Changes to the structure of the program are also forthcoming. The use of phone sessions was designed to facilitate titration from in-person weekly therapy. Veterans and providers alike had mixed feedback regarding the use of phone sessions. Given the shift to more psychotherapy within VHA being delivered via video conferencing during and after the COVID-19 pandemic, this issue is less relevant. The requirements for phone sessions will be removed in the revised intervention, although therapists will be encouraged to consider incorporation of video or phone sessions to assist with titration if the TFT was delivered in person. Further, given providers' and veterans' difficulty limiting session 2 to 15 minutes, a range of 15–30 minutes will be suggested to ensure adequate time for joint problem solving as needed. Finally, veterans requested that the program be available as a smartphone mental health application (app); given the resources required to develop a VHA-compliant app, we decided to postpone development until after the program's effectiveness is more rigorously evaluated.

Conclusions

To the best of our knowledge, this was the first evaluation of a self-management intervention designed to follow completion of an evidence-based psychotherapy protocol. Our findings suggest that EMPOWER is feasible, acceptable, and meets veterans' post-TFT treatment needs, and preliminary data suggest EMPOWER may facilitate continued improvements in self-efficacy to manage PTSD symptoms and quality of life among

veterans who have benefited from TFT. A larger-scale, randomized evaluation of EMPOWER is warranted. If proven to be effective, the program has the potential to simultaneously meet veterans' post-TFT needs and reduce the immense demand for VHA mental health services.

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Address correspondence to Shannon Kehle-Forbes, Ph.D., Center for Care Delivery & Outcomes Research, Minneapolis VA Health Care System, One Veterans Drive (152/Bldg. 9), Minneapolis, MN 55417. e-mail: Shannon.Kehle-Forbes@va.gov.

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