

Implementation of a Telemental Health Training Program Across a Mental Health Department

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Short report

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Abstract

Background: Telemental Health (TMH) is an effective way to increase access to mental health services. For this reason, many health care systems strive to make TMH a part of routine mental health services. TMH use has increased substantially in recent years; however, health care systems have found it challenging to implement TMH ubiquitously. Minimal literature addresses system wide TMH implementation efforts. To broadly expand TMH throughout a VA medical center's mental health service, a quality improvement project was conducted to develop and implement a comprehensive, novel TMH training program for staff.

Methods: This quality improvement project was informed by implementation science methodologies. PARIHS criteria and Evidence-Based QI Implementation/Facilitation guided the development and implementation of this TMH training program, which included: (a) two online TMH courses, (b) a one-day didactic training including hands-on practice and skills evaluation, and (c) weekly calls where staff could receive TMH consultation. A total of 100 interdisciplinary mental health providers from outpatient mental health clinics participated in this training over the course of two years. RE-AIM criteria were used to evaluate the effectiveness of this training program.

Results: Overall, providers reported satisfaction with this TMH training program, and found that it increased their TMH knowledge and competence. The number of providers using TMH and patients who received it nearly doubled in the two years after the launch of the TMH training compared to the two years preceding.

Conclusions: This novel TMH training program was well-received by staff and increased the number of providers and patients using TMH. Since this project was completed, the COVID-19 pandemic has significantly increased the demand for telehealth services. This training model offers specific strategies based upon implementation science that could be disseminated to and adopted by mental health programs looking to implement system wide TMH use.

Contributions To The Literature

1. Established Implementation Science Methodologies were used to develop, implement, and evaluate a Mental Health Service-wide training program.
2. Results of this project showed that training led to improved skills, confidence, and utilization of telemental health services.
3. Such a model could be disseminated and adopted for use by other interested mental health programs looking to train staff in the use of Telemental Health technologies.

Background

In a recent survey, 22% of adults in the United States (U.S.) with mental illness denied having access to necessary mental health services¹. Approximately 34% of U.S. counties have no psychologists², and nearly 54% have no psychiatrists³. When in-person mental health services are not locally available, alternative and effective modalities for care delivery, such as telemental health (TMH), are critical. Shown to improve access to quality care and decrease healthcare costs, the provision of mental health services via synchronous video-based technology, TMH, has increased in recent years^{4,5}. However, the robust potential for TMH to meaningfully improve accessibility has yet to be realized; the percentage of Americans unable to access mental health services has remained relatively unchanged since 2011¹.

Health care systems have grappled with how to implement TMH and increase utilization among all providers⁶. Initially, Veterans Affairs (VA) telehealth training and utilization was optional for clinicians. As such, TMH use remained limited to early adopters and staff hired to do TMH-specific work. By 2014, however, the VA regionally mandated specific provider disciplines and clinics to complete TMH training and delivery. At this time, VA training only included two online training courses and an assessment of TMH skills to evaluate proficiency. With the support of local leadership, the VA Puget Sound (VAPS) Health Care System TMH Service designed a supplemental training that covered practical, TMH-relevant topics such as safety planning, billing, documentation, informed consent, and prescribing. This training focused on home-based TMH (HBTMH); particularly helpful for patients who are unable to leave their homes or who live far away from any medical clinics. A staff survey was conducted to evaluate the outcome of this TMH training effort. Of the 134 staff surveyed, only 45.5% completed the TMH training process and 20% reported that they conducted a HBTMH encounter⁷. In short, despite a mandate for TMH training, leadership support, and supplemental TMH training, only a minority of the providers trained went on to use TMH with patients. This limited progress led to closer examination of the training process and ultimately the design of a novel TMH training program based on implementation science methodology to more effectively support providers in the implementation of TMH.

The current quality improvement project (QIP) was developed to: (a) use well-established Implementation Science methodologies to implement and evaluate a TMH training program designed to increase the use of this modality across the Mental Health Service Line, and (b) create a TMH implementation training model that could be readily disseminated to other interested sites. The development and implementation of this QIP are detailed in this paper, along with outcomes and lessons learned.

Methods

The work presented herein was reviewed jointly by the Human Research Protection Program (HRPP) and Quality, Safety & Value service line at the VA Puget Sound Health Care System and determined to not constitute human subjects research. This work qualified all criteria necessary to be designated as an approved Quality Improvement Project (QIP).

In 2017, staff from the VAPS TMH Service and early adopters of this modality met for a two-day retreat to inform this mixed-methods QIP. The VAPS TMH Service is a small team consisting of six full-time

providers and four part-time providers. This team realized it was not large enough to meet the TMH needs for this service line and that the future of TMH would one day need to include TMH trained providers across the service line. As such, a structured training program was needed to meet these current and future TMH goals. Promoting Access to Research Implementation in Health Services (PARiHS) criteria were used to organize the retreat and QIP^{8,9} (*Evidence, Context, Facilitation*). *Evidence* was gathered from literature specific to improving access to care and the results from previous VAPS TMH implementation efforts.

For *Context*, Veteran populations and sites to receive TMH services, and specific VAPS outpatient MH clinics to provide TMH services were identified. Other contextual elements identified included types of TMH services to be offered, and types of administrative and technological resources needed to provide these services. A My VA Access Grant provided financial support for this project and was used to obtain administrative support and necessary equipment (e.g., laptops, webcams, telehealth carts).

The *Facilitation* process used was adopted from Evidence-Based QI Implementation/Facilitation literature¹⁰. External Facilitators served as the subject matter experts for the program to be implemented (i.e., experienced TMH clinic providers), and were paired with Internal Facilitators who were identified as experts in the clinic where the program was to be implemented (i.e., early adopters of TMH located in the target clinics). External and Internal Facilitators tailored the program to address clinic-specific barriers and meet unique clinic goals.

TMH Training Program Development

Staff from the TMH Service developed a TMH training proposal that was approved by the VAPS Mental Health Service Line's leadership team. Leadership support for this QIP included requiring staff in specific outpatient mental health clinics to participate and providing time out of usual clinic responsibilities for staff training and consultation.

The TMH training program was ordered as follows. Participants: (a) completed the two VA-required online VA TMH training courses; (b) attended an eight-hour workshop that included didactics specific to practical aspects of providing HBTMH (e.g., determining patient appropriateness, safety planning, billing, documentation, prescribing), hands-on training and practice using the TMH equipment, and a VA-required TMH skills assessment; and (c) upon completion, were encouraged to attend at least 10, one-hour TMH consultation calls where they could ask questions related to TMH clinical or implementation issues.

TMH Training Implementation and Evaluation

This TMH training was offered on a recurring basis. The first training occurred on June 2017, and the trainings continued over the following two-year period, with a total of 16 trainings facilitated. Outcome measures were identified using the RE-AIM criteria^{11,12} (*Reach, Effectiveness, Adoption, Implementation, Maintenance*). *Reach* was measured using the rural status for the Veterans who received TMH services, calculated via zip code. *Effectiveness* was captured by the number of unique Veterans served. *Adoption*

outcomes included the number of providers who completed the training, the number of providers who completed at least one TMH encounter following the training, and which specific disciplines and clinics provided TMH services. To assess *Implementation*, pre- and post-training self-report assessments were administered to track change in knowledge, skills, and interest in delivering TMH. Perceptions of barriers to the use of TMH and satisfaction with the training experience were also evaluated. *Maintenance* outcomes were assessed at 3-, 6-, and 12-months post training, and included participants' perceived TMH knowledge, skills, or interest. The utilization of TMH by providers and patients was also evaluated over time.

Results

Reach Outcomes

In the two years following the enhanced TMH training, 38% of the Veterans who received TMH from trained providers lived in rural areas. The overall population seen by mental health providers throughout all of VA Puget Sound during this same period was 23% rural.

Effectiveness Outcomes

The number of TMH encounters increased from 6,752 to 14,124 in the two-year period following training. The number of Veterans who received TMH similarly increased from 1,301 (5% of Veterans who received mental health) to 2,755 (10%) during the same time frame. Of the 2,755 Veterans who received TMH post-training, 449 (16%) received services from providers who participated in the training.

Adoption Outcomes

One hundred providers participated in the training (72 staff and 28 trainees who operate under licensed staff). The percentage of Mental Health Service Line providers with at least one TMH visit increased from 16% to 39%, comparing the 2-year period prior to the training to the 2 years after. The participants' disciplines included psychology (37%), social work (22%), other/not specified (19%), psychiatry (17%), and nursing (5%). The clinics participating included outpatient mental health (49%), undisclosed (26%), outpatient addictions treatment (13%), inpatient mental health (4%), primary care mental health (4%), and other (e.g., trainee rotating through multiple clinics; 4%).

Implementation Outcomes

Satisfaction. Following the training, 95% of providers agreed ($n = 42$) or strongly agreed ($n = 35$) that they were satisfied with the training provided. Regarding provider perception of the training, 95% of providers agreed ($n = 50$) or strongly agreed ($n = 28$) that the amount of information covered in this training was sufficient to begin using TMH. After completion of the workshop, 76% of participants agreed ($n = 45$) or strongly agreed ($n = 17$) that they felt confident using TMH.

Barriers among providers with no previous experience. The most frequently endorsed barrier pre training was administrative burden (28%), followed by preference for in-person appointments (25%), not having completed the training (25%), concern about increased workload (17%), some other specified reason (7%; e.g., finding a space with technology capability, lack of facility support, lack of technological skills, technological problems), lack of supervisor support (4%), lack of patient interest (4%), and lack of provider interest (2%). Post training, the most frequently endorsed barrier was lack of patient interest (45%), followed by administrative burden (20%), preference for in-person appointments (18%), concern about increased workload (11%), not having completed the training (6%), lack of supervisor support (4%), lack of provider interest (4%), and some other reason (4%).

Barriers among providers with previous TMH experience. The most frequently endorsed barrier pre training was additional administrative burden (13%), followed by concern about increased workload (6%), preference for in-person appointments (5%), some other reason (2%), lack of supervisor support (1%), lack of patient interest (1%), and concern about TMH cases making in-person clinic grids appear underutilized (1%). The most frequently endorsed barrier post training was some other specified reason (98%; e.g., technical support, telehealth being more useful for reoccurring sessions), lack of supervisor support (8%), concern about increased workload (4%), administrative burden (4%), lack of patient interest (2%), concern about TMH cases making in-person clinic grids appear underutilized (2%), and preference for in-person appointments (1%).

Knowledge, skills, and interest. A Wilcoxon signed-rank test was used to determine significant differences in providers' perception of knowledge, skills, and interest in using TMH from pre- to post-training. Results indicated that providers' perceptions of knowledge ($Z = -6.67, p < .001$), skills ($Z = -6.09, p < .001$), and interest ($Z = -2.54, p = .01$) in using TMH each significantly increased after the training.

Maintenance Outcomes

Wilcoxon signed-rank tests were used to compare post-training responses to those on 3-, 6-, and 12-month follow-up assessments. Results showed no differences in providers' perceived knowledge, skills, or interest over the follow up period, indicating that the gains were maintained.

Discussion

Despite the substantial evidence base in support of TMH, adoption of TMH had been slow in the pre-COVID-19 period¹³⁻¹⁶. Poor adoption rates occurred despite significant investments and policy changes that encouraged its use^{14,17}. Numerous factors have contributed to poor adoption rates: poor choice of applications, lack of clinician engagement, poor business practices, complex technology, poor training, and lack of sustained evaluation¹⁸.

The current study outlines efforts to develop and implement a new TMH training program aimed to overcome previous barriers to widespread telehealth care use. This training was provided to 100 interdisciplinary, front-line clinicians throughout the mental health service line of a large VA health care

system over the course of a two-year period. Implementation Science methodologies provided structural support throughout the process. PARIHS criteria (*Evidence, Context, Facilitation*) were used to organize the project and communicate it to stakeholders^{8,9}. The implementation of the program was guided by evidence-based QI (EBQI) Implementation/Facilitation literature, via the use of External and Internal Facilitators¹⁰. Measures were organized using the RE-AIM criteria^{11,12}.

Overall, providers were satisfied with the TMH training and reported a post-training increase in TMH knowledge, skills, and interest. These gains were maintained across 12-month follow-up. Contrasting the results of this TMH training program with previous efforts, it appears that the support offered by TMH consultation for trained providers improved their use of and comfort with telehealth, as anticipated. This structured TMH training program approximately *doubled* the number of clinicians and Veterans using TMH services in the VAPS health care system.

This TMH training program effort preceded the COVID-19 pandemic. When COVID-19 began, the need for social distancing necessitated the rapid adoption of TMH. However, health care systems varied in their ability to implement TMH in response to the pandemic. In June 2020, the average VA health care system provided home-based TMH to 26.3% of Veterans who might be expected to want such a service, based on the number of Veterans who received outpatient mental health services in-person in June of the previous year. The standard deviation for this metric of how extensively a health care system shifted to TMH was 12.4%. The VAPS health care system's home-based TMH adoption rate during this same time frame was observed at 48.5%, which ranked 7th highest out of 140 VA health care systems. The COVID-19 pandemic certainly had a major impact on expanding TMH throughout VA, but it is clear that the pandemic alone did not result in health care systems adopting TMH equally. There are many factors that can contribute to the success that a health care system has with integrating TMH. Results from this project suggest that a small team using a structured training approach informed by implementation science methodology may have provided a cohort of many TMH trained providers that were able to quickly pivot to providing home-based TMH, even in a COVID-19 environment.

Limitations related to this project are attributed to this being a QI project and not research. As such, there was no control group to compare TMH implementation without training. However, increases in TMH utilization after this training program were robust, providing support that such a rigorous training effort contributed to this success. This project was completed prior to COVID-19 and the pandemic itself caused a massive increase in TMH utilization. This raises a question as to whether structured TMH training in a post-COVID era is still needed to facilitate staff adoption of this treatment modality. As noted above, the observed variability in how extensively VA health care systems adopted TMH after the start of COVID-19 pandemic, considered with VAPS' notably above-average TMH utilization, seems to suggest that having a structured TMH training program may remain highly relevant. TMH training efforts may be different going forward given the impact of COVID-19. The authors speculate that the COVID-19 pandemic might have resulted in so-called "early adopters" starting to use TMH without much need from a structured TMH training program. If accurate, future TMH training cohorts might be absent these early adopters, and therefore more homogeneously reticent to use TMH. Finally, as this TMH training program was completed

in a large health care system, results may not be as generalizable to small settings such as private practice.

Preparation of this report was guided by the Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) ¹⁹.

Conclusions

The use of established Implementation Science methodologies provided structure to an interdisciplinary TMH training program that facilitated staff training and skill development. Overall, the training was well received by providers and led to an increase in TMH use by both patients and staff.

List Of Abbreviations

HBTMH Home based TMH

QI Quality Improvement

QIP Quality Improvement Project

TMH Telemental Health

VAPS VA Puget Sound

Declarations

Ethics approval and consent to participate:

The work presented herein was reviewed jointly by the Human Research Protection Program (HRPP) and Quality, Safety & Value service line at the VA Puget Sound Health Care System and determined to not constitute human subjects research. This work qualified all criteria necessary to be designated as an approved Quality Improvement Project (QIP). This project was reviewed and approved by Chen Wu MD, Director Office of Transformation Quality, Safety, and Value, VA Puget Sound Health Care System.

Consent:

All authors have granted consent. Per instructions on submission, a consent form will be submitted when requested.

Availability of data and materials:

The datasets generated and/or analyzed during the current study are not publicly available [stored on secure VA Databases that require official VA approval for access]. Some data are available from the corresponding author on reasonable request. All training materials are available upon request.

Competing interests:

The authors declare they have no competing interests.

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Author Contributions:

All authors were involved in the development and implementation of this QIP. In addition, all authors were major contributors in the preparation of this manuscript. All authors read and approved the final manuscript.

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