Chapter 6
Telemental Health Delivered to Nontraditional Locations and for Special Populations

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Introduction

Telemental health (TMH), which may be defined as the use of technology, specifically two-way synchronous video chat throughout this chapter, to provide mental health care at a geographic or temporal distance, is a mode of service delivery that offers viable solutions to both systemic and urgent issues associated with growing mental health need, provider shortages, and patient obstacles, especially as related to geography, mobility, and stigma to accessing care (Bashshur et al., 2015; Hilty et al., 2013; Hubley et al., 2016). TMH has traditionally focused on replicating in-person services through the provision of mental health care from one institution (e.g., hospital or university) to another. Early TMH programs and models used what were often costly and, at times, unreliable synchronous two-way, audio, and video connections, and the infrastructure of these early TMH programs required the resources of large institutions to be effective (Shore, 2015). Fortunately, TMH has expanded rapidly over the past two decades concurrently with revolutions in technology and devices such as smartphones and telecommunications including the Internet, and overall changes in the health-care landscape focused on improving care and access while reducing costs.

TMH has increased in acceptance and utilization as it has been shown to make significant positive impacts on mental health delivery systems by more effectively tailoring mental health services to individual or community-based health-care needs (Mishkind et al., 2018)). This includes the promotion of a locality-based stepped care approach for specific populations that have otherwise been underserved (Adams et al., 2018). Part of this increased service flexibility is because many of the

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technologies and peripherals used to deliver services today are ubiquitous to consumers based largely on commercial use and applications (Wright et al., 2019). Overall, the body of the telemental health literature points to the conclusion that use of two-way audio and visual technologies to deliver mental health treatment is no less effective than in-person care for a broad range of mental health concerns (Mishkind et al., 2018).

Nontraditional Locations and Special Populations Defined

There is no absolute definition for what may be considered a "nontraditional location" for TMH services, although it may be argued that a nontraditional location for services is one that is simply different from the established norm (e.g., hospital-based clinic). The same might be said for "special populations" being defined as populations that require specific understanding such as cultural competency or specialized experience in delivering service in a tailored format. The history of institutional-based TMH would suggest that anywhere outside of an established clinically supported location would be considered nontraditional and that many populations outside of those able to access an established clinic would be considered "special." However, the transition between nontraditional and special, and standard of care, or what is considered traditional is fluid.

To maintain focus, this chapter will discuss care delivered to two location types, in-home and post-disaster situations, and to special populations including veterans, children and adolescents, and geriatric individuals. The information provided is not meant to be exhaustive, and the objectives of this chapter are to (1) provide tips for implementing nontraditional services, (2) demonstrate the flexibility of TMH as an access to care solution, and (3) provide examples of success outside previously established norms. Practice guidelines including safety protocols, efficacy research, and other administrative considerations will be discussed.

Implementing TMH Care in Nontraditional Locations

An argument against expanding into nontraditional settings may be that there is limited control over the environment and encounter compared to traditional in-person sessions. However, this argument does not represent the real amount of control a provider or other clinical and administrative staff have both in session and during the significant time periods between sessions when there is limited or no patient-provider contact. It also doesn't recognize that for some patients a TMH encounter using a nontraditional originating site may be the only direct connection available with a provider.

In-Home Telemental Health

In the United States, prior to the industrialization of health care, the sick was cared for as part of domestic life, and families who could afford it would hire doctors or nurses to provide care in the home, and hospitals were a place of last resort for those with no alternatives (Buhler-Wilkerson, 2007). The industrialization of health care, as noted by the standardization of work and clinical location with a system of managerial oversight, was necessary as medicine has become more complex and specialized and does have benefits in the form of effectiveness and efficiency (Rastegar, 2004). However, this industrialization has at times come at a cost to physician autonomy, continuity of care, and patient input into when and where care is received. This has become especially pronounced in rural and otherwise underserved areas that may not have access to the institutions and clinics that have become the standard locations for care.

TMH, in effect, affords patients and providers the opportunity to return to more traditional care delivery models or at least a hybrid approach between industrialization and tradition. The standards of evidence-based services and consumer protections by managerial oversight can now be coupled with more patient-centered services that renew focus on patient-physician communication and personal connection through the delivery of services when and where they are most needed and effective. For example, Comer et al. (2017) found evidence that in-home TMH treatments may be more efficacious for certain behavior problems due to the immediacy of skills being practiced directly in the setting where problems exist.

Clinical Outcomes and Feasibility Prior to the recent expansion of in-home TMH as a mitigation response to the COVID-19 pandemic (Mishkind et al., 2021), feasibility pilots and outcomes trials demonstrated that in-home TMH could be a valuable addition to mental health-care services. Fletcher et al. (2018) review of ten in-home TMH studies largely found no significant differences in treatment dropout between in-home TMH and in-person services. Patient satisfaction with in-home TMH was high among the studies reporting outcomes as was therapeutic alliance. Three studies reported provider satisfaction outcomes, with mixed results. For those willing to use in-home TMH, satisfaction was relatively high. However, at least one study reported issues recruiting providers to participate in a study comparing in-home TMH to in-person services suggesting a gap between patient and provider perspectives. While it had been argued that few differences existed clinically between clinic-to-clinic and home-based services, it took the COVID-19 pandemic to demonstrate that providing TMH services direct to a patient's home as part of a systematic program could be done safely and effectively (Abraham et al., 2021).

Case Study

The In-Home TMH Program provides care to a high percentage of residents with geographic and mobility concerns. The providers delivering care all reside in an urban location that often experiences adverse weather conditions especially during the winter months. The clinic overall was able to maintain relatively low no-show

and cancelation rates. However, clinic leadership noticed that providers often had to cancel sessions due to their own difficulty getting into the main clinic office. The clinic decided to offer in-home TMH care from provider homes into patient homes and found that cancelation rates dropped from 30% to less than 15%. Most significant was the almost complete elimination of provider cancelations. The program also discovered higher than normal rates of satisfaction with the services to include comments about increased convenience and comfort without drops in provider-patient rapport.

Post-disaster Settings

Telemental health care can be an effective solution to provide care post-disaster, natural or man-made, given its inherent flexibilities including the use of Internet-based services and mobile platforms such as smartphones and tablets. Although being a rural area is not the sole definition of a post-disaster setting, some of the same potential barriers including limited hardware and bandwidth exist. Disasters can exacerbate already known mental health concerns, and mental health services are a core concern for public health complex emergencies (Mollica et al., 2004). A review of 24 papers evaluated the impact of quarantine/self-isolation and found that most studies reported negative psychological effects including post-traumatic stress symptoms, confusion, anger, and other concerns associated with frustration, boredom, fear, and loss of financial and other resources (Brooks et al., 2020). Mitigation responses to COVID-19, which relied heavily on in-home TMH (Abraham et al., 2021), is an example for how flexibility of response was used to respond to a global pandemic. It is also important to note that disasters often occur in the developing world, which has low rates of available specialty medical services.

Augusterfer and colleagues have conducted three reviews on the use of TMH in post-disaster settings (Augusterfer et al., 2015, 2018, 2020). The authors' 2015 review found evidence, although limited, that TMH can enhance the delivery of mental health care in post-disaster settings. Some case examples they reviewed include a remote area of Pakistan, Haiti following an earthquake, and a Syrian refugee camp in Turkey. One example discusses how a fisherman from St. Petersburg, Florida, used his on-board ham radio to connect the US Navy hospital ship, *USNS Comfort*, with doctors in Haiti. An updated review in 2018 includes focus on use of a primary care-mental health specialist and TMH collaboration model. This model utilizes local primary care providers who then connect and collaborate with distant mental health providers, presumably outside of the disaster area. A benefit of this model is that the local provider understands the language and local culture and is well positioned to establish a trusting relationship. The distant mental health provider can then serve as a partner and advisor. Other recommendations for delivering services to post-disaster settings are similar to those for delivering care in remote or other underserved areas to include gaining permission and/or buy-in to work from local entities, having clear protocols and agreements regarding the scope of the

work, working with local partners to gain understanding of specific needs, understanding the local technology infrastructure, providing for the safety and well-being of disaster relief providers, and partnering with trusted organizations.

The combination of nontraditional space and local need is addressed in a project by Mishkind et al. (2012) that utilized a 20-foot shipping container, outfitted with three offices and telehealth equipment, to provide TMH services between American Samoa and Hawaii. The outfitted shipping container, known as a relocatable telehealth center (RTeC), was placed in American Samoa to support a redeploying US Army Reserve Infantry unit and in response to the September 2009 tsunami that hit the island. The authors conducted an initial evaluation with 28 patients to assess patient satisfaction with and usability perceptions of an outfitted container to receive TMH care. The overall results suggest that the container was safe, private, and perceived as an appropriate TMH setting. This includes favorable ratings of the technology and physical comfort and a high level of agreement that the setting was an acceptable place to receive care.

Case Study

A major hurricane hit the southeast coast of the United States, destroying homes and other buildings, knocking out power and damaging roads, and injuring residents who were unable to receive in-person care. Utilizing broadband and cellular networks, disaster response teams were able to connect with residents and provide post-incident stress debriefings as needed.

Considerations for Care in Nontraditional Locations

Several resources are available that provide guidance for developing TMH services and establishing appropriate guidelines (Shore et al., 2018; Mishkind, 2019); this section provides a few highlights for nontraditional locations.

Safety Considerations Telemental health session standards occur within the context of the environment mutually agreed upon between patient and clinician. This includes locations with well-established safety protocols, as well as those requiring additional competence to manage. There is direct evidence that safety concerns are not only managed by use of established procedures but may also provide the necessary link to someone in crisis. Gros et al. (2011) provided one of the first reports of use of in-home TMH services to identify suicidality in a patient and intervene with a safety plan using a series of enhanced communications. The authors suggest that the telehealth equipment provided three benefits during the emergency: (1) a secondary route of communication for the provider, allowing for external safety planning to occur simultaneously, (2) constant visual observation for ongoing assessment of distress, and (3) observation of other potentially self-harming behaviors. The use of in-home TMH in this situation was instrumental to, rather than inhibiting of, patient safety management and demonstrated that care delivered to clinically unsupervised locations can be safely managed. Although focused on in-home TMH, this

report provides generalized evidence for management of safety concerns in nontraditional locations.

Identifying Needs Guidelines suggest that a needs assessment should be conducted prior to initiating TMH services as programs tend to fail when planners do not properly understand the problem that TMH is attempting to solve (Shore et al., 2018; Mishkind, 2019). The use of nontraditional locations in some situations may indicate the need to develop resources quickly and not provide time for the implementation of a full assessment (Mishkind et al., 2021). Whether a program is being developed quickly for shorter-term needs (e.g., post-disaster situation) or for more systematic programs (e.g., in-home TMH), first understand the intent of the service and what you want to offer, and then evaluate the following at a minimum: personnel resources, technology needs, operational space, and regulations.

Training Provider, and other staff, and potentially patient training and education should be a focal point when implementing any new service. This is especially true in nontraditional locations where operating procedures and environments may differ from standard practice. Limiting training to providers may hinder the development of a new service program, and it is recommended to evaluate the training needs of all staff. One study evaluated a training protocol for a deploying army unit tasked to expand telemental health services in Afghanistan and suggested five training best practices before working in a nontraditional location (Mishkind et al., 2013). The overarching theme is that interactive training in real-life scenarios and implementing real-time standard operating processes is invaluable. The practices, updated for more current implementation needs, are as follows: (1) Use established didactic training materials for topics such as TMH evidence base. (2) Focus on live, interactive sessions to practice troubleshooting, rapport-building techniques, and implementing standard operating procedures in the new environment. (3) Use known lessons learned to develop real-to-life training scenarios. (4) Incorporate training into daily activities such as holding meetings via videoconferencing. And (5) tailor training based on roles while ensuring that all staff have the same base competencies and knowledge sets.

Other Considerations Operating in nontraditional locations requires collaboration between clinical and administrative teams. Some additional considerations include focusing on immediate tasks that make sense without overcomplicating solutions. Utilize existing protocols and modify when necessary and remember that critical clinical and professional standards don't change but do adapt to situations. Maintain communication pathways and use a variety of communication technologies to ensure continuity of operations. Potentially most important is to monitor employee morale as some work in nontraditional locations may be isolating or otherwise taxing. Table 6.1 provides key considerations for implementing in-home TMH and when needed for disaster situations.

Table 6.1 Key considerations for in-home TMH and disaster situations

Overview	Focus on immediate tasks to complete and don't overcomplicate solutions
Protocols	Modify existing clinical protocols Maintain clinical standards
Administrative	Update clinical workflows, licensure, and regulatory issues Implement communication pathways between clinical and administrative teams Update clinical processes for billing, scheduling, front desk support, medication refill requests, and prior authorizations
Technical	Use HIPAA-compliant, or other secure, solutions as possible Ensure clinical needs can be met including access to EHR Test bandwidth for clinical care Develop communication platforms for clinical consultation Provide equipment and home setup resources as necessary Develop team communication platforms, preferably web based
Personnel	Evaluate home office as a clinical setting Be mindful of impact of clinical isolation on morale Use technology and flexibility to deliver services that meet patient and provider needs such as "off hour" services Be mindful of impact of expanded operations on morale
Patient requirements	Evaluate understanding of virtual care and experience with technology Provide technical assistance as needed including test calls

Implementing TMH Care for Special Populations

The recent expansion of where and how TMH care is delivered has expanded access to care options for some special populations. Although this expansion is beneficial, there remains specific consideration when engaging TMH care for these populations especially when care is originated in nontraditional locations. A single chapter does not afford the space to cover all populations or all considerations and, therefore, we will focus on some examples with veterans, children and adolescents, and individuals of geriatric age.

Veteran Populations

The Veterans Health Administration was one of the first large health systems to pilot the delivery of TMH into veterans' home (Shore et al., 2014) and now uses it across the system (Rosen et al., 2021). Fletcher et al. (2018) conducted a review of in-home TMH studies published between 2013 and 2018 to evaluate clinical outcomes, treatment adherence, patient and provider satisfaction, cost-effectiveness, and clinical considerations when delivering synchronous TMH care directly into patient homes. The majority of the studies included US veterans or active duty members; nine focused on psychotherapy, and outcomes were reported for a range of mental health concerns including five for depression, four for post-traumatic stress disorder

(PTSD), and one each for substance use and obsessive-compulsive disorder (OCD). All ten studies evaluated by Fletcher et al. (2018) reported significant outcome improvements. The two open trials showed large effect sizes for change in OCD and PTSD symptoms following in-home TMH. Five of the studies conducted noninferiority analyses designed to evaluate whether in-home TMH is no worse than traditional in-person treatment. Each of the noninferiority trials focused on prolonged exposure for PTSD or behavioral activation for depression in veteran and military populations, with four studies showing noninferiority of in-home TMH compared to in-person treatment. Two studies showed evidence suggesting that the use of in-home TMH resulted in longer-term treatment effects for depression symptoms.

Morland and colleagues (2020) examined clinical outcomes for prolonged exposure (PE) therapy for PTSD delivered by in-home TMH, clinic-based TMH, and by in-home in person. Study participants were 175 US veterans randomly assigned to one of the three conditions. Results suggest that there were no significant differences across the three conditions for the primary and secondary clinical outcomes, including self-reported and clinician-assessed PTSD symptom change. Furthermore, clinical improvements were largely maintained from post-treatment to 6-month follow-up. They also found that US veterans enrolled with in-home in-person services had significantly lower dropout rates than those receiving either traditional clinic-based TMH or in-home TMH. While not significantly different, those receiving traditional clinic-based services had the highest dropout rates suggesting that receiving care in one's home, regardless of modality, increases access to and engagement with care. Furthermore, as in-home in person is likely to be the most expensive option, in-home TMH has the potential to be the most efficient overall.

Boykin et al. (2019) conducted a chart review of 74 US veterans receiving at least one session of cognitive processing therapy (CPT) or PE for PTSD delivered via in-home TMH, or a hybrid approach of in-home TMH and in-person care. The majority participated in the hybrid approach, with most sessions delivered via in-home TMH. Overall attrition rates were comparable to in-person completion rates, and patients utilizing in-person TMH completed more sessions on average before dropping out. This indicates that in-person TMH improves access by reaching patients who may not otherwise seek in-person care. Also, the authors note that their findings support the emphasis on clinical expertise and competency over patient criteria when determining who may benefit from in-home TMH. Whealin et al. (2017) provide a nice summary of the feasibility of in-home TMH. They compared perceptions of 47 US veterans from pre-in-home TMH services to post-in-home TMH services and found that the most common reasons for engaging in in-home TMH were convenience, increased privacy, less stress, and timely access to care. Mishkind et al. (2021) conducted an assessment of how two outpatient clinics rapidly converted to in-home TMH in response to COVID-19 mitigation strategies, with one of the clinics focused on care delivered to veterans, active duty service members, and their families. The assessment showed that rapid virtualization to in-home TMH services can occur effectively and that wider acceptance of care delivered virtually to patient homes is likely in the foreseeable future as health-care providers and systems reconceptualize service delivery.

Children and Adolescents

Mental health problems among children and adolescents are common, with at least one in five suffering from a disorder and others at risk (Patel et al., 2007). The ability to provide patient-centered services to children and adolescents is incredibly important to alleviate mental health concerns and to prevent more chronic disorders later in life. Synchronous services have been shown to increase access, have clinical impact, be acceptable to participants, and are well suited for youth who are accustomed to the technology and feeling of control it allows (Nelson & Sharp, 2016). Particularly youth feel less self-consciousness, less worried about confidentiality as the provider is outside of the local community, and freer with the personal space it affords.

Multiple studies/reviews have demonstrated the feasibility of implementing TMH with young people across diverse, including nontraditional, settings (e.g., rural, pediatrics) (Nelson & Sharp, 2016). The most described settings are primary care clinics, community mental health centers, and schools, but others include correctional settings, residential treatment facilities, critical access hospitals, group homes, Area Health Education Centers, colleges, sites serving foster care, military bases, and day care settings (Myers et al. 2015; Nelson & Patton, 2016). Unsupervised settings including patient homes bring both new benefits and risks (Nelson & Sharp, 2016), and recent studies have focused on inpatient psychiatry and emergency departments (Reliford & Adebanjo, 2019). Carpenter and colleagues conducted a pilot of in-home cognitive behavioral therapy (CBT) TMH for anxious youth ages 7–14 years. The study provided remote, family-based CBT directly into family homes using video-chat technology. Results are suggestive of promising feasibility for and acceptability of the service. Although the pilot was purposefully underpowered to evaluate clinical efficacy, there was some evidence suggesting positive clinical outcomes. Other TMH options like websites, chat groups, apps, texts, and wearable sensors are being used (Odgers & Jensen, 2020). These options are beneficial and require extra attention by providers, patients, and families. The process of integrating technology into traditional health care or adapting that care to the technology is especially noteworthy when using technologies that are ubiquitous to children and adolescents. Social media is integral to adolescents and young adults and therefore part of care, so the clinician needs to systematically screen technology use and for what purpose(s) (e.g., entertainment, health care, BH), as well as exposure to risks (e.g., self-disclosure, cyberbullying, privacy) (Hilty et al., 2021). Integrating these technologies into care can create a new, previously impossible, sense of continuity, connection, and ease of communication. However, increased focus must be given to ensure therapeutic rapport, avoid miscommunications and misunderstandings, and prevent problems with privacy and boundaries (e.g., no after-hours texting, not using mobile phone for professional care).

Geriatric Populations

The number of older adults with mental illness is also projected to rise commensurately with population increases (Jeste et al., 1999), and older adults are particularly at risk for other health problems and have reduced access to appropriate care and poorer self-assessment of their health; rural elderly are further disadvantaged relative to their urban counterparts. Furthermore, families/caregivers are profoundly affected because over 75% of older adults are cared for at home (Schulz & Martire, 2004) and require in-home TMH options. A review of technology-based interventions for medical and BH disorders showed that approximately two-thirds of open or randomized controlled trials reduce caregiver stress and improve quality of life (Hilty et al., 2018).

Telemental health outcomes for geriatric patients are comparable to in-person care and quite in parallel with outcomes for patients of all ages (Gentry et al., 2019). TMH is feasible and well accepted in the areas of inpatient and nursing home consultation, cognitive testing, dementia diagnosis and treatment, depression in integrated and collaborative care models, and psychotherapy. There are many descriptive, nonrandomized nursing home studies with positive outcomes, usually for depression or dementia, and these show that consultant time is efficiently used (Gentry et al., 2019). Table 6.2 provides some key considerations for implementation with special populations.

Case Study
A 72-year-old Mexican American man was referred for TMH evaluation by his primary care provider (PCP), a Spanish-speaking Caucasian male in his 30s, for "resistant depression," as he reported low mood, tearfulness, and a host of somatic complaints. He also had diabetes, hypertension, and a few miscellaneous physical complaints. The patient had missed some in-person appointments without a clear explanation. It was decided that the patient would remain at home and participate in the 60-minute evaluation via in-home TMH. The psychiatrist conducting the evaluation was a 35-year-old Spanish-speaking Mexican American female. The patient spoke of many medications by color, stating that they "all helped very much," but he did not know which one was for depression. When asked about adherence with the medication, he complimented his provider, but then noted with trepidation, "It seems like a lot of medications to be taking." The PCP joined in the last 10 minutes with an interpreter to ask questions and discuss the treatment plan. The medication was restarted – or continued but to be taken every day – and an open dialogue was encouraged.

Analysis
1. There are patient-centered care principles, in finding a place, time, and context in which this gentleman could feel comfortable – related to ethnic, language, and culture – and access care.

Table 6.2 Key considerations for implementation with special populations

Overview	Ensure that all staff have required skill sets to work with the specific population
	Understanding cultural nuances within the population is critical
Protocols	Modify existing clinical protocols
	Maintain clinical standards
Clinical	Clinical experience and competence are as important as patient criteria
	Use of evidence-based care within cultural context is best practice
	Establish who is the patient (e.g., patient or family) and encourage family involvement, as appropriate
	Evaluate for developmental status, family involvement, patient-site modifications
Administrative	Maintain collaboration between local and distant teams
	Ensure technical literacy

2. Telemedicine leveraged finite expertise – psychiatrist time, skill, and contextual understanding of the primary care setting as part of the larger subspecialty area of psychosomatic medicine – to a distant area with limited access.
3. The focus on the patient and the provider – as the target for skill, attitude, and knowledge development – is not to be underestimated.

Conclusions

The landscape of telemental health continues to change as technology and regulations evolve and needs change forcing health-care providers and systems to reconceptualize how, when, and where services are provided. There will always be a need for efficacy research when delivering services to new locations and for different populations. However, the concept of "nontraditional" and "special" is likely to change, and what was once new will be the new normal. For example, in-home TMH has rapidly gained acceptance along with providers delivering services from their own homes. It isn't too difficult to imagine a continued shift away from traditional clinical settings and into broader acceptance of TMH originating sites such as individual offices and hotels. As TMH services continue to expand into evolving locations, it will be important for us to not only take the lessons learned today so that we can continue to improve access and quality, but to also remain flexible in our thinking and approaches to continue benefiting patients though efficacious and patient-centered services.

CE/CME Questions

1. Which of the following is not a consideration when implementing TMH in a nontraditional location?

    (a) Focus on immediate tasks without overcomplicating solutions
    (b) Utilize and modify existing protocols when necessary
    (c) Maintain communication pathways and use a variety of communication systems
    (d) Monitor employee morale
    (e) All of the above are considerations

2. Traditional TMH locations may be best described as

    (a) Disaster locations
    (b) In-home originating sites
    (c) Supervised clinical site within larger institutional settings
    (d) Any clinically unsupervised site
    (e) All of the above are traditional locations

3. Which of the following is not a consideration when implementing TMH with special populations?

    (a) All populations view TMH the same
    (b) Understand cultural nuances with the specific population
    (c) Clinical experience and competence are as important as patient criteria
    (d) Ensuring technical literacy
    (e) Use of evidence-based care within the cultural context

4. A needs assessment for nontraditional locations should always be the same as one for more established programs.

    (a) True
    (b) False, needs assessments are not needed for nontraditional locations
    (c) False, a needs assessment that aligns with the time and resources available should be conducted
    (d) False, needs assessments are not needed for any type of program
    (e) Both B and D

5. TMH is not appropriate for special populations.

    (a) True
    (b) False, TMH for special populations is acceptable only when other options are not available
    (c) False, only asynchronous care should be used
    (d) False, studies demonstrate that TMH is efficacious across populations
    (e) Both B and C

Answers

1. (e)
2. (c)

3. (a)
4. (c)
5. (d)

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