An Iterative Approach Adapting the Coordinated Anxiety Learning Management (CALM) Program for Use within Veterans Affairs Community-Based Outpatient Clinics

Traci H Abraham¹², PhD; Kathy Marchant-Miros¹, BSN; Michael B McCarther², BA; Michelle G Craske³, PhD; Geoffrey M Curran¹², PhD, Lisa K Kearney⁷, PhD, ABPP, Carolyn Greene²,³, PhD; Jan A. Lindsay¹⁰⁻¹², PhD; Michael A Cucciare¹,², PhD

¹South Central Mental Illness, Research, Education, and Clinical Center, Central Arkansas Veterans Affairs Healthcare System, North Little Rock, Arkansas, USA

²Department of Psychiatry, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA

³Department of Psychology, University of California, Los Angeles, California, USA

⁴Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA

⁵Center for Implementation Research, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA

⁶Department of Pharmacy Practice, College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, Arkansas USA

⁷VA Center for Integrated Healthcare, Buffalo, NY, USA

⁸Department of Psychiatry, The University of Texas Health Science Center, San Antonio, TX, USA

⁹Office of Mental Health and Suicide Prevention, U.S. Department of Veterans Affairs, Washington, DC, USA

¹⁰Houston VA HSR&D Center for Innovations in Quality, Effectiveness and Safety, Michael E. DeBakey VA Medical Center, Houston, TX

¹¹South Central Mental Illness Research, Education, and Clinical Center, Houston, TX

¹²Menninger Department of Psychiatry & Behavioral Sciences, Houston, TX

Corresponding Author: Traci H. Abraham; Traci.Abraham@va.gov; 2200 Fort Roots Drive, Bldg. 58, Little Rock, AR; Fax 501-257-1718; Phone 815-326-8503
ABSTRACT

Background: A national priority at the U.S. Department of Veterans Affairs (VA) is to increase the availability and accessibility of evidence-based psychotherapies (EBPs) across all VA medical facilities. Yet, many veterans, particularly those who use remote outpatient VA clinics, still do not receive much-needed evidence-based treatment. Strategies for supporting mental health providers at rural VA community-based outpatient clinics (CBOCs) in translating their clinical training to routine practice are needed. The Coordinated Anxiety Learning Management (CALM) program is a computer-delivered program that supports the delivery of cognitive behavioral therapy by providers in outpatient settings to patients with anxiety, including posttraumatic stress disorder, and depression.

Objective: The objectives of the present study were to 1) adapt an existing computer-based program to rural VA CBOCs through feedback from key stakeholder focus groups, 2) develop a prototype of the adapted program, and 3) determine the acceptability and feasibility of the modified program. Mental health stakeholders included VA leaders in the implementation of evidence-based psychotherapies within VA (n=4), VA experts in cognitive behavioral therapy (n=4), VA CBOC mental health providers (n=8) and veterans (n = 8) receiving treatment in a VA CBOC and diagnosed with a mental health condition treated by the CALM program.

Methods: An iterative approach comprising three waves of focus group discussions was used to develop a modified prototype of CALM. Following each wave of focus group discussions, template analysis was used to rapidly communicate stakeholder recommendations and feedback to the design team. Results: The original program was first adapted through a process of data collection, design modification, and product development. Next, a prototype of the modified program was developed. Finally, the redesigned program was tested for acceptability and feasibility through a live demonstration.

Results: Key stakeholders suggested modifications to the original CALM program that altered the appearance of the modules by incorporating veteran-centric content. These modifications likely have no impact on the integrity of the original CALM program, but have altered the content to better reflect the demographic characteristics and experiences of rural veterans. Feedback from the stakeholder groups indicates that the changes will help VA patients to identify with program content, potentially enhancing veterans’ treatment engagement.

Conclusions: The development model used in this study is effective for economically gathering actionable recommendations from stakeholders to adapt computer-based programs and can result in development of an acceptable and feasible computer-delivered intervention. Results have implications for developing computer-based programs targeting behavior change more broadly and enhancing engagement in evidence-based psychotherapy.

Key Words: therapy, computer-assisted; computer-assisted instruction; program development; rural health services; veterans; depression; anxiety disorders; posttraumatic stress disorders
Introduction

Ample evidence indicates the effectiveness of evidence-based psychotherapies (EBPs), particularly cognitive behavioral therapy (CBT) [1-2], for treating anxiety and depression, the most common mental health disorders in outpatient healthcare settings [3-5]. Accordingly, the Department of Veterans Affairs (VA) has made it a national priority to increase the availability and accessibility of EBPs, particularly CBT, across all VA medical facilities and clinics, to veterans needing mental health care [6]. An important component of this strategy is providing intensive, competency-based training in EBPs for VA mental health providers [7].

Despite this effort, broadly implementing CBT and other EBPs in VA treatment settings has been a challenge[8-9], especially at small and/or remote outpatient clinics, such as most VA community-based outpatient clinics (CBOCs). This is evident in results from a study published in 2010, which found that only 1 in 5 veterans with depression, anxiety or posttraumatic stress disorder (PTSD) received at least one session of psychotherapy, and that rural veterans, who are often treated in CBOCs, were even less likely than their urban counterparts to have received any psychotherapy [10]. Although evidence suggests that this disparity has decreased since then, the most recent research indicates that rural veterans still receive fewer psychotherapy sessions than their urban peers [11]. Thus, although many providers at VA CBOCs have received training in EBPs, training alone is not sufficient to ensure the translation of new treatments into routine clinical practice [8,12].

Training will also not ensure that EBPs are delivered with sufficient fidelity to the treatment model to achieve effectiveness [13-14]. Treatment fidelity is perhaps particularly problematic at VA CBOCs, which commonly have only one mental health provider on staff. Providers who are isolated are unable to consult their peers about difficult cases, and may not have the time to take advantage of educational resources that facilitate effective delivery of EBPs such as CBT. Thus, although the VA has made great strides in providing training specific to EBPs for providers of mental health care, many providers at small and/or remote outpatient clinics may nevertheless lack the resources, time, and/or interactions with colleagues needed to gain proficiency in these skills. Without adequate fidelity, patients are unlikely to experience optimal outcomes from EBPs. Thus, resources that can support and assist CBOC mental health providers in delivering EBPs with fidelity are needed.

Over the last decade, the National Institute of Mental Health-funded Coordinated Anxiety Learning and Management (CALM) study [15] addressed a similar challenge. The study aimed to implement CBT into non-VA outpatient clinics to support providers with little to no prior training in this treatment. To achieve this goal, researchers developed a computer-delivered program (CALM) facilitating the delivery of CBT with fidelity by mental health providers in outpatient settings [16]. CALM uses a cognitive behavioral framework including psychoeducation, cognitive restructuring, goal setting, exposure and response prevention. It has the added advantage of being both provider and patient facing, so that the patient and provider both look at the computer screen together and proceed through the modules at an individualized pace [15]. The CALM program is clinically effective for a
range of anxiety disorders, including panic disorder (PD), generalized anxiety disorder (GAD) and social anxiety disorder (SAD), as well as PTSD and depression [16-18]. It may have the added benefit of helping providers maintain fidelity to the CBT treatment model [18]. Thus, implementation of the CALM program in rural VA outpatient settings may help increase receipt of efficacious CBT by veterans.

The present study sought to adapt the original CALM program for use within VA outpatient settings, thus supporting VA CBOC mental health providers in delivering CBT to veterans with anxiety, PTSD and/or depression. To achieve this objective, we modified a method common to the field of instructional design and technology (IDT) to guide the redesign of the CALM computer program for use in VA CBOCs. IDT models are prescriptive models that describe a set of activities involved in the planning, implementation, and evaluation of instructional programs [19]. Most IDT models share the core elements of analysis, design, development, implementation and evaluation, applied in an iterative process [20-21]. The “ADDIE model” (Figure 1), an umbrella term referring to these common elements, formed the conceptual basis for the process used to modify the original CALM program in the present study [22].

Figure 1. The modified ADDIE model and study aims.

As part of this process, three waves of focus group discussions were conducted with four groups of key stakeholders to iteratively redesign and test the CALM program for use within VA CBOCs. Stakeholder groups included (a) veterans receiving recent mental health care in a VA CBOC and with a diagnosis of anxiety disorders and/or depression, (b) CBOC mental health providers, (c) expert CBT VA clinicians, and (d) VA Central Office leaders with expertise in the implementation of EBPs within VA. In this article, we describe the iterative process used to redesign and test the modified CALM program, as well as the modifications used to adapt the program for use within VA CBOCs.
Methods and procedures

Recruitment
We recruited participants from four key stakeholder groups: veterans (N = 11) with a recent (≥1 visit in the prior six months) mental health care visit at a VA CBOC and with a diagnosis of PD, GAD, SAD, PTSD and/or depression; CBOC mental health providers (N = 11) in the Southern region of the United States, including nurses, psychiatrists, social workers, and psychologists; VA expert CBT clinicians (N = 6); and VA Central Office leaders (N = 5) with expertise in implementing EBPs within VA. We conducted three rounds of focus groups with each stakeholder group.

The purpose of recruiting veteran stakeholders was to help ensure that the modified CALM content was acceptable to the targeted patient population and reflected veterans’ illness experiences. We included CBOC mental health providers to help ensure that modified content was acceptable for this group of providers (that serves a largely rural veteran population), that images and case studies were appropriate for the targeted patient population, and that the navigation and flow of the CALM treatment material met the needs of CBOC providers. Inclusion of VA expert CBT clinicians helped to ensure that the empirical support underlying the content of the CALM program was not compromised during the modification process. Finally, inclusion of VA Central Office leaders with expertise in EBP implementation within VA helped the study team ensure that CALM was consistent with prior CBT training efforts within VA.

Veteran participants were recruited from one CBOC in Arkansas. Mental health providers were recruited using a general call distributed by email to providers at CBOCs in Arkansas, Louisiana, Texas, and Mississippi. Multiple CBOCs were needed, as most CBOCs have only one mental health provider on site. CBT experts were recruited nationally from within the VA, and leaders in the implementation of EBPs within the VA were recruited from VA Central Office in Washington, DC. CBT experts and leaders in implementation were individually recruited using convenience sampling, based on their level of expertise and availability [23].

Data collection
Each group of key stakeholders participated in three waves of separate focus group discussions. Focus group discussions are a standard method used to efficiently garner diverse feedback on novel and existing products for new product development. CBOC mental health providers, CBT experts, and VA Central Office leaders with expertise in EBP implementation within VA participated in focus group discussion by tele-conference with the assistance of Lync, an online meeting portal that allows participants to view the same material simultaneously. In addition to providing feedback by telephone, participants could leave written feedback on the website chat room and email content for the focus group facilitators. The veteran focus groups met in person at a VA CBOC in Hot Springs, Arkansas.

All focus group discussions were co-moderated by the principal investigator (MAC) and a co-investigator (THA). Both researchers have extensive experience in qualitative
interviewing and facilitating focus group discussions. An interview guide developed for the study was used to ensure that the discussion remained relatively consistent across stakeholder groups and that groups addressed all relevant topics. The same stakeholders were invited to participate in all three waves of focus group discussions to maximize the relevance of feedback (i.e., participants knew if recommendations had been incorporated correctly into the program). Focus group discussions were audio-recorded with permission from participants. The study was approved by the Central Arkansas Veterans Healthcare System Human Research Protections Program.

Data analysis
Rapid analytic techniques informed by Sobo et al. [24] and Hamilton [25] were used to quickly produce recommendations for modifying the CALM program and economically communicate modifications to the design team. The qualitative data analysts (THA and MAC) first collaborated in developing a prototype summary template in a Word document with three broad domains related to the goals of the study: 1) recommendations from focus group participants; 2) evaluative observations / initial reactions / concerns, and 3) questions. They then created categories within each broad domain reflecting the various aspects of the CALM program that would be queried during the focus group discussions. A copy of this prototype was then created in a new Word document for each of the four focus groups.

To analyze the focus group discussions, the lead analyst (THA) listened to the audio-recording of the first focus group discussion and systematically populated the template categories with data. These data consisted of paraphrased content from the focus group discussions reflecting stakeholder recommendations, observations, reactions, concerns, and questions. The goal was to capture the full range of responses to questions and comments from the focus group discussions. After the lead analyst completed summarizing all the content from the focus group discussion in the template, she met with the second analyst (MAC) to discuss analytic findings. Discrepancies in how template content was summarized or categorized were resolved through discussion. This analytic process was repeated for each focus group discussion. For focus group discussions held by teleconference, the analysts also incorporated written feedback from the website and emails to the facilitators into the template. After analyses were finalized for all four focus group discussions, findings were compiled and summarized. The analysts each reviewed the summary to ensure the validity of findings. This analytic process was followed for all three waves of focus group discussions.

Finalizing recommendations
A panel of experts reviewed the summary template before it was submitted to the design and development team, including study team members with expertise in CBT, the relevant mental health diagnosis, and software development. The purpose of this panel was to prioritize and determine the feasibility of each recommendation (e.g., cost and time needed to complete the modification). The summary template was subsequently reduced to actionable recommendations for modification.
Description of the original CALM Program
The CALM computerized program was created to guide and train mental health providers in delivering a course of CBT [15]. CALM was not intended, like some other technology-based interventions, to be a self-help intervention (i.e., patient facing without provider involvement). Instead, provider and patient use it together, synchronously (i.e., it is provider and patient-facing). Provider-supported treatments such as CALM have tended to yield enhanced results compared to self-help interventions [26]. A unique feature of the CALM program is that it can be used to treat different anxiety disorders, as well as PTSD and/or depression. Reductions in symptoms across these conditions are accomplished through use of basic CBT modules, which are employed across these disorders, coupled with branching modules that are disorder specific [16-18].

Results

Wave 1: Wireframe development
During the first wave of focus group discussions, an overview of CALM was presented to each stakeholder group. This also included screenshots from the program, as well as a detailed description of the functioning of CALM for each disorder. Following the overview, stakeholders were given time to ask questions about CALM, and then were asked for initial reactions/recommendations for modifying and adapting the program for use within VA CBOCs.

Summary of Wave 1 stakeholder feedback
Recommended modifications to the original program were largely “look and feel” changes pertaining to the images and illustrations in the modules. Stakeholders generally reported that the images and illustrations contained in the original program should be more representative of veterans. They recommended reducing the number of images and illustrations depicting college-aged women and men in white collar occupations (e.g., wearing suits), and incorporating imagery better reflecting the gender, age, economic and ethnic/racial diversity of veteran patients. Veteran stakeholders did not like the background color of the CALM program and overall website template, and wanted a new logo developed specifically for the modified VA program.

Stakeholders generally also recommended modifying the images contained in the original program to make it more “culturally congruent,” as the original program was not designed to acknowledge veterans’ military service. One expert CBT clinician noted that this can be “very invalidating” for some patients. Stakeholders suggested replacing some existing images with images of people in uniform; however, a veteran stakeholder cautioned that, while incorporating images of people in uniform: “We don’t need to see a Vet on every single picture we look at.” Stakeholders also suggested using images of individuals with physical limitations in the Behavioral Activation module to encourage veterans with prosthetics or other physical limitations to engage in physical activities.

Stakeholders furthermore recommended revisions designed to enhance the degree to which veterans could identify with program content. To achieve this, they suggested
incorporating videos into the modules that speak to the unique mental health concerns of veterans. Stakeholders also suggested use of existing VA resources, such as the National Center for PTSD’s “About Face” and the VA’s “Make the Connection” websites [27-28]. These websites contain videos in which veterans, family members of veterans, and mental health providers share their personal experiences with mental health concerns and relate their individual stories about seeking and receiving help for mental health concerns. They also provide instructions for initiating treatment or seeking immediate help during crises. One CBT expert recommended selecting videos in which multiple veterans shared their experiences to increase the chance that patients will relate to someone in the video. A CBOC mental health provider thought that videos in which veterans describe “service or re-adjustment issues,” such as re-integration into civilian life, would be particularly useful in helping veterans “connect” with program content. Stakeholders also recommended incorporating links to existing online psychoeducational materials developed for veterans. Suggested resources included information available at the VA National Center for PTSD and the U.S. Department of Veterans Affairs websites. An additional suggestion was to include the telephone number for the national Veterans’ Crisis Line at the end of the Depression Education module.

Finally, stakeholders were generally concerned that some slides seemed too “content heavy” to be engaging. Several expert CBT clinicians and CBOC mental health providers thought that having to read a large amount of material during an hour-long therapy session might be difficult, and expert CBT clinicians were concerned that younger veterans with traumatic brain injuries would be overwhelmed by busy slides. This concern was validated by feedback from veteran stakeholders, who not only recommended reducing the number of words, but removing excessive images and illustrations. One veteran noted: “Pictures: unless it means something, what’s the point?”

Wave 1 modifications to CALM

A summary of stakeholder recommendations was presented to the expert panel for review, and actionable modifications were identified and prioritized. The study team then collaborated with the software development group to identify images and illustrations better reflecting the gender, age, economic and ethnic/racial diversity of veterans. They also identified appropriate images of people in military uniform. The images below are examples of CALM module content before (Figure 2) and after modification (Figure 3). The alterations illustrated make use of updated imagery, veteran stakeholder preferences for color (i.e., blue rather than green), and depict an individual in uniform to enhance content relatability.

Figure 2. Original CALM module content.
The team identified already-available online resources with videos of veterans describing their mental health concerns, their experiences with a condition and/or seeking mental health care, and ways that treatment helped them (Figure 4). This was realistic in the
timeframe of the study, which did not allow sufficient time to develop original video content.

Figure 4. Video featuring different veterans describing their experiences with PTSD. Videos used with permission from the National Center for PTSD “About Face” website [27].

Finally, the team followed stakeholder suggestions in identifying links to online resources for veterans and reduced the amount of text on slides identified by stakeholders as too content heavy. These modifications to the original program were submitted to the software development team, which then developed mock ups, or wireframes, of the initial modifications to show stakeholders in Wave 2.

**Wave 2: Prototype development**
The wireframes were presented during a second wave of focus group discussions with veterans (n = 6), CBOC mental health providers (N = 10), expert CBT clinicians (n = 5), and VA leaders with expertise in the implementation of EBPs within VA (n = 5). Wave 2 participants were reminded of the initial version of CALM with graphics and provided a side-by-side comparison of all modifications. After reviewing the wireframes, stakeholders provided feedback regarding modifications from the first round of focus groups, and a few suggested additional changes to the CALM program.

**Summary of Wave 2 stakeholder feedback**
Stakeholders generally agreed that the modified program appeared more “inclusive of veterans that will be using CALM” and “user friendly” for the veteran population. Although
agreeing that the initial modifications were an improvement, one veteran stakeholder requested more images of older males, to be more inclusive of Vietnam-era veterans. Stakeholders, particularly veterans, also responded positively to reductions in the amount of text on many of the slides. One CBOC mental health provider thought that reducing the amount of text would “leave more room for interaction” between providers and veteran patients. Stakeholders also responded positively to the inclusion of videos and links to resources. One younger participant in the veteran focus group who had completed VA treatment for PTSD suggested replacing a video in which veterans only described their treatment experiences with one in which they explain that treatment is difficult at first but helps. Finally, one CBOC mental health provider noted that many of his veteran patients were uncomfortable with writing, and suggested the program allow veterans the option of verbally describing and recording trauma memories for use in the Exposure module, in addition to writing about them.

Wave 2 modifications to CALM
The expert panel again reviewed a summary of recommendations and prioritized actionable modifications from Wave 2 focus group discussions. Following this, the study team identified images and videos per stakeholder recommendations. The PI collaborated with one CALM developer (MC) to incorporate an option allowing veterans who are uncomfortable with writing to verbally describe and record their traumatic experiences (Figure 5). These modifications were submitted to the design team, and a prototype of the modified CALM program was developed.

Figure 5. Option allowing veterans to describe and record traumatic experiences.
Wave 3: Validation of CALM modifications

During a final wave of focus group discussions, the prototype was pilot tested by Dr. Craske during a live tele-conferenced demonstration to three stakeholder groups (CBOC mental health providers \( n = 6 \), expert CBT clinicians \( n = 4 \), and VA leaders in clinic operations and implementation \( n = 3 \)). Minor problems that arose during the pilot test were recorded in written notes by the study team and rapidly communicated to the design team following the demonstration. Veteran stakeholders \( n=4 \) reviewed modified CALM modules presented in person by the PI, and looked at an overview of all modifications by the lead qualitative analyst (THA). No remaining concerns about the program were elicited through this final wave of focus groups.

Discussion

The present study used an iterative approach to adapt the original CALM program for use within the VA and, particularly, at rural, CBOCs. Overall, key stakeholders suggested modifications to the original CALM program that were largely “look and feel” adaptations that altered the appearance of the modules by incorporating veteran-centric content. This included relatively simple changes, such as replacing images and developing a new template with the VA logo, as well as more significant adaptations, such as embedding videos of veterans describing their treatment and illness experiences and modifying the case studies to better reflect experiences common to rural veterans. These modifications likely have no impact on the integrity of the original CALM program, while altering the content to better reflect the demographic characteristics and experiences of rural veterans.

An additional adaptation was to customize the treatment content to allow veterans the option of orally recounting (as opposed to only writing) their trauma experiences. This modification, along with the overall flexibility of the CALM program to meet the treatment needs of veterans with a wide variety of mental health conditions, is consistent with a long-standing cultural shift at the VA toward the provision of patient-centered healthcare consisting of a menu of treatment options that can be tailored to each individual veteran’s needs and goals for health and wellbeing [29-30]. Patient-centered care can improve health outcomes and increase patient satisfaction and self-management of chronic conditions [31-32]. It has also been associated with decreased healthcare utilization, including the annual number of specialty care visits, less frequent hospitalizations, and fewer laboratory and diagnostic tests [33].

Feedback from the stakeholder groups – and, in particular, rural veterans - indicates that these modifications will help VA patients to identify with program content. This could potentially improve patient-provider communication during therapy sessions, and increase veteran engagement in EBP for anxiety, depression and/or PTSD. Enhancing engagement is important because attrition from EBPs is high among veterans, particularly those with PTSD [34]. In one recent study, one third of veterans who initiated EBP for PTSD dropped out before treatment completion [35]. As completion of EBP not only significantly reduces mental health symptoms [36], but also positively impacts physical health and functioning while decreasing healthcare costs related to PTSD [37-38], enhancing veteran engagement is critical. Indeed, in one study, the original CALM program was not only found to be
acceptable to both providers and patients, but also resulted in substantial treatment engagement and homework compliance [18].

Feedback, comments, and suggestions obtained from the four stakeholder groups, in tandem with results from similar studies [39-43], suggest a few general principles for developing and/or enhancing the acceptability of technology-based interventions in general. Computer- and web-based programs should use text judiciously to reduce the potential for boredom and/or fatigue from reading large amounts of information [39-40]. Additionally, images and illustrations should be up-to-date [39-40] and health information should be tailored to the targeted audience and individualized to the patient to maximize the effect of technology-based interventions on behavior change [41-42]. Mental health interventions that receive support from providers enhance patients’ willingness to initiate computer- and internet-based treatment [43]. As CALM is both provider and patient facing, provider support for the intervention is implicit. Patient-facing programs, however, will likely need providers to encourage their patients to initiate technology-delivered EBPs. Finally, adaptations should be based in feedback from key stakeholders, and program modifications presented to and reviewed by the same stakeholders.

The study design draws upon numerous strengths. An iterative design that included inviting the same stakeholders to participate in three waves of focus group discussions helped to ensure the relevance and consistency of recommended modifications. The strength of this approach was reinforced by hosting the veteran focus group last, which allowed veterans to respond to recommendations from the other stakeholder groups. Additionally, collecting feedback from stakeholders who are familiar with rural veterans, EBPs and/or clinical practice at VA CBOCs may have increased the acceptability and/or feasibility of the modified program for use in this population. This approach was aligned with a person-based approach to developing and tailoring technology-based interventions [44]. Finally, using a rapid analytic technique allowed the study team to economically communicate stakeholder recommendations to the design team, ensuring that modifications were made within project time constraints.

**Limitations**

One limitation of our study was that focus group participation declined throughout the study, particularly among veteran stakeholders. As we were unable to obtain feedback from every stakeholder who participated in the first wave of focus group discussions, it is possible that we have omitted or failed to implement suggestions as originally envisioned. Additionally, veteran and mental health provider stakeholders were recruited from one geographical region in the southern United States (Arkansas, Louisiana, and Texas). Thus, stakeholder feedback may not be generalizable to other locations. Although a necessary first step in this direction, this study also does not provide data regarding fidelity to the CBT model or treatment outcomes. A next step in this line of research is to determine if the modified version of CALM improves VA CBOC mental health providers’ fidelity to the CBT model and/or improves veteran outcomes. As evidence already indicates that the original CALM program achieves these objectives [16,18], it’s important to ascertain if this has been maintained (or perhaps even enhanced) following revisions. It will also be
important to assess whether implementing the program helps to ensure the translation of CALM into routine clinical practice in the future, as it may increase veterans’ access to EBPs at VA CBOCs.

**Conclusions**

We modified the CALM program for use within rural VA clinics, based on feedback from two waves of focus group discussions with four key stakeholder groups. The results of pilot testing the modified program during a third and final wave suggest that the adaptations increased the relevance and acceptability of CALM content for rural veterans and other key VA stakeholders, such as mental health providers at VA CBOCs. This could enhance veterans’ engagement in EBPs. Thus, the iterative approach used in this study is effective for economically gathering actionable recommendations from stakeholders to enhance the acceptability and feasibility of computer-based programs in healthcare settings.

**Acknowledgments**

This work was supported by funding from the Department of Veterans Affairs Health Services Research CREATE initiative, Development Service to Dr. Cucciare, and the use of facilities and resources of the VA HSR&D Center for Innovations in Quality, Effectiveness and Safety (Cin13-413). TA and MC co-wrote the introduction and methods, and TA wrote the results and discussion. All authors reviewed, edited, and approved the final manuscript. TA, MC, KM, and MM collected all data. All authors were involved in developing the modified program. The views expressed are those of the authors and do not represent the views of the Department of Veterans Affairs, the U.S. government, or Baylor College of Medicine. All authors were involved in the modification of CALM for use in VA CBOCs.

**Conflict of Interest**

None declared. The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

**Abbreviations**

CALM: Coordinated Anxiety Learning Management  
CBOC: community-based outpatient clinics  
CBT: cognitive behavioral therapy  
EBP: evidence-based psychotherapies  
IDT: instructional design and technology  
GAD: generalized anxiety disorder  
PD: panic disorder  
PTSD: post-traumatic stress syndrome  
SAD: social anxiety disorder  
VA: Department of Veterans Affairs
References


38. Rauch SA, Grunfeld TE, Yadin E, Cahill SP, Hembree E, Foa EB. Changes in reported physical health symptoms and social function with prolonged exposure therapy for chronic posttraumatic stress disorder. Depress Anxiety 2009 Aug; 26(8):732-738. PMID:18781660