DEPARTMENT OF HUMAN SERVICES

Review of Existing Telehealth Information

Informing the Design of the 2021-2023 Behavioral Telehealth Study

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Contents

Background

In 2021, Wilder Research (Wilder) was contracted by the Minnesota Department of Human Services (DHS) to conduct a study about the use and perceptions of behavioral telehealth services among Minnesotans with Medicaid coverage. To inform the design and development of the study, Wilder reviewed several existing data and information sources about telehealth in Minnesota. The sources used for this review include telehealth reports authored by DHS and Wilder Research, as well as peer-reviewed academic literature. This summary provides an overview of relevant findings across four categories: access to care, quality of care, health outcomes, and client satisfaction.

Delivery format

This study will explore two telehealth delivery formats: audio only (typically through the telephone) and videoconferencing (using a device that uses both audio and visual components). Research has found the videoconferencing format and the telephone format are comparable regarding client levels of comfort, therapeutic alliance, levels of distraction, client outcomes, and client participation (Day & Schneider, 2002; Hufford et al., 1999; McGrath et al., 2011), and that these delivery formats are comparable to in-person services (Day & Schneider, 2002; Osenbach et al., 2013; Stiles-Shields et al., 2014).

There is some evidence that the visual component of videoconferencing may encourage a sense of connectedness and familiarity between client and provider, and that providers feel more competent and comfortable delivering services via videoconferencing compared to providing services by telephone (Bouchard et al., 2004; Nelson & Bui, 2010). Providers have also reported that videoconferencing is a more useful delivery format than phone calls to treat adults with mental illness, substance use disorders, and intellectual and/or developmental disabilities (Community Mental Health Association of Michigan, 2021). Additionally, inherent to the provision of services by telephone is a loss of visual cues, both for the provider and the client, which can pose a challenge for the provider in conveying empathy and interpreting client experiences and affect (Brenes et al., 2011).

There are also several benefits unique to the audio-only format. Minnesota providers report that the telephone-only method "increased healthcare service utilization and engagement between the providers and patients while also meeting equity-based, culturally-inclusive, and clinical preferences" (Loew, 2021, p. 2). Additionally, Minnesota community providers and partners report positive attitudes toward telehealth generally among ethnic minority groups and rural tribal groups, but noted a preference for the telephone delivery format (Singh & Marquardt, 2020).

Research suggests that the utility of each mode may depend on situational factors. Providers in Minnesota reported concerns using the telephone format with individuals who are nonverbal, during group-based services, and when assessing physical functioning. Additionally, in a recent survey of providers in Michigan (Community Mental Health Association of Michigan, 2021), respondents recommended the video-conferencing format over the telephone format for group-based and family-based services, individuals with intellectual and/or developmental disabilities, and individuals who are nonverbal. The telephone format was recommended for individuals without access to technological resources required for videoconferencing, older adults, individuals with lower levels of digital

literacy, parents or caregivers, and individuals with diagnoses that may be more comfortable using the telephone (e.g., social phobia).

It is important to note there is a lack of research examining either video-based or audio-only formats for group-based services (Markowitz et al., 2020). However, some studies have demonstrated the feasibility, acceptability, and effectiveness of group-based services by video, with outcomes similar to the in-person delivery format (Banbury et al., 2018; Gentry et al., 2019; Khatri et al., 2014).

Characteristics of telehealth users

DHS claims data indicate a notable increase in telehealth service utilization due to the COVID-19 pandemic, from 7% of all clients between 9/19/2019 and 3/19/2020 to 87% of clients between 3/19/2020 and 9/19/2020.

These data also suggest there are no significant race, ethnicity, or gender differences between individuals who received telehealth services and those that received in-person services between March 20, 2020 and December 31, 2020 (Singh & Marquardt, 2021).

DHS claims data suggest age-based differences, such that telehealth usage is most common for adolescents (6-17) and adults 26-55. Specifically, usage was highest among individuals age 26-35, followed by 12-17, 36-45, and 6-11 (Singh & Marquardt, 2021). It was lowest among those age 80+, followed by 66-79, 0-5, and 22-25. There were only two age categories that had greater levels of in-person service usage compared to telehealth: age 0-5 and age 66-79. Note that usage of either the in-person or telehealth format also differs depending on age category, such that individuals age 80+ had the lowest usage of both formats, followed by 66-79, 0-5, 22-25, and 18-21.

Additional considerations regarding Minnesota's demographics

There are many other factors to consider regarding demographic groups and the telehealth delivery format. Most of these findings are integrated throughout this review in their relevant sections. Additionally, Cruz (2021) identified other demographic factors not specific to the perceptions of and experience with telehealth that may be useful to consider, including:

- **Geographic location.** Rural Minnesotans are older, report worse health, have lower educational attainment, and have less access to broadband and primary care services relative to urban Minnesotans. The proportion of the population that is uninsured is comparable between rural and urban Minnesotans, and the health disparities rural residents face are declining.

- **Race and ethnicity.** Data indicate Minnesotans of color face many racial and ethnic disparities related to health and social determinants of health, due to historical and current systems and policies that disadvantage Black, Indigenous, and people of color (BIPOC) populations. Black and Asian Minnesotans were the fastest growing populations between 2010 and 2018. Based on a synthesis of population and health data of immigrant groups, Cruz (2021) identified Mexican, Somali, and Hmong groups as highest priority for the 2021-2023 Behavioral Health Study, followed by Ethiopian, Laotian, Liberian, and Burmese.

- **Language.** About 12% of Minnesotans age 5 and older reported speaking a language other than English at home in 2018, and 30 to 40% of M Health Fairview's COVID-19 patients have needed an interpreter (Cruz, 2021).

- **Disabilities.** Approximately 11% of Minnesotans have a disability, and 44% of these individuals have two or more disabilities (Cruz, 2021). Older adults are more likely to report having a disability than younger individuals. Ambulatory disabilities are the most common disability, followed by cognitive and hearing-related disabilities.

- **Chronic conditions.** The prevalence of most chronic conditions is increasing among Minnesotans. Of the 3 million Minnesotans with a chronic condition, 1 million report having two or more chronic conditions (Partnership to Fight Chronic Disease, n.d.). It is important to note that definitions of "chronic condition" and "chronic disease" vary widely (Bernell & Howard, 2016). The Partnership to Fight Chronic Disease (n.d.) does not provide a definition, but considers Alzheimer's disease, arthritis, asthma, cancer, diabetes, heart disease, mental health conditions, migraines, and obesity as chronic conditions. The Centers for Disease Control and Prevention (CDC) defines them as "conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living, or both" (CDC, 2021).

- **Older adults.** Minnesota's population is aging, with 25% of our population estimated to consist of adults age 65 or older by 2025 (Face Aging Minnesota, 2021).

Benefits related to access to behavioral health services

The following list outlines several ways telehealth can improve access to behavioral health services.

- **Eliminates or reduces geographic and transportation barriers.** This can be particularly helpful for individuals in underserved areas, individuals who would otherwise have to drive long distances or travel during inclement weather, and individuals with greater mobility needs (Bashshur et al., 2016; Lal & Adair, 2014; Loew, 2021; Nelson & Sharp, 2016; U.S. Department of Health and Human Services, 2021).

- **Increases convenience.** Appointments can be easier to schedule, as they don't require transportation time, providers and clients can be in any private location, and sessions can more easily occur during off-hours, such as evenings and weekends (Lal & Adair, 2014). In a recent survey of clients or their caregivers, respondents frequently endorsed convenience, saving time, and not having to travel to appointments when asked about the aspects of telehealth services that work for them (AspireMN, 2020). Similarly, in a survey of college students, respondents identified convenience, greater frequency of interaction, and ease of access as advantages of the delivery format (Petersen et al., 2020). Additionally, the convenience of telehealth may provide an opportunity for individuals who would otherwise not seek care due to low motivation to access care (Singh & Marquardt, 2020).

- **Increases access to culturally responsive services and for specific communities and populations.** Convenience and flexibility can be critical for many individuals, including those without driver's licenses and/or limited transportation options, individuals with many work or family responsibilities, and individuals

with inconsistent schedules (Nelson & Sharp, 2016; Substance Abuse and Mental Health Services Administration [SAMHSA], 2016). Additionally, Valdez and colleagues (2020) note that the telehealth delivery format doesn't require assessing the accessibility of the provider's physical space.

Access to behavioral health services may be even more limited for individuals who would most benefit from culturally responsive services as they may face additional obstacles, such as language barriers, transportation barriers, a lack of culturally competent providers, a lack of trust in the health care system and providers, previous experiences receiving culturally inappropriate or discriminatory services, and a lack of knowledge of available services (Brooks et al., 2013; Ekblad, 2020; SAMHSA, 2016; Singh & Marquardt, 2020; Stewart et al., 2017; Stewart et al., 2019; Toombs et al., 2020; Whaibeh et al., 2020).

There is limited research on providing culturally responsive services via telehealth or assessing the feasibility and/or suitability of telehealth services for specific populations (Brooks et al., 2013). However, some studies have found evidence of telehealth's feasibility and/or effectiveness to serve specific populations, including deaf and hard of hearing individuals (Crowe, 2017; Pertz et al., 2018) and individuals who identify as African American (McCall et al., 2021), Latino (Dwight-Johnson et al., 2011), LGBTQIA+ (Shore, 2013; Whaibeh et al., 2020), and Indigenous (Dawson et al., 2020).

Additionally, research has demonstrated that client trust and confidence in their provider is greater when communicating in a shared language, and that clients prefer to receive services in their native or preferred language (Mucic, 2009; Mucic & Hilty, 2020). Matching providers and clients based on a shared language, ethnicity, race, or cultural background may be a helpful strategy, as this can increase use of care and improve treatment outcomes (Mucic, 2009; Mucic & Hilty, 2020; Ziguras et al., 2003). There is some evidence that clients prefer remote delivery formats if a provider is fluent in the client's preferred language compared to in-person services with the use of an interpreter (Mucic & Hilty, 2020). Similarly, research suggests clients who are deaf or hard of hearing may be more likely to utilize telehealth services if the provider is fluent in American Sign Language (Crowe, 2017). This may be most easily achieved through telehealth, which can connect "matched" provider and client pairs without the barrier of physical distance.

In their review of existing literature, Singh and Marquardt (2020) found evidence of telehealth's potential to increase access for many populations, including older adults, veterans, individuals living in rural areas, individuals with disabilities, individuals with mental health needs, and individuals with transportation or mobility-related barriers. The data gathered from community partners and providers also indicate positive attitudes toward telehealth among individuals from ethnic minority groups and rural tribal groups.

- **Increases staff capacity and decreases wait times.** Singh and Marquardt (2020) also note that telehealth can decrease wait times for behavioral health services and increase staff capacity by reducing transportation time. In addition, Jones and colleagues (2014) describe how providing telehealth services can cause ripple effects; by reducing travel time for providers, provider availability increases, which improves the likelihood of clients accessing services, and ultimately clients are more likely to attend appointments and require a shorter duration of services.

- **Improves retention and adherence to services.** With fewer financial, logistical, and temporal barriers to services, telehealth options may also increase adherence to services and medication and reduce unnecessary service utilization (such as non-emergency visits to an emergency room; Bashshur et al., 2016; Basit et al., 2020; CDC, 2020; Deloitte Center for Government Insights, 2019; Mohr et al., 2012; Nelson & Sharp, 2016; SAMHSA, 2016; SAMHSA, 2021; Tse et al., 2015). Singh and Marquardt (2020) also note telehealth's potential to improve appointment adherence and reduce late starts. Additionally, research has also demonstrated that reminders sent via various technological formats (e.g., text message) can improve medication and appointment adherence (Clough & Casey, 2011; Kannisto et al., 2015; Schwebel & Larimer, 2018; Sims et al., 2012).

- **Reduces costs to access care.** The cost savings to families can be significant, as these costs may include gas, vehicle maintenance, parking, public transportation, and time spent away from work (Bashshur et al., 2016; Lal & Adair, 2014).

- **Increases access to specialty providers**. Telehealth services can improve access to providers who provide specialty care, such as medication-assisted treatment (MAT), by connecting clients with providers in other geographic areas (RTI International, 2017; U.S. Department of Health and Human Services, 2021). Some substance use disorder treatment providers in Minnesota also report that "those in treatment who lived too far from a center to reliably commute for outpatient therapies would often be unnecessarily placed in inpatient treatment in order to satisfy the requirement that they complete a program of any kind" (Singh & Marquardt, 2020, p.15). The telehealth delivery format can also increase the accessibility and availability of crisis services (SAMHSA, 2021).

Challenges related to access

Research also suggests the telehealth delivery format poses several challenges related to access, including:

- **Access to technological resources**. Receiving telehealth services in this format also requires the user to provide or have access to several resources, such as consistent access to reliable internet or phone connections and an adequate device (e.g., smartphone, computer). In a recent survey of clients or their caregivers in Minnesota, 19% of respondents shared that increased access to a device would improve their experience with telehealth services (AspireMN, 2020). Data collected from Minnesota providers also indicates that access to reliable and consistent internet service and cellular phone service are significant barriers in rural and greater Minnesota (Singh & Marquardt, 2020). Approximately 41% of Medicare beneficiaries lack access to a device with a high speed internet connection, and 41% lack a smartphone with a wireless data plan (Roberts & Mehrotra, 2020).

  Individuals from marginalized communities, such as immigrants and refugees and individuals with disabilities, often have even less access to the required technology (Rocky Mountain ADA Center, 2020; Hames et al., 2020; Noel & Ellison, 2020). The Rocky Mountain ADA Center (2020) further notes that for individuals with disabilities that do have internet access, the connection is generally slower. Individuals with disabilities may also require adaptive equipment, services such as video relay programs, or assistance from a caregiver or provider during telehealth sessions. Annaswamy and colleagues (2020) note that needs vary across

different types of disabilities, and most telehealth platforms lack features to facilitate the communication between the provider and clients who are deaf, blind, or have cognitive disabilities. Additionally, the authors note that while the Americans with Disabilities Act prescribes standards for physical spaces, there are not equivalent standards for virtual spaces, such as telehealth platforms.

- **Digital literacy**. Users need to be capable of operating the program and/or device used to receive services (Langarizadeh et al., 2017; Summers-Gabr, 2020). Data collected from Minnesota providers similarly suggests telehealth may be best suit-suited to "young to middle aged adults with some fluency in and accessibility to technology" (Singh & Marquardt, 2020, p. 33). Other research suggests lower levels of telehealth acceptability among older adults (McCall et al., 2019). Additionally, a recent study estimates that 38% of Americans 65 and older and 72% of Americans 85 and older are not ready for video-based telehealth services for any health need, primarily due to inexperience with technology (Lam et al., 2020).

  Langarizadeh and colleagues (2017) also describe provider concerns that operating the necessary software or equipment may pose a challenge to clients with physical or cognitive disabilities, reducing their access to services. Individuals with more serious mental health conditions often have limited access to the internet and use it a lower levels; however, there is evidence that these concerns can be partially addressed by using programs with an accessible and user-friendly design (Lal & Adair, 2014). Additionally, some providers report challenges related to completing paperwork for telehealth services, due to lack of access to email to complete electronic paperwork, insufficient digital literacy to complete online paperwork, and transportation barriers preventing the submission of paperwork by mail (Singh & Marquardt, 2020).

- **Cultural and demographic differences related to technology use.** It is also important to note that acceptance and willingness to use technology varies across cultural communities, and communities use technology at different levels and in different ways (Brooks et al., 2013; Yellowlees et al., 2008). Concerns regarding mental health services also vary depending on the cultural community and could potentially compound access-related obstacles for some communities. For example, undocumented individuals may avoid seeking services due to concerns regarding their immigration status and deportation (Brooks et al., 2013; Ekblad, 2020). Due to historic oppression, discrimination, and potential previous experiences receiving culturally insensitive care, many cultural communities may also lack trust in the health care system (Brooks et al., 2013; Ekblad, 2020; SAMHSA, 2016; Toombs et al., 2020).

  Research suggests there are demographic differences in telehealth use and perceptions, such that individuals are more likely to use telehealth services if they have higher levels of English proficiency, identify as White, are insured, have greater disease burdens, live in a metropolitan area, have higher levels of internet use and internet access, are young or middle-aged adults, and have higher incomes (Drake et al., 2021; Eberly et al., 2020; Hsiao et al., 2021; Mann et al., 2020; Neeman et al., 2020; Rodriguez et al., 2021; Yuan et al., 2021). Findings on gender identity and telehealth use are mixed (Eberly et al., 2020; Drake et al., 2021; Neeman et al., 2020). DHS claims data indicate 61% of individuals who received behavioral telehealth services between March 20, 2020 and December 31, 2020 identified as male, while 39% identified as female (Singh & Marquardt, 2021).

Other research has found additional demographic differences. Gordon and Hornbrook (2016) found that adults age 70-79 were less likely to be registered for and use an online health portal compared to adults age 65-69. Additionally, non-Hispanic White and Chinese older adults were more likely than Black, Latino, and Filipino older adults to be registered for and use the portal. Non-Hispanic White and Chinese older adults were also less likely to own a device, use the internet or email, and report being willing to use technology for health-related activities. Among telehealth users seeking treatment in New York City for COVID-19 symptoms, Weber and colleagues (2020) found that Black and Hispanic patients were more likely to use in-person services versus telehealth services compared to White patients.

- **Privacy**. Privacy may also pose a challenge for some clients receiving telehealth services, particularly for individuals receiving services at home and individuals living with caregivers or others in small living spaces. Not all clients may have access to a private area to use during sessions due to multiple family members at home, a small number of rooms or private spaces, and/or insufficient sound proofing. Social distancing guidelines due to the COVID-19 pandemic may further complicate finding a private space, as household members may be spending more time at home (Golberstein et al., 2020). Although AspireMN (2020) found that 89% of clients or their caregivers agreed or strongly agreed with the statement, "I felt like I had privacy during my session," the remaining clients and caregivers did not. Similarly, other research has noted the need to consider client data privacy and other privacy-related challenges inherent to receiving services in shared spaces (Community Mental Health Association of Michigan, 2021; Singh & Marquardt, 2020).

- **Insufficient capacity within the overall mental health system**. The potential for telehealth services to fill the mental health services gap in rural areas depends on a sufficient supply of mental health providers in other areas. Some researchers have posited that the current and projected workforce supply is not adequate to meet current or future needs (Lambert et al., 2016).

Benefits related to quality of care

Research has also explored how telehealth impacts quality of care. Relevant findings include:

- **Telehealth services are considered effective.** Extensive research has demonstrated that telehealth services are effective for treating mental health and substance use disorders (Bashshur et al., 2016; Nelson & Sharp, 2016). Singh and Marquardt (2020) note that providers report that telehealth "has been just as effective or even more effective for their patients than in-person care" (p. 35). See the "Health Outcomes" section of this document for additional detail on telehealth effectiveness.

- **Telehealth services are generally considered to be feasible,** such that the telehealth delivery format is a viable and practical option for providing services across many situations and client characteristics (Backhaus et al., 2012; Bashshur et al., 2016; Nelson & Sharp, 2016; Tse et al., 2021; Yuen et al., 2013).

- **Providers and clients using telehealth are still able to develop a therapeutic alliance** (Brenes et al., 2011; Glueck, 2013; Goldstein & Glueck, 2016; Himle et al., 2012; Jenkins-Guarnieri et al., 2015; Stiles-Shields et al., 2014).

- **Receiving video-based telehealth services at home can provide additional benefits that in-person services may not.** Singh and Marquardt (2020) note the benefit telehealth provides regarding providers' ability to gain a better sense of their client's home lives and environment. Similarly, the treatment of certain diagnoses may benefit from clients receiving services at home. For example, clients with autism spectrum disorder may find it difficult to attend in-person sessions, as the unfamiliar environment can reduce engagement (Hepburn et al., 2016). Similarly, individuals with dementia may benefit from receiving mental health services at home, as the experience may be less distressing, confusing, and burdensome than in-person services (Gibson et al., 2007). Additionally, using a video-based telehealth format can facilitate the observation of environmental modifications or conduct in-vivo exposure interventions (i.e., interventions that involve direct exposure to real-world situations that cause anxiety or distress), strategies often used in the treatment of eating disorders (Sproch & Anderson, 2019).

- **Telehealth services can ease the burden for caregivers, family members, and other individuals involved in a client's life to attend sessions**. These individuals can provide additional context about the client, receive information about the client's care, and receive relationship-focused services without the need to attend in-person sessions (American Telemedicine Association [ATA], 2017; Nelson & Sharp, 2016). This may be especially useful when serving clients from collectivist cultures, as it may be easier to involve immediate and extended family members in treatment (Carlisle, 2013). In addition, clients and stakeholders do not need to be in the same location to participate, increasing access for individuals served in various settings, such as residential treatment centers and correctional settings (ATA, 2017). Singh and Marquardt (2020) also found evidence of telehealth's potential to facilitate family member involvement in services.

It is important to note that no state has assessed the impact of the telehealth delivery format on the quality of behavioral health services (U.S. Department of Health and Human Services, 2021).

Challenges related to quality of care

There are several challenges related to quality of care when using the telehealth delivery format, including:

- **Specific services and settings**. Singh and Marquardt (2020) note that, "practitioners who deliver care in a home- or community-based setting, such as mobile crisis management, felt that telemedicine is a useful option to have in their toolbox of service delivery methods but greatly prefer in-person service delivery when possible" (p.15). The authors also note challenges providers face in their ability to perceive visual cues, which may be particularly useful when providing services related to substance use. Additionally, providers expressed concerns related to providing group therapy services via telehealth, as the efficacy of this format relies on group cohesion and bonding. All participants agreed that moving forward they will need to be intentional deciding the types of visits and fields of practice that can or should be done via telemedicine.

- **Developmental disorders or concerns and cognitive ability**. The telehealth delivery format may be more challenging for clients with lower cognitive ability (American Psychiatric Association, 2018). Additionally, for clients with developmental disorders, it may be more appropriate to focus on providing services to their caregivers (Hames et al., 2020).

- **Safety concerns.** Safety concerns may be more challenging to address in the telehealth format, such as significant or severe suicidal ideation, externalizing behaviors, and physical aggression or self-harm (American Psychiatric Association, 2018; Racine et al., 2020).

- **Building rapport, the therapeutic alliance, and distractions.** Providers and clients may experience a reduced sense of accountability and connection to one another in the telehealth format, and it is much easier to engage in other activities during the session, reducing engagement (Mucic & Hilty, 2020). The lack of non-verbal cues and visual range may also make it more difficult to notice details about the client, such as facial expressions and crying (Bischoff et al., 2004; Mucic & Hilty, 2020). Technical problems may also slow or otherwise impact the development of the therapeutic alliance (Bischoff et al., 2004). Some Minnesota providers have also reported challenges related to client engagement and rapport-building (Singh & Marquardt, 2020). When asked what is not working for them as they receive telehealth services, respondents from the AspireMN (2020) survey identified distractions and that the delivery format feels more impersonal. Similarly, in a survey of college students, Petersen and colleagues (2020) found that 67% of clients were at least somewhat concerned about the delivery format's impact on the therapeutic relationship.

- **Technical issues.** Technology-related problems are one of the most common barriers cited by providers, such as unstable or slow internet connections, the reliability of devices used by clients, and having to guide clients through setting up the technology (Traube et al., 2020). In addition, low audio and video quality can lead to a loss of verbal and non-verbal cues, such as slight changes in affect, eye contact, small physical movements, and full-body range of vision. These provide important information to the clinician, both during psychotherapy sessions and during diagnostic assessments (Glueck, 2013). Singh and Marquardt (2020) also note the need to provide tech support. However, AspireMN (2020) found that very few respondents reported audio, visual, and technical issues in a recent survey of clients or their caregivers in Minnesota, with 3% of clients or caregivers disagreeing or strongly disagreeing with the statements, "I could clearly see/hear the therapist during the visit," and "The camera and equipment worked properly."

- **Cultural differences.** Communication styles vary across cultures regarding tone, pace, eye contact, and use of silence, and these differences may pose more of a challenge when conducting sessions via telehealth (Brooks et al., 2013). For example, Brooks and colleagues describe how silence is often used in psychotherapy to allow clients time to reflect, but different cultures value silence differently, and some may view it as uncomfortable. The authors note that the videoconferencing delivery format may complicate the perception of silence, as transmission delays may inadvertently cause pauses, and users may also pause in response to a delay.

- **Client preference**. Some clients may also prefer in-person sessions, despite having sufficient resources and skills to use telehealth services. In a study of college student clients, 93% preferred in-person sessions (Petersen et al., 2020). In a survey of clients or their caregivers in Minnesota, AspireMN (2020) found that 27% disagreed or strongly disagreed that, "The telehealth visit was as good as a face-to-face visit." Thirty-nine percent of clients reported they would choose in-person services over telehealth services once the COVID-19 pandemic has passed. Some Minnesota providers have also reported client preferences for in-person services (Singh & Marquardt, 2020).

Benefits related to health outcomes

Existing research has demonstrated that clients experience symptom improvement, positive outcomes, and overall quality of life improvement after receiving services via telehealth (Backhaus et al., 2012; Bashshur et al., 2016; Lazur et al., 2020; Nelson & Sharp, 2016; Stubbings et al., 2013; Varker et al., 2019; Yuen et al., 2013). SAMHSA (2021) considers the telehealth format effective for a wide range of services, including assessments and screenings, pharmacotherapy, medication management, case management, recovery supports, and crisis services. Additionally, studies have demonstrated the efficacy of the telehealth delivery format for a wide variety of behavioral health concerns, including:

- Adjustment disorder (Varker et al., 2019)
- Anxiety disorders (Griffiths et al., 2006; Stubbings et al., 2013; Yuen et al., 2013; Varker et al., 2019)
- Attention-deficit disorders (Myers et al., 2015; Tse et al., 2015)
- Autism (Heitzman-Powell et al., 2014)
- Bulimia nervosa (Mitchell et al., 2008)
- Depressive disorders (Griffiths et al., 2006; Heckman et al., 2016; Mohr et al., 2012; Stubbings et al., 2013; Varker et al., 2019)
- Obsessive compulsive disorder (Storch et al., 2011)
- Panic disorder with agoraphobia (Bouchard et al., 2004)
- Post-traumatic stress disorder (Germain et al., 2009; Gros et al., 2011; Tuerk et al., 2010; Turgoose et al., 2018)
- Psychosis (Donahue et al., 2021)
- Schizophrenia (Hasson-Ohayon & Lysaker, 2020)
- Sleep disorders (Witmans et al., 2008)
- Substance use disorders (Lin et al., 2019)
- Trauma exposure (Stewart et al., 2017; Stewart et al., 2019)

Challenges related to health outcomes

There is a lack of research demonstrating the challenges telehealth poses regarding health outcomes. However, other factors described throughout this review may impact outcomes experienced by clients. For example, if clients express a strong preference for in-person services, the telehealth delivery format may yield worse outcomes relative to the in-person format.

Outcomes may also depend on the client's diagnosis. When asked what diagnoses are least appropriate for telehealth, Renn and colleagues (2021) found that providers most often reported psychotic disorders and personality disorders, while depressive and anxiety disorders were most commonly identified as most appropriate. The authors note there is a lack of research assessing the efficacy of telehealth among clients with these diagnoses. Other researchers have noted that telehealth research has often excluded individuals who are at high risk of suicide (McGinn et al., 2019).

Benefits related to client satisfaction

Research suggests clients have positive experiences and feel satisfied with their use of telehealth. Findings include:

- **Clients are accepting and willing to receive telehealth services** (Bashshur et al., 2016; Brooks et al., 2013; Himle et al., 2012; McCall et al., 2019; Nelson & Sharp, 2016; Tse et al., 2021; Yuen et al., 2013)

- **Clients report feeling engaged and that they benefit from telehealth services** (AspireMN, 2020).

- **Clients are satisfied with telehealth services.** Users and/or their families report feeling satisfied with telehealth services (AspireMN, 2020; Backhaus et al., 2012; Bashshur et al., 2016; Brenes et al., 2011; Deloitte Center for Government Insights, 2019; Jenkins-Guarnieri et al., 2015; Lin et al., 2019; Nelson & Sharp, 2016; Orlando et al., 2019; Reese et al., 2015; Richardson et al., 2009; SAMHSA, 2016; Tse et al., 2015; Tse et al., 2021; Turgoose et al., 2018)

- **Clients may have a stronger sense of privacy and comfort using telehealth services compared to in-person services.** Privacy concerns are often one of the most significant barriers to seeking mental health treatment, but the telehealth delivery format may help prevent inadvertent disclosures (SAMHSA, 2016). Young (2005) found that privacy was the most frequently identified reason for choosing telehealth. Telehealth also offers the opportunity for clients to receive services from a provider who is not a community member, which may reduce privacy concerns and increase a client's willingness to receive services (Deloitte Center for Government Insights, 2019; Hilty et al., 2016; Nelson & Sharp, 2016). Additionally, receiving services at home may also be less stigmatizing than a hospital or a mental health clinic (Nelson & Sharp, 2016). Some demographic groups may feel more comfortable receiving telehealth services compared to in-person services, such as LGBTQIA+ individuals (Shore, 2013).

Challenges related to client satisfaction

There are also challenges related to client satisfaction, including:

- **Client comfort and privacy concerns**. Research suggests many clients do not feel comfortable using telehealth services. In a recent survey of college students, 42% of students reported feeling "not comfortable" with using videoconferencing and 46% reported feeling "not comfortable" with using a telephone to receive services (Petersen et al., 2020). Singh and Marquardt (2020) also note that discomfort and self-consciousness can negatively impact clients' experiences of telehealth. Research suggests discomfort may be greater for individuals receiving group-based services (Jenkins-Guarnieri et al., 2015).

  Additionally, some research suggests differences in telehealth concerns based on demographics; for example, African American clients expressed greater concerns related to privacy, confidentiality, and being unable to visually see the clinician compared to Latino clients (George et al., 2012). The authors note, "This difference may reflect lower levels of trust in new health care innovations among African Americans resulting from a legacy of past abuses in the US medical system as compared to immigrant Latinos who do not have this particular historical backdrop" (para. 1).

  Similarly, in a representative survey of U.S. adults, older adults and Black adults were most likely to report not knowing how to use telehealth technology or not wanting to communicate with telehealth technology

(Fischer et al., 2020). Other research indicates that a lack of readiness to receive telehealth services is highest among clients who are older, male, not married, Black or Hispanic, live in rural areas, have lower levels of education, earn lower incomes, and poorer self-reported health (Lam et al., 2020).

Lastly, it is important to note that client comfort and willingness to engage with telehealth may have changed during the COVID-19 pandemic. For example, telehealth usage for any health need increased significantly among older adults during this period, their concerns about privacy and technical problems declined, and their comfort levels increased (University of Michigan National Poll on Healthy Aging, 2020).

- **Client perceptions of efficacy**. Some clients perceive telehealth services as lower quality (Singh & Marquardt, 2020). Additionally, in a survey of college students, Petersen and colleagues (2020) found that 81% of clients were at least somewhat concerned about the effectiveness of telehealth services.

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