Implementation of Video Telehealth to Improve Access to Evidence-Based Psychotherapy for Posttraumatic Stress Disorder

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Abstract

Background: Increasing access to psychotherapy for posttraumatic stress disorder (PTSD) is a primary focus of the Department of Veterans Affairs (VA) healthcare system. Delivery of treatment via video telehealth can expand availability of treatment and be equally effective as in-person treatment. Despite VA efforts, barriers to establishing telehealth services remain, including both provider acceptance and organizational obstacles. Thus, development of specific strategies is needed to implement video telehealth services in complex healthcare systems, like the VA. Materials and Methods: This project was guided by the Promoting Action on Research Implementation in Health Services framework and used external facilitation to increase access to psychotherapy via video telehealth. The project was conducted at five VA Medical Centers and their associated community clinics across six states in the South Central United States. Results: Over a 21-month period, 27 video telehealth clinics were established to provide greater access to evidence-based psychotherapies for PTSD. Examination of change scores showed that participating sites averaged a 3.2-fold increase in unique patients and a 6.5-fold increase in psychotherapy sessions via video telehealth for PTSD. Differences between participating and nonparticipating sites in both unique patients and encounters were significant (p=0.041 and p=0.009, respectively). Two groups emerged, separated by degree of engagement in the facilitation intervention. Facilitation was perceived as useful by providers. Conclusions: To our knowledge, this is the first prospective study of external facilitation as an implementation strategy for telehealth. Our findings suggest that external facilitation is an effective and acceptable strategy to support providers as they establish clinics and make complex practice changes, such as implementing video telehealth to deliver psychotherapy.

Key words: implementation science, health services research, mental health, rural, veterans, technology, evidence-based psychotherapy, posttraumatic stress disorder, health service utilization

Introduction

priority of the Department of Veterans Affairs (VA) is to provide evidence-based psychotherapy (EBP) to veterans diagnosed with posttraumatic stress disorder (PTSD), with the aim to prevent the debilitating sequelae often experienced when PTSD is untreated. Research supports the effectiveness of psychotherapy in the treatment of PTSD among veterans.^{2,3} National policy mandates that all veterans with PTSD have access to EBPs shown to be effective (e.g., 3 months of weekly sessions of 60-90 min and adherence to manual-driven protocols).4 Although significant progress has been made to increase availability of EBPs, veterans with PTSD have low rates of initiation and retention in such programs.^{5,6} Perceived stigma associated with mental illness and practical, logistic barriers (e.g., living in rural areas, conflicting job schedule) reduce the likelihood a veteran will engage in, or receive, an adequate dose of psychotherapy.⁷⁻⁹ Additionally, too few trained therapists and difficulty in accessing training hinder clinics' ability to provide EBPs for PTSD. 10 Thus, there is a gap between clinical practice and what practice guidelines recommend. 11 Some barriers to accessing care can be reduced if delivery of psychotherapy is expanded to modalities such as video telehealth.12

A growing body of evidence supports successful delivery of psychotherapy using video telehealth, with high patient satisfaction and acceptability. 12-14 Results of telehealth-delivered psychotherapy are comparable to those with traditional in-person treatment in treatment outcomes, therapeutic relationship, and retention. 14-16 More recently, research has shown EBPs to be well accepted by patients and cost-effective when provided using video telehealth. 15-17 Even so, overall adoption of video telehealth to deliver psychotherapy has been slow.

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Therapists are often initially reluctant to use video telehealth because of fears about how technology may inhibit rapport-building and decrease therapeutic alliance (working relationship between patient and provider), hallmarks of in-person sessions. 18,19 Additionally, therapists often lack training in use of the hardware and software required for video telehealth and have logistical concerns, such as coordination of schedules and equipment involved. 20 A pilot study conducted before this project identified barriers to establishing video telehealth in rural VA clinics, including unanticipated organizational constraints, perceiving the technology as inconvenient, and concerns about a perceived lack of support from leadership and access to necessary program support (e.g., telehealth staff, scheduling infrastructure) to overcome telehealth clinics' administrative barriers, as well as facilitators of telehealth adoption, such as therapists' motivation.²¹ Successful adoption of video telehealth involves intervening at the system level to provide logistical support in establishing and maintaining telehealth clinics and on the provider level to address potential barriers to clinicians' acceptance and use of technology to deliver psychotherapy. 18

In 2011, the VA convened a national EBP for PTSD Telemental Health Task Force to provide recommendations for promoting delivery of EBP telemental health services throughout the VA health-care system. One key component was to expand EBP availability to community clinics by providing video telehealth from trained clinicians at VA Medical Centers. In response, considerable resources have been expended to increase access to care for veterans with PTSD by training providers in EBPs and investing in telehealth infrastructure. Despite this, spread of this mode of treatment delivery, specifically to provide mental health services, continues to be hindered by clinicians' skepticism about the effectiveness of video telehealth and a perception of administrative barriers. ^{18,20}

Disseminating telehealth in a complex healthcare system such as the VA is challenging, and development of specific implementation strategies is necessary to overcome the difficulty of bringing evidence-based treatments and new technologies that support patient care into standard practice. Implementation science has been developed to study methods that promote systematic uptake of research findings and other evidence-based practices. 22 Implementation frameworks are sets of principles for guiding the planning process, identifying interventions, and structuring a systematic plan.²³ The Promoting Action of Research Implementation in Health Services (PARIHS) framework may have particular relevance to understanding the implementation of telehealth, particularly its use in delivering EBPs. The PARIHS model hypothesizes that three interacting components predict the success of implementation of evidence-based practice: the quality of the evidence base; the context in which implementation efforts occur; and facilitation, described as provision of support by agents for adoption of the change.²⁴ Facilitation has been identified as a particularly useful intervention in helping mental health clinicians adopt evidence-based practices and make complex practice changes.25

Facilitation has emerged as a promising strategy that tailors interventions to enable change or make adopting a new practice easier. ^{25–27} Because barriers to implementation of telehealth tend to differ by site and individual, a flexible intervention that meets unique needs is important. Stetler et al. ²⁵ identified two primary functions of a facilitator, which are interactive problem solving and providing interpersonal support in the context of quality-improvement processes. Previous research on implementing evidence-based practice supports the effectiveness of facilitation in supporting sites and providers in making practice changes. ^{28–30} An external facilitation that includes regular, supportive contact with someone trained in implementation and dedicated to helping sites solve problems is critical to effective adoption of new clinical practices.

Although evidence supports delivery of psychotherapy for PTSD via video telehealth, no implementation strategy has been examined for effectiveness. This implementation project has two specific aims: (1) to expand access to psychotherapy by offering veterans the option of receiving treatment via video telehealth at their local community clinic and (2) to pilot a facilitation strategy for implementing video telehealth for delivery of psychotherapy for PTSD. Results from this study will inform efforts to expand implementation of telehealth for delivery of evidence-based mental healthcare throughout the VA.

Materials and Methods

This implementation project was conducted from January 2012 until September 2013 at five VA Medical Centers and their associated community clinics located in the portion of the system that provides care to nearly 450,000 veterans across eight states in the South Central United States.³¹ As part of a national initiative across the VA healthcare system, the overall goal of this project was to establish delivery of EBP for PTSD via video telehealth throughout the region.³² Potential Medical Center sites were identified by response to a request for applications for funding of one full-time mental health clinician (psychologist or clinical social worker) who would provide psychotherapy from the VA Medical Center to the associated community clinics for veterans diagnosed with PTSD.

IMPLEMENTATION STRATEGY

Informed by our earlier work in implementing new skills and clinical practices, the prospective implementation framework was the PARIHS model, 33,34 and we used external facilitation as the primary implementation strategy. 23,25,28,30 An external facilitator uses a combination of strategies based on individual needs of a local setting to enable change within a complex system. 28

As shown in *Figure 1*, facilitation tasks evolved over time and were adapted to meet unique needs of each site. Training was twofold: learning how to use the telehealth system and developing competency in EBPs for PTSD. All therapists were required to complete teleheath training, a Web-based curriculum covering the modality, an overview of telehealth operations, and general video telehealth safety procedures (information on suicide prevention and emergency care). Additionally, there were in-person trainings on use of the telehealth system (e.g., machine placement, telehealth equipment, optimizing capabilities of the technology, managing technical difficulties).

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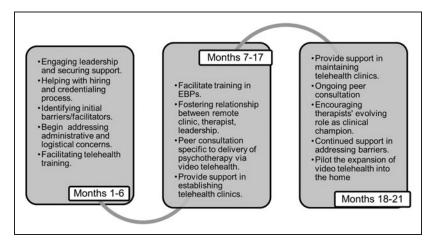


Fig. 1. Progression of the external facilitator's role. EBP, evidence-based psychotherapy.

As part of a national, competency-based training program for VA mental health staff, providers participated in intensive training for EBPs for PTSD. The program consisted of an experientially oriented 2–3-day workshop with expert trainers and weekly telephone-based consultations by expert consultants, with ongoing feedback on adherence to the therapy lasting approximately 6 months. ³² In conjunction with therapists' clinical supervisors, the project's external facilitator (J.A.L.) monitored where therapists were in their training process, as well as connected therapists with their facility telehealth coordinators to ensure adequate technical support and clerical assistance were in place.

A critical component of PARIHS acknowledges that the context

("real-world settings") may vary greatly, which affects how planned implementation of an intervention is carried out.²³ Thus, the facilitator developed individual implementation plans with each site, tailored to unique needs of the site (e.g., Medical Center or community clinic) that included addressing the needs of various stakeholders involved in the implementation effort (i.e., newly hired therapists, the telehealth coordinators, and mental health leadership). Weekly peer consultation calls between the facilitator and therapists were essential to this tailoring process and maintenance of the intervention effort. These meetings provided therapists with additional evidence of the intervention's effectiveness (i.e., reviews of studies on the effectiveness of video telehealth and psychotherapy for PTSD), as well as an opportunity to discuss technical, logistical, and clinical issues specific to the delivery of EBP via video telehealth and foster communication.

As part of the implementation strategy, we engaged leadership (e.g., telehealth coordinators and mental health leaders) throughout this process. Frequent communication with leadership has been found critical to maintain implementation "buy in," as well as to better

tailor the implementation strategy to the particular context and needs of the clinic.²³

Results

Of the 10 Medical Centers in the region, six sites submitted applications for funding of a full-time mental health provider and received salary support and participated in this project. Five medical centers successfully hired a mental health provider (four PhD psychologists and one clinical social worker) within 6 months of project start. One medical center was unable to recruit and retain a clinician dedicated to the project.

Over a 21-month period, 27 video telehealth clinics were established to provide greater access to EBPs for PTSD. This increased the geographical coverage across the region, encompassing rural areas, as shown in *Figure* 2. In Fiscal Year 2013, 183 veterans were provided PTSD treatment via video telehealth, and 937 visits were

completed across the five participating sites. Compared with the baseline (Fiscal Year 2011), results showed that participating sites averaged a 3.2-fold increase in unique patients and a 6.5-fold increase in psychotherapy sessions via video telehealth, whereas nonparticipating sites averaged increases of 1.5-fold and 1.7-fold, respectively. These differences between participating and nonparticipating sites in both unique patients and encounters were significant (p=0.041 and p=0.009, respectively). The increase in psychotherapy sessions for PTSD demonstrated by participating sites (6.5-fold) is more than twice the national average, which was a still a substantial, threefold increase in patient visits for psychotherapy via video telehealth for PTSD.

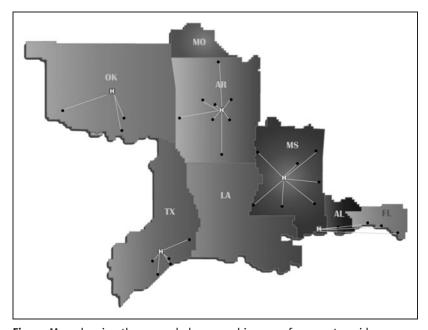


Fig. 2. Map showing the expanded geographic area of access to evidence-based psychotherapy for posttraumatic stress disorder.

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Throughout the study, two groups emerged, as follows: (1) high-facilitation and (2) low-facilitation groups. High-facilitation sites were characterized as Medical Centers that engaged in the process early and committed to all aspects of the projects, including committing appropriate resources to telehealth services (e.g., program and technical staff), ensuring the clinician is dedicated solely to providing EBP for PTSD via video telehealth, and supporting establishment of services in all associated community clinics with referrals for PTSD treatment. Low-facilitation sites were medical centers with more of an established infrastructure that were already providing some mental health services via video telehealth. These sites engaged with the facilitator less often and asked for less assistance in developing and designing their video telehealth programs than high-facilitation sites.

As shown in *Figure 3*, providers in high-facilitation sites showed the greater increases from their baseline numbers (11.3-fold and 46.0-fold) compared with providers at low-facilitation sites (2.0-fold and 3.6-fold). Ultimately, both groups were providing similar rates of service by the end of the study period and experienced a substantial increase in delivery of psychotherapy for PTSD via video telehealth, but our findings show steeper growth among high-facilitation sites than low-facilitation sites. For example, in the second year of our project, high-facilitation sites conducted over 450 visits with nearly 80 veterans, which represented a more than fourfold increase in 1 year. In that same 12-month period, low-facilitation sites also increased visits and patients seen but less dramatically, with just under 480 visits with a little more than 100 veterans. These changes in numbers of unique patients seen and individual encounters, although in the direction expected *a priori*, were not significant (p = 0.551 and p = 0.447, respectively).

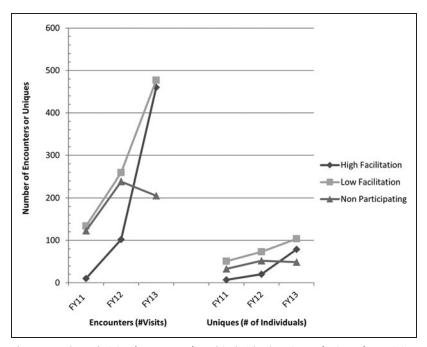


Fig. 3. Number of visits (encounters) and individual patients (uniques) receiving psychotherapy services for posttraumatic stress disorder via video telehealth from the Department of Veterans Affairs Medical Centers into the community clinics from Fiscal Year (FY) 2011 to 2013.

When surveyed about their perceptions of the facilitation intervention, therapists reported a high degree of satisfaction and rated our external facilitation model as very helpful in their efforts to implement video telehealth (6.67 out of 7), viewing the regular facilitation calls as very important to establishing video telehealth services (6.67 out of 7). The external facilitator was also endorsed by therapists, who highly rated the facilitator on several key interpersonal characteristics (e.g., understanding, support, motivation, good communication skills) embodied by highly skilled facilitators.

Discussion

To our knowledge, this is the first prospective study of external facilitation as an implementation strategy for telehealth. Consistent with our hypothesis, sites participating in the facilitation intervention demonstrated a significant increase in the use of video telehealth to deliver EBP for PTSD compared with nonparticipating sites. It should be noted that nonparticipating sites were also expected to provide EBP for PTSD treatment via video telehealth to their clinics as part of the national mandate, and the performance measures were in place for all VA Medical Centers in the region. Although the outcomes were similar for high- and low-facilitation sites, the level of facilitation differed, and we adjusted the intervention to meet these needs. Consequently, the outcomes were not associated with the amount of facilitation involvement.

The PARIHS framework helped guide our interpretation of the three main findings. First, our results provide evidence that we were able to successfully increase veterans' access to PTSD treatment in community-based clinics by delivering this treatment through video

telehealth. We saw increases both in the number of patients served and in the number of VA community clinics that participated. As a result of our study, the use of video telehealth for PTSD treatment now takes place across a wider geographic area in the South Central United States.

Second, we found important contextual differences. Our high-facilitation sites had greater increases in use of video telehealth for PTSD treatment than low-facilitation sites, but all participating sites benefited from facilitation. This difference between high- and low-facilitation levels highlights the particular challenges inherent in changing an existing telehealth model (low-facilitation sites) rather than building a telehealth program from the ground up (high-facilitation sites). For example, low-facilitation sites may be reluctant to change their current system and may resist new models of telehealth, which are more conducive to current and future initiatives. That said, low-facilitation sites may have experience in delivering mental healthcare via video telehealth, and they may have an established support staff in place, which benefits expansion of services. High-facilitation sites may have little or no experience in delivering psychotherapy via video telehealth but be more responsive to guidance on building a telehealth infrastructure and flexible to fit with the national guidance on expanding EBP via telehealth. To address

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these differences, the facilitation intervention was tailored to meet the needs of the sites and individual providers.

Third, providers reported that their experience with this facilitation intervention was extremely helpful and important to their success in establishing video telehealth services to deliver EBP for PTSD.

Our findings are consistent with a recent study of implementation of traditional, in-clinic delivery of EBP for PTSD in the VA. Specialty clinics retrospectively applied the PARIHS framework to identify factors associated with successful implementation and found that "... those sites with a more sustained connection with the facilitation team were more likely to use evidence-based therapy for PTSD." Our results add to a growing body of literature supporting the effectiveness of external facilitation as an implementation strategy for promoting the use of evidence-based practice in complex clinical settings. ^{25,28,30,35,36}

This pilot study has several limitations. The primary measure of implementation was based on a diagnosis of PTSD, with psychotherapy delivered via video telehealth. We were not able to capture a true, reliable measure of whether therapists were delivering EBPs and relied on self-report of participating therapists, who had all completed training in EBPs for PTSD. A specifically designed note template is being designed by the VA and will help address this issue in future studies. With this in mind, we believe future research should include an evaluative component to assess therapists' fidelity to EBPs delivered via video telehealth. Although it is important to increase veterans' access to mental healthcare, we must also ensure that EBPs delivered via video telehealth meet the same standard of care as those delivered in face-to-face sessions. Determining the success of mental health video telehealth programs should also focus on measurement of patient outcomes (e.g., decreased symptoms) rather than overall number of telehealth encounters.

We also found that our low-facilitation sites had established telehealth services already delivering mental health services for PTSD, which made it difficult to control for the number of therapists included in our analysis. Lastly, this pilot was conducted in a closed clinical system serving only veterans, affecting the generalizability of our findings outside of the VA. However, the VA is a large healthcare system with 154 Medical Centers and over 850 associated community clinics, so our results may have relevance to other VA clinical settings. Although we recognize that there are barriers that were not present in our model, an open system would have other barriers, such as reimbursement issues, that would prove challenging to implementation. However, the principles of implementation science that guided our research can be applied to both open and closed systems. Therefore, we feel that what we learned about external facilitation (for example, engaging leadership early on and throughout the implementation process, developing "internal champions" at local sites that continue to promote telehealth after project completion, and developing more formalized audit/feedback mechanisms of therapists' performance) is applicable to settings both internal and external to the VA.

The current project has informed implementation of additional video telehealth programs. Since completion of this project and because of its success, two additional sites have been provided full-time

therapists to provide EBPs for PTSD via video telehealth to their associated community clinics. This will expand to more community clinics across 7 of the 10 VA Medical Centers in the South Central region of the United States. The current project has also led to a larger implementation project, which will focus on expanding video telehealth into the veteran's home to improve access to EBPs for mental health treatment. This expansion of video telehealth to the home will be guided by the PARIHS framework and use external facilitation as the implementation strategy.

In conclusion, our findings suggest that external facilitation is an effective and acceptable strategy to support providers as they establish clinics to deliver EBPs via video telehealth, especially for treating PTSD.

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Disclosure Statement

No competing financial interests exist.

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