Curr Treat Options Psych (2020) 7:186–197
DOI 10.1007/s40501-020-00208-w

Hot Topic

Ensuring Successful Telepsychiatry Program Implementation: Critical Components and Considerations

Hossam Mahmoud, MD, MPH, DFAPA[1,2]
Emile Whaibeh, MPH[3,*]
Bridget Mitchell, MSW[1]

Address
[1]Regroup Telehealth, Chicago, IL, USA
[2]Department of Psychiatry, Tufts University School of Medicine, Boston, MA, USA
[*,3]University of Balamand, Koura, Lebanon

Published online: 1 April 2020

This article is part of the Topical Collection on *Hot Topic*

Keywords Telepsychiatry · Telemedicine · Implementation science · Integrated care · Program deployment

Abstract

Purpose Telepsychiatry in the USA witnessed exponential growth in the last decade, having been proven to be a cost-effective and sustainable approach to delivering high-quality mental health services. This surge was aided by the availability of high-speed Internet, improved software, and an increase in demand paired with expanded reimbursement models. Despite a growing interest in adopting telepsychiatry programs, many health organizations continue to face challenges at the implementation stage. This review aims to identify the critical components and the associated challenges met at the planning, deployment, and maintenance phases of telepsychiatry program implementation.
Recent findings Four critical components for telepsychiatry implementation have been identified: (1) patient population, (2) originating site, (3) tele-clinician, (4) the information and communications technologies, and a potential fifth (5) a telepsychiatry organization to help align these components. Recommendations to anticipate and address these challenges include assessing the needs of the patient population, incorporating standardized processes and data analytics into existing organizations workflow, sourcing

qualified and culturally competent tele-clinicians and providing ongoing clinical oversight, technological support, and monitoring of connectivity.
Summary The rapid growth of telepsychiatry programs in the USA is concomitant with a number of critical implementation challenges. Recommended strategies and applied solutions are discussed in this review.

Introduction

Telemental health, commonly known as telepsychiatry, is defined as the utilization of videoconferencing and other technology and telecommunication platforms to remotely deliver mental health services [1]. From a clinical perspective, telepsychiatry has been successfully implemented to provide direct patient care, for psychiatric evaluations, medication management, psychoeducation, and psychotherapy [1]. It has also been utilized to implement consultation services to healthcare professionals and clinical supervision and training [2]. Telepsychiatry has been demonstrated to be effective for many psychiatric conditions [3, 4], multiple patient populations and ages [5, 6], and in different clinical settings [3, 7, 8].

Despite being available since the late 1950s, telepsychiatry in the USA has recently experienced significant expansion and scaling, with the number of facilities offering telepsychiatry services doubling from 1580 (15.2% of all facilities) in 2010 to 3385 (29.2% of all facilities) in 2017 [9•, 10]. This recent growth is due to several factors, including increased connectivity and availability of high-speed Internet that can support high-quality videoconferencing, increased acceptability of videoconferencing as a method for healthcare delivery, expanded reimbursement models, and increased demand for mental health services paired with the inability of healthcare systems to meet these needs [10]. Telepsychiatry growth, expansion, and nationwide scaling have significantly improved access to mental health services across the country, cost-effectively, and by bypassing geographical barriers, decreasing costs and burden of travel for patients and clinicians [11].

However, despite the increase in adoption nationwide, significant challenges to telepsychiatry implementation persist. For example, 47% of major healthcare organizations across the country continue to face challenges that hinder telehealth adoption and implementation, and about 60% of those organizations in the implementation phase of telehealth report significant implementation difficulties [12•]. The main challenges identified include infrastructure, provider engagement, administrative engagement, and sustainability [12•]. Other challenges to the adoption and implementation of telemedicine have included reimbursement restrictions, state licensure requirements, technological challenges, and institutional support and funding [1, 13].

Accordingly, examining the essential components of a telepsychiatry program and identifying the associated challenges is paramount to guarantee the successful implementation of a program that ensures the delivery of high-quality care cost-effectively and sustainably. By reviewing the literature that currently exists and combining it with the authors' extensive experience in implementing telepsychiatry programs, this article will discuss said components, as well as considerations and approaches to anticipating and addressing challenges and safeguards to ensuring program quality.

Telepsychiatry implementation

While different approaches to telehealth implementation have been utilized, the American College of Physicians and the American Psychiatric Association support the utilization of integrated approaches to implementing telehealth programs [14, 15]. These approaches refer to systemic efforts by health organizations to coordinate the physical and the mental health of patients by

delivering, preferably in the same setting, the continuum of care through collaboration between behavioral health and primary care providers [16]. Integrated approaches have been found to better mirror in-person care and avoid certain issues such as fragmentation of care [11]. Given the support for integrated telehealth, this paper will focus on the implementation of telepsychiatry programs that entail an integrated approach to care, including the integration of the tele-clinician into the organization where patients will be seen, into the health technologies of that organization, and into the team of other medical and mental health professionals working with that patient population [15].

There are valuable resources that describe roadmaps for implementing telehealth programs that include needs assessment, development and planning, implementation, monitoring, and scaling [12•, 17, 18]. However, there remains a gap in the literature that focuses on practical implementation components and that explores the challenges associated with implementation, as well as approaches to mitigate such challenges.

In implementing multiple telepsychiatry programs across the USA, the authors have found that integrated telepsychiatry services require considerations for at least four critical components: (1) the patient population, (2) the healthcare organization brick-and-mortar "originating" site, (3) the tele-clinician, and (4) information and communications technologies (ICT). In cases when healthcare organizations are unable to implement a telepsychiatry program in-house, a fifth necessary component is an external telepsychiatry organization.

To further define implementation processes, telepsychiatry program implementation can be broken into three phases: (a) the pre-deployment or planning phase, in which the components needed to launch the program are identified; (b) the deployment phase, in which the elements needed to launch the program are operationalized and implemented; and (c) the post-deployment or maintenance phase, in which care is being delivered and active management and monitoring ensure sustainability.

Critical components

Patient population

The patient population refers to the individuals who will be receiving care at the originating site, via telepsychiatry, from a remotely located clinician. The patient population is a critical component because the quality and success of a telepsychiatry program rely on an implementing organization's understanding of the health needs of the community it aims to serve, the factors which make them particularly at high risk, and the barriers that limit their access to care [15, 19]. Important elements to be included in a patient population needs assessment include an overview statement for the program, demographic characteristics, common diagnoses, particular treatment needs, linguistic considerations, and payer composition [1, 13, 15]. Other important factors to consider include cultural characteristics and social determinants of health for the population receiving care [19]. Capturing the aforementioned information about patients is a crucial first step in developing a program that will effectively engage and serve the community in need.

Originating site

The healthcare organization's originating site is the brick-and-mortar location where the patient will receive services [18]. Important aspects of the originating site include geographic location, type of facility, the operational workflows of the site, and the on-site staff. Consideration of each of these elements is a key factor in ensuring the successful deployment of an integrated telepsychiatry program.

First, the geographic location of the originating site provides important socio-cultural information that may help the clinician providing care remotely to better understand the needs of the patient population [19]. Second, the type of facilities, such as hospitals, federally qualified health centers, or nursing homes, provides a context for the other medical resources, mental health services, and psychosocial support available to patients receiving care at the site [18]. Moreover, the physical location of the site and the type of facility are often tied to the licensure and reimbursement requirement which must be in place to sustain service delivery. This is because the clinician has to be licensed in the jurisdiction where the patient site is located [1, 12•]. In addition, there are still restrictions on telehealth reimbursement imposed by Medicare, requiring that the originating site be located in a rural county or a county designated as a mental health professional shortage county. Furthermore, there are significant state-specific variations within public insurance programs and private insurance reimbursement for telehealth services [1].

Third, as previously mentioned, an integrated approach to telepsychiatry entails care be provided to patients as part of the ecosystem in which the existing on-site systems serve as the foundation for delivering psychiatric care [15]. The main challenges identified within healthcare organizations include infrastructure, provider engagement, and administrative engagement, all of which impact sustainability [12•]. The authors have faced similar issues to those documented in the literature. Challenges may arise due to varying degrees of buy-in within organization leadership or on-site staff. Finally, other challenges include an overall resistance to change among staff, particularly changes that entail developing and implementing new workflows. Some sites struggle with limited connectivity to high-speed Internet necessary for videoconferencing, while others have limited experience with different kinds of technologies necessary for telepsychiatry. Other organizations have extensive privileging and credentialing processes, which slow the deployment of services, be it for telehealth or in-person care.

Tele-clinician

The clinician-related challenges include the difficulty of sourcing mental health clinicians due to the shortage and uneven distribution of psychiatrists and other mental health professionals [20]. One major advantage of telepsychiatry is that it bypasses the uneven distribution of clinicians because the remote nature of the work permits sourcing from a national pool of clinicians. However, significant challenges related to licensure in new states remain, especially given that the tele-clinician has to be licensed in the state where the patients are located [1, 21]. In addition, given the current national shortage of psychiatrists that is projected to become even more pronounced by 2025 [22], and given the limited training on telepsychiatry offered by residency programs [1], the

healthcare organizations where the authors help plan and implement telepsychiatry programs often cite significant challenges related to finding high-quality clinicians who have the training, credentials, and certifications to serve the identified population and their needs. The patient population is a critical factor because the quality and success of a telepsychiatry program often hinge on the successful match of a clinician who is not only tech-savvy and competent in caring for the patients, but also successful in developing trust and rapport with the patients despite the barrier of geography [19, 23].

Technology

The technology component entails a myriad of information and communication technologies involved in telepsychiatry, including the platform to facilitate videoconferencing sessions, electronic health records, and e-prescribing systems. It can also include other possible forms of communication between the clinician, the patients, in-person team, and pharmacy. For successful implementation, telepsychiatry programs require the availability and reliability of high-speed Internet, ongoing technological support, and hardware setup that supports the above technologies. A successful telepsychiatry program is one in which the offered services dictate and drive the technology used and not the converse [24]. The technology plan for the program should be responsive to the needs of the patient population and the services offered to them; the lure of new interesting technology might distract from what is needed and ultimately lead to poor utilization and costs overruns [24].

Telepsychiatry organization

Given the documented difficulties described by healthcare organizations when implementing telehealth programs, it is necessary at times to consider a telepsychiatry organization rather than an in-house telepsychiatry program, to address some of the specific implementation challenges that have been identified, such as administrative and clinician engagement, technological challenges and licensure challenges, and, ultimately, sustainability.

Telemedicine implementation is supported by establishing standard operating procedures and partnering with established groups to standardize protocols and processes for telehealth delivery [12•]. The consistency and clarity of the implementation roadmap reassure the organizations interested in integrating telepsychiatry into their practice about the predictability of the outcomes after deployment, which increases their trust and reliance on their partnership with the implementation team [12•]. However, smaller healthcare organizations may not have the resources, expertise, technological support, or departments to ensure such a degree of standardization when in need of implementing telepsychiatry programs. In situations requiring partnering with a telehealth organization, the American Medical Association (AMA) recommends a high-quality vendor who would serve as a long-term partner, as opposed to offering a short-term transactional service [17]. Ideally, a telehealth vendor would support the healthcare organization throughout the implementation process and prioritize successful outcomes. Factors cited by the AMA as critical in a telehealth vendor include integrating into the healthcare organization's information and communication technologies, including electronic health records; ensuring security and Health Insurance Portability and

Accountability Act (HIPAA) compliance; minimizing disruption to existing workflows; engaging with patients and treatment teams; and providing strong customer and technological support [9•].

As discussed above, standardized processes are key for aligning the roles of the proper clinician, with healthcare organization resources, technologies, and patients to create effective workflows and sustainable services. One of the main benefits of collaborating with a telepsychiatry organization, that is often noted by health organizations where the authors have implemented telepsychiatry program, has been the possibility of establishing and using robust and standardized operating procedures that can be replicated and scaled.

Implementation strategies and recommendations

A successful implementation is one that anticipates and mitigates the challenges and complexities at the level of the aforementioned components. This section lays out several strategies and recommendations (presented in Table 1) to help health organizations tackle said complexities at every phase of the implementation process.

Table 1. Strategies to ensuring successful telepsychiatry program implementation

Critical components	Phases		
	Pre-deployment	**Deployment**	**Post-deployment**
Patient population	• Comprehensive needs assessment: demographic, clinical, cultural	• Expectation management • Patient education • Informed consent	• Ongoing patient feedback
Originating site	• Organization needs assessment for services and clinical settings • Legal and compliance review • On-site staff training • Precise workflows developed and documented • Credentialing, privileging, scheduling, billing • EHR and e-prescribing training	• Identify clear roles for implementation	• Data analytics on program utilization, value, staff satisfaction and feedback, optimal care, and return on investment.
Tele-clinician	• Recruiting based on credentials and experience, personality traits, technology acumen, cultural competency, and licensure	• Comprehensive training on organization's rules and regulations, technology, and cultural competency	• Monitor productivity and workflow • Monitor quality of care • Active clinician outreach and engagement
ICT	• Pre-testing the internet connection • Contingency planning for tech breakdown • Tech training for tele-clinician and on-site staff	• On-time tech support	• Ongoing tech support monitoring of connectivity, software, hardware • Timely staff and tele-clinician training

Patient population

At the pre-deployment stage, a major factor in determining the success of implementation is locating clinicians who are best suited to care for the patients, not only with respect to their training and certification but also in their ability to meet the particular needs of the patient population by providing culturally affirming care [19]. Therefore, a pre-deployment, comprehensive assessment is essential to determine the needs of the population and the ideal clinician and types of mental health services that would meet their needs. In addition, patients should be screened for their willingness and comfort with receiving care via videoconferencing.

During deployment, efforts must focus on expectation management, educating patients on the concept of care delivered via videoconferencing, and addressing any concerns about remote care, including confidentiality. This is critical not just for buy-in but for ensuring adequate informed consent [19, 22]. A thorough informed consent must follow the laws of the jurisdiction where the patients are located and should incorporate all the elements of an informed consent followed for in-person care, such as services, the structure of the program, documentation, scheduling, billing, confidentiality, privacy, potential risks, emergency planning, and mandatory reporting. Additionally, the informed consent and patient education must include information specific to videoconferencing and other information and communication technologies, in clear accessible language [19, 22]. Moreover, it is essential to establish reasonable expectations about clinician availability by electronic contact or phone between sessions, a framework of acceptable conditions for such contact, clearly defined clinician response times and emergency management [22].

In the post-deployment phase, attention must be focused on collecting feedback from patients on their comfort with technology and satisfaction with the services they are receiving [12, 19]. Feedback can be collected using self-administered surveys that patients can complete after their sessions or through interviews conducted by staff. After the authors implemented a telepsychiatry program in collaboration with the outpatient department of a medical center in rural Illinois, Net Promoter Score (NPS), for patient satisfaction was utilized [25]. Based on the feedback of 227 patients, NPS, which ranges from – 100 to 100, was 26 for the first-year post-deployment, which is considered a promising good start [26]. When possible, patients should be given the option between telepsychiatry and in-person care.

Originating site

At the pre-deployment phase, successful implementation requires a comprehensive assessment to determine the needs of the organization concerning improving access to care, including the settings where clinical care is needed, such as hospital-based, community-based, or office-based settings; the type of services needed, such as psychotherapy or medication management; and the level of care, such as inpatient services, outpatient services, residential services, or consultation liaison services, to name a few. In addition, a legal and compliance review is necessary to ensure that any services implemented would follow the laws of the jurisdiction where the originating site is located [12•].

It is essential to clearly identify roles of staff members before deployment of services, including those who would oversee program implementation, provide

support to the tele-clinician, and provide ongoing monitoring [12•, 15]. In the authors' experience, the key to successful implementation is the identification of a patient navigator, also known as a telehealth navigator. Because they are familiar with the site's unique workflow, they are uniquely positioned to bring the other components of the telepsychiatry program together by providing oversight of the daily operations of the program, support to the tele-clinician and patients, and technological troubleshooting when needed [27].

In addition, given that the success of integrated telepsychiatry programs relies heavily on the collaborative work of the tele-clinician and on-site staff, training programs aimed at increasing buy-in from staff are essential. These trainings should include socializing telepsychiatry, improving staff comfort level with technology, understanding of the new workflows, team building between staff and the tele-clinicians, and enhancing buy-in from stakeholders at various levels. Precise workflows must be developed and documented, including procedures for session length, tele-clinician availability, charting and prescribing, and scheduling. Contingency planning is necessary for technology-related issues and clinical emergency management and clinician backup coverage [22]. These procedures must be well documented and regularly reviewed and updated.

Integrated telepsychiatry requires that the tele-clinician be privileged with the organization and credentialed with the payers with whom the organization contracts. While organizational by-laws and internal processes cannot be modified, strategies to expedite privileging and credentialing can be utilized, including gathering documentation from the tele-clinician efficiently and in electronic format when possible. In addition, it is important that coordinated scheduling, billing services, and technical support are set up to ensure efficient and sustainable services [12•].

Deployment requires oversight to ensure proper implementation, based on predefined staff roles that are identified during pre-deployment. Issues related to workflow should be tracked and addressed as early as possible. Ongoing monitoring of patient needs, site needs, and workflow allows for quality assurance and ongoing refining of processes. Post-deployment, data analytics should provide valuable feedback on program utilization, value, staff satisfaction and feedback, optimal care, and return on investment [1, 12•].

Tele-clinician

During pre-deployment, the recruitment process should assess whether a clinician is a qualified match for the patient population and the originating site. For this purpose, the authors have developed a Clinician Quality Rating scale, to ensure that all interviews conducted when recruiting candidates include assessments for the following elements:

- Education, training, certification, and relevant experience in particular areas that would serve the needs of the patient populations
- Technology acumen, such as experience and comfort with ICTs, including videoconferencing, electronic health record systems, and e-prescribing software.
- Personality traits that include flexibility, a positive attitude, and the ability to handle unexpected situations, such as communication breakdown, with poise and professionalism.

- Cultural competency, defined as the ability to understand and adjust to the cultural needs of the patient population, including language, cultural and socioeconomic backgrounds, age, sexual orientation, gender, and geographical location [19, 22, 28].

Given the limited formal education and training on telehealth and telepsychiatry, deployment should include training for the tele-clinician on a wide range of topics, including delivering care remotely, different technologies, online security, and HIPAA compliance [1, 22]. In this line, the authors work with tele-clinicians at the start of service delivery to provide enhanced training covering the aforementioned topics as well as specific training for the site and patient population for which care will be provided. It must also include training on the site's electronic health records and e-prescribing systems, familiarization with the organization's by-laws, rules and regulations, and introduction to key stakeholders and staff members with whom the tele-clinician will be collaborating. Cultural training should also be incorporated, including any recent major events or cultural specificities of the particular community [21]. When appropriate and feasible, we recommend that tele-clinicians conduct site visits or use cultural facilitators to familiarize themselves with the culture and environment of their patient population [24]. This has proved instrumental in working with tribal communities, where the importance of culturally affirming care has been documented [29]. One example is work at Forest County Potawatomi, a tribal community in Wisconsin, where tele-clinicians trained on-site and visited the community, which contributed to the provision of culturally affirming care [30].

Post-deployment, it is essential to track productivity and workflow, as well as the quality of care, using a combination of peer reviews, patient feedback, and on-site staff feedback. Telepsychiatry can have some advantages when it comes to clinician burnout, but it can also be associated with social and professional isolation due to the remote nature of the work [31]. However, we found that, when employed, active outreach efforts that actively engage tele-clinicians and ensure they feel part of the team can be quite helpful [31]. These activities can take the form of in-person meetings with the in-person staff, site visits, and video-based educational and academic meetings, such as journal club. Furthermore, integrated approaches to telepsychiatry entail regular interactions between the tele-clinician and in-person staff and may mitigate the academic, social, and occupational isolation [31].

Technology

Pre-deployment considerations require pre-testing the Internet connection before deployment to ensure adequate connectivity and bandwidth, developing contingency plans for technological difficulties, training the tele-clinician and support staff on information and communication technologies' hardware and software, and on troubleshooting in case of technology breakdown [1, 22]. The hardware that a clinician and site will use for sessions should also be evaluated to ensure it meets the technical specifications required to deliver sessions with the available bandwidth [22]. In addition, computers in both the originating site and clinician's office must be equipped with updated antivirus and firewall software, as well as the most up-to-date security patches for the operating system and communication platform [22]. The physical space from which the

clinician will deliver care, as well as the patients' room, should also be evaluated for privacy and the professional appearance of the space, with attention to clarity and visibility [22, 27].

It is important to ensure privileging with the originating site is complete and that access to the electronic health records is granted prior to deployment. The pre-deployment steps and training mitigate difficulties that might arise during deployment, particularly if adequate training and contingency planning are implemented and if the technological processes and workflows are clearly documented in a fashion that is accessible to the clinician and originating site staff. Post-deployment solutions include regular technological support and ongoing monitoring of the quality of connectivity, software updates, and hardware maintenance. Training on any new processes or updates to information and communication technologies must be conducted in a timely manner to ensure continuity of care.

One approach that the authors have found helpful in post-deployment success has been the implementation of an issue tracking system for the timely identification, monitoring, and resolution of clinical and workflow issues. These issues include technology challenges, concerns about workflow, the clinician, the originating site, patient satisfaction, or patient care. Each issue is further categorized by "issue type," including licensure, credentialing, workflow issues, and technology issues including electronic health records or safety concerns. Twice a week, the clinical and operations teams meet to review new and open issues and develop action plans, including pathways for escalation, monitoring, or resolution. This system has also allowed the team to collect data and monitor trends that influence how new clinicians are deployed at particular sites and help plan pre-deployment measures that would mitigate anticipated challenges.

Conclusions and considerations for telepsychiatry implementation

Ensuring successful telepsychiatry programs requires implementation that takes into consideration the four components of a telepsychiatry program identified in this article: (1) the patient population, (2) the healthcare organization's originating site, (3) the tele-clinician, and (4) information and communications technologies, as well as a potential fifth component, in which a telepsychiatry organization can align these components together. These four components must be closely aligned during the planning, deployment, and maintenance phases. The ideal implementation would incorporate standardized processes and data analytics across multiple stages of implementation.

Given the ongoing difficulties reported by healthcare organizations in implementing and sustaining telehealth programs, it is important to utilize implementation examples and operational experiences to provide practical guidance to healthcare organizations. Meanwhile, we urge healthcare organizations to incorporate data analytics at every stage of implementation to ensure adequate planning and monitoring. As telepsychiatry implementation continues to expand and to focus on outcome measures, we are hopeful that more case studies and project

reports will be published and contribute to the collective data on telepsychiatry implementation.

Author's contributions

The authors Hossam Mahmoud and Bridget Mitchell first conceived of the presented idea. All authors contributed to the literature search and the drafting of the manuscript. All authors critically revised and approved the final manuscript.

Compliance with ethical standards

Conflict of interest

Hossam Mahmoud declares no conflict of interest. Emile Whaibeh declares no conflict of interest. Bridget Mitchell declares no conflict of interest

References Recommended Readings

Papers of particular interest, published recently, have been highlighted as:

- • Of importance
- •• Of major importance

1. Mahmoud H, Vogt EL, Sers M, Fattal O, Ballout S. Overcoming barriers to larger-scale adoption of telepsychiatry. Psychiatr Ann. 2019;49(2):83–8.
2. Cash CD. Telepsychiatry and risk management. Innov Clin Neurosci. 2011;8(9):26–30.
3. Yellowlees P, Burke MM, Marks SL, Hilty DM, Shore JH. Emergency telepsychiatry. J Telemed Telecare. 2008;14(6):277–81.
4. Bolle SR, Trondsen MV, Stensland GO, Tjora A. Usefulness of videoconferencing in psychiatric emergencies–a qualitative study. Health Technol (Berl). 2018;8(1):111–7.
5. Hilty DM, Ferrer DC, Parish MB. Johnston B, Callahan EJ, Yellowlees PM. The effectiveness of telemental health: a 2013 review. Telemed J E Health. 2013;19(6):444–54.
6. Yellowlees P, Shore J, Roberts L. Practice guidelines for videoconferencing-based telemental health–October 2009. Telemed J E Health. 2010;16(10):1074–89.
7. Nelson EL, Cain S, Sharp S. Considerations for conducting telemental health with children and adolescents. Child Adolesc Psychiatr Clin N Am. 2017;26(1):77–91.
8. Leonard S. The development and evaluation of a telepsychiatry service for prisoners. J Psychiatr Ment Health Nurs. 2004;11(4):461–8.
9.• Spivak S, Spivak A, Cullen B, Meuchel J, Johnson D, Chernow R, et al. Telepsychiatry use in U.S. mental health facilities, 2010–2017. Psychiatr Serv. 2019. https://doi.org/10.1176/appi.ps.201900261

Reviewing telepsychiatry use trends over the past decade and outlining lessons learned on how historically barriers have been mitigated.

10. Chan S, Parish M, Yellowlees P. Telepsychiatry today. Curr Psychiatry Rep. 2015;17:1–9.
11. Dorsey ER, Topol EJ. State of telehealth. N Eng J Med. 2016. https://doi.org/10.1056/NEJMra1601705.
12.• Lokken TG, Blegen N, Hoff MD, Demaerschalk BM. Overview for implementation of telemedicine services in a large integrated multispeciality health care system. Telemed E-health. 2019. https://doi.org/10.1089/tmj.2019.0079

Laying out a general framework that healthcare facilities may utilize to enhance the probability that the implementation of integrated telemedicine programs is successful.

13. Mikulic M. Which of the following has been a challenge to implementing telemedicine practices in your organization? Statista. 2018. https://www.statista.com/statistics/870073/telemedicine-program-implementation-challenges/. Accessed 10 Nov 2019.
14. Daniel H, Sulmasy LS. Health and public policy committee of the American college of physicians. Policy recommendations to guide the use of telemedicine in primary care settings: an American College of Physicians position paper. Ann. Intern. Med. 2015;163(10):787–9.

15. Shore JH, Yellowlees P, Caudill R, et al. Best practices in videoconferencing-based telemental health. Telemed E-health. 2018;24:827–32.
16. Soltis-Jarrett V, Shea J, Ragaisis KM, Shell LP, Newton M. Integrated behavioral healthcare: assumptions, definition and roles: position paper from the international society of psychiatric-mental health nurses. Arch Psychiatr Nurs. 2017;31:433–9.
17. American Medical Association. Digital health implementation playbook. N.P.; 2018.
18. California Telehealth Resource Center. The CTRC Telehealth Program Developer Kit. N.P.; 2014.
19. Shore JH, Savin D, Novins D, Manson SM. Cultural aspects of telepsychiatry. J Telemed Telecare. 2006;12:116–21.
20. Overview. Workforce. The Substance Abuse and Mental Health Services Administration. 2019. https://www.samhsa.gov/workforce. Accessed on 10 Nov 2019.
21. American Telemedicine Association. Practice guidelines for video-based online mental health services. 2013. https://www.integration.samhsa.gov/operations-administration/practice-guidelines-for-video-based-online-mental-health-services_ATA_5_29_13.pdf. Accessed 10 Nov 2019.
22. National Council Medical Director Institute. The psychiatric shortage: causes and solutions. 2017. https://www.thenationalcouncil.org/wp-content/uploads/2017/03/Psychiatric-Shortage_National-Council-.pdf. Accessed Nov 12, 2019.
23. Chakrabarti S. Usefulness of telepsychiatry: a critical evaluation of videoconferencing-based approaches. World J Psychiatr. 2015;5:286–304.
24. Mishkind MC. Establishing telemental health services from conceptualization to powering up. Psychiatr Clin N Am. 2019;42:545–54.
25. Koladycz R, Fernandez G, Gray K, Marriott H. The Net Promoter Score (NPS) for insight into client experiences in sexual and reproductive health clinics. *Glob Health Sci Pract*. 2018;6(3):413–24. https://doi.org/10.9745/GHSP-D-18-00068.
26. Mahmoud H. Raymond ML, Dahdouh. Leveraging Technology to Enhance Access to Behavioral Health Services: Impact, Cost-effectiveness and Challenges. Poster presented at: NatCon 2019; Presented at: Natcon 2019: March, 24; Nashville, TN.
27. Pruthi S, Stange KJ, Malagrino GD, Chawla KS, NF LR, Kaur JS. Successful implementation of a telemedicine-based counseling program for high-risk patients with breast cancer. *Mayo Clin Proc*. 2013;88:68–73.
28. American Psychiatric Association, American Telemedicine Association. Best practices in videoconferencing-based telemental health. American Psychiatric Association. 2018. https://www.psychiatry.org/psychiatrists/practice/telepsychiatry/blog/apa-and-ata-release-new-telemental-health-guide. Accessed 10 Nov 2019.
29. Kruse CS, Bouffard S, Dougherty M, Parro JS. Telemedicine use in rural native American communities in the era of the ACA: a systematic literature review. *J Med Syst*. 2016;40(6):145. https://doi.org/10.1007/s10916-016-0503-8.
30. Regroup. A True Collaboration: A Tribal Community Meets Unique Patient Needs With Integrated Telepsychiatry. 2018; https://blog.regrouptelehealth.com/case-study-potawatomi-tribal-community-meets-unique-patient-needs-with-integrated-telepsychiatry.html
31. Vogt EL, Mahmoud H, Elhaj O. Telepsychiatry: implications for psychiatrist burnout and well-being. *Psychiatr Serv*. 2019. https://doi.org/10.1176/appi.ps.201800465.

Publisher's Note