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# Telepsychiatry:
## Access in Rural Areas

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## ABSTRACT

Numerous challenges have limited access to mental health services in rural areas. Some of these barriers have included transportation, number of providers, poverty, and lack of insurance. The purpose of this review was to identify and coalesce the benefits of telepsychiatry for adults living in rural communities in the United States to determine if telepsychiatry has improved access and quality of care. The methodology for this study was a literature review that followed a systematic approach. It was found that several studies supported that telepsychiatry has improved access and quality of care available in rural environments. Simultaneously, telepsychiatry in mental healthcare has not been utilized as it should in rural adult populations due to lack of access, an overall shortage of providers, and poor distribution of psychiatrists. While there are still barriers that prevent widespread utilization, telepsychiatry can improve mental health outcomes by linking rural patients to high-quality mental healthcare services that follow evidence-based care and best practices.

## KEYWORDS

Access, Quality, Rural Communities, Telehealth, Telepsychiatry

## INTRODUCTION

The National Institute of Mental Health reported in 2017 that approximately 50 million adults living in the United States (U.S.) had a mental illness and, only half received treatment (NIMH, 2020). According to the search and recruitment firm Merritt Hawkins & Assoc., Psychiatry has been one of the most requested specialties, occupying the second place on 2016, which has revealed a lack of these specialists to serve the population that has required it on various areas of the U.S. (Merritt Hawkins, 2017). Access needs to care, and treatment of people on issues related to mental illness have increased due to factors such as the crisis in the use of opioids, for which it is estimated that by 2025, the number of existing psychiatrists may only be a third of what will be required (NCBH, 2017).

In 2016, about 60 million individuals, or 19.3% percent, of the U.S. population lived in rural areas (USCB, 2016). According to the U.S. Census Bureau, a rural area, is any population, housing, or territory not defined as an urbanized area or urbanized cluster. An urbanized area contains 50,000

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or more individuals, and an urban cluster has at least 2,500 but less than 50,000 people (USCB, 2016). Rural areas have experienced higher than average healthcare workforce shortages, which have limited access to healthcare services (RHIhub, 2014Less than 10 percent of physicians have practiced in rural areas, although 20 percent of the U.S. population is located in rural communities (Stanford School of Medicine, 2010). Also, geographic constraints have been a challenge. Residents have traveled considerably to access different and often limited services, and some patients reported a substantial burden on time and money (Smalley, Warren, & Rainer, 2012) Furthermore, lack of public transportation, distance, hazardous weather conditions, and environmental issues have been among other challenges exacerbated in this environment (Eberhardt, & Pamuk, 2004).

For urban and rural areas, the incidence and prevalence of most behavioral disorders have been comparable (van Hecke, 2012). A study conducted in 2014 found no significant difference in incidence or prevalence for major depression or severe mental illness (SMI) in large metropolitan and rural areas (Breslau, Marshall, Pincus, & Brown, 2014). Moreover, a 5.6 percent prevalence of major depression and SMI was found in large metropolitan areas, while a 6 percent prevalence of major depression and SMI was found in rural areas. Also, rural areas have had limited availability for mental health services (NRHA, 2017) ;(Douthit, Dwowlatzky, & Biswas, 2015). As of June 2018, 53.1 percent of the mental health provider's shortage areas were in non-metropolitan areas (HRSA, 2018). Thus, rural residents were less likely to receive treatment (Eberhardt & Pamuk, 2004). This fact has led to healthcare disparities between rural and urban residents (NRHA, 2017).

Telehealth has been defined by the World Health Organization as the remote use of electronic communication technologies to support long-distance clinical healthcare, health-related education, public health, or health administration (Brandt & Hensley, 2012). Telepsychiatry, a specialized subset of telehealth, has been defined as providing mental healthcare at a distance through real-time videoconferencing and may include care consultation, supervision, or patient education (Crawford, Sunderji, Lopez & Soklaridis, 2016). Two-thirds of primary healthcare physicians in the U.S. stated that they could not offer psychiatric care to the patients, and almost 50% of the healthcare facilities located in rural areas reported shortage in professional psychiatric personnel (Cunningham, 2009; MacDowell, Glasser, Fitts, Nielsen & Hunsaker, 2010). The lack of providers and other challenges has led to many states developing behavioral health aide's models to use telepsychiatry (van Hecke, 2012). Telepsychiatry has helped in the provision of psychiatric health care services to people who cannot access it and led optimistic health results as shown by its effectiveness in the treatment of various mental conditions, for example, posttraumatic stress disorder (PTSD) (Gros, Yoder, Tuerk, Lozano & Acierno, 2011). Also, it has provided the required mental health care to elderly patients, individuals with mobility issues, those in prison, and the military (Anthony, Mertz & Goss, 2010). Finally, telepsychiatry has offered great potential for enhancing treatment and recovery for people with opioid use disorder in particular in rural areas (Molfenter, Boyle, Holloway & Zwick, 2015). Varying definitions, policies, and regulations across states surround how telehealth has been used (CCHP, 2017).

Telehealth has involved direct, electronic patient-to-provider interactions, in addition to medical devices that have transmitted and collected health information: medical devices included, but have not been limited to smartphone applications, activity trackers, automated reminders, and blood glucose monitors (ONC, 2017). Video conferencing, the internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications technologies have also been utilized to expand healthcare services (HRSA, 2015). Tele-behavioral health, also known as telepsychiatry, can be provided in nursing homes, clinics, schools, and other localized community settings (HRSA, 2013) As of 2017, 76 percent of hospitals in the U.S. have used or implemented telehealth (AHA, 2019)

Telepsychiatry services have many technological constraints, including proprietary software, high definition video, and HIPAA-compliant encryption. It also typically needs patients to download and log-on to secure software applications that can support video streaming and large file transmission

between providers and patients. However, having a stable and fast internet connection is fundamental to any telepsychiatry service (Cooper, 2020).

The purpose of this review was to identify and coalesce the benefits of telepsychiatry for adults living in rural communities in the United States to determine if telepsychiatry has improved access and quality of care.

## METHODOLOGY

The primary hypothesis for this research study was that telepsychiatry's utilization in rural areas increased accessibility to adult's mental health services. A secondary hypothesis for this study was the integration of telepsychiatry in primary healthcare settings improved the quality of mental healthcare for rurally located adults.

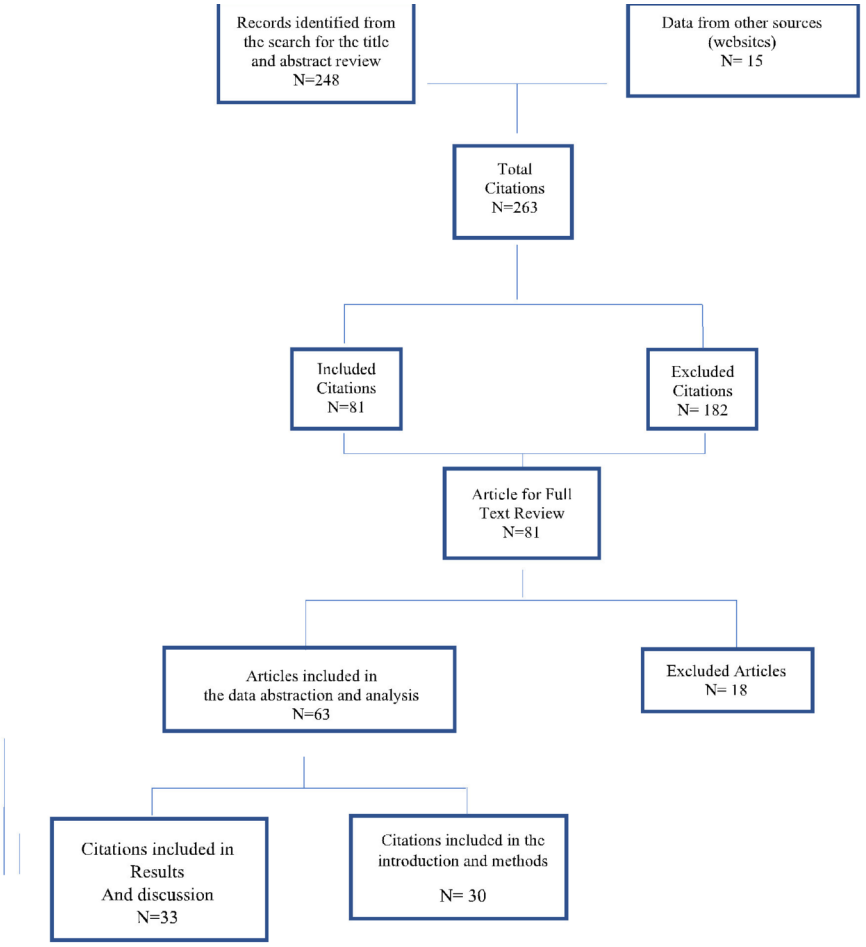
The methodology for this qualitative study was a literature review that followed a systematic approach. The review was performed in four stages: 1) Literature Identification and data collection; 2) Establishment of Inclusion Criteria and Literature analysis; 3) Literature Categorization using a PRISMA diagram; and 4) Conceptual framework.

Step 1: Literature Identification and Collection

PubMed, EBSCOhost, Academic Search Premier, Point of View Reference Center, ProQuest, and Google Scholar databases were employed to obtain peer-reviewed literature. A free-text search using Boolean operators [OR & AND] to combine words was conducted for the databases. The search utilized Medical Subject Headings (MeSH): 'telepsychiatry' or 'telemedicine' or 'telehealth' or 'videoconferencing' and 'rural communities' or "rural area" and 'access' or 'benefit' or 'quality or outcome and US.'

Following a systematic approach, citations and abstracts identified by the search were assessed to identify relevant articles. A schematic of the literature selection process using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) checklist and diagram is shown in Figure 1 (Moher, 2009). The search identified 263 relevant citations, and references were excluded (N=182) if they did not meet the inclusion criteria. Also, citations were added (n=81) if they identified telepsychiatry quality outcomes (improved quality of mental health care and patient satisfaction) and/or telepsychiatry access or access outcome (including the reduction in travel time, waiting time, and consultation time, increase access). These 81 articles were subject to full-text review; of these, 18 were excluded as they did not meet focus specifically on telepsychiatry and rural health. After the full-text review, a total of 63 references were included in the data abstraction and analysis. From these citations, only 33 references were included in the results and discussion sections and 30 in the introduction and methods (Figure 1). Studies on telepsychiatry programs or activities not based in rural healthcare settings, editorials, and telepsychiatry research papers that did not include a clearly defined population, interventions, or target group were excluded.

**Figure 1. Overview of Literature Evaluation**




Source: (Moher, Liberati, Tetzlaff, & Altman 2009)

Step 2: Establishment of Inclusion Criteria and Literature Analysis

The literature was obtained, and following the research framework, it was based on enhanced access to telepsychiatry in rural areas in the U.S., and improved quality on mental healthcare services. Examined references were published in English in U.S. rural settings and between 2004 and 2020 to keep this review current. Findings were presented in the subsequent sections of the results. Tonnie Mike, Brianna Washington, Annie Robinson conducted the literature search, and it was validated by Alberto Coustasse., who acted as a second reader and confirmed that the references met the study inclusion criteria.

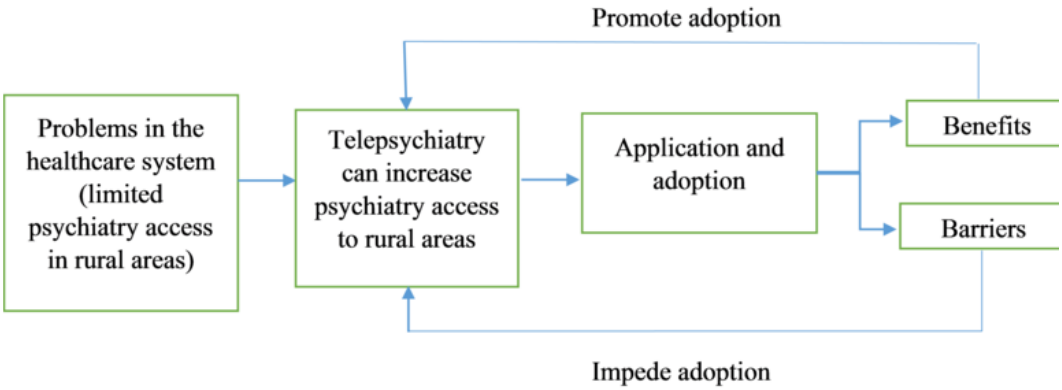
Step 3: Literature Categorization

Relevant references were categorized following the adopted conceptual framework. Categories from the conceptual framework that were adapted to be used in the review were *increased access to mental healthcare and improved quality of mental healthcare detailed in sub-sections of the results.*

Step 4: Conceptual Framework

The literature review followed the research framework modified by Yao et al., 2010. This framework demonstrates the process of utilizing telepsychiatry in rural areas, followed by the adoption and application, when the benefits and barriers were evaluated and recognized the cycle continues (see Figure 2). This research framework is appropriate for this study as both the adopted and the original frameworks have been used to implement health information technology. Its successful use in prior studies studying different health information technology adoptions has reinforced the internal validity of this research framework (Coustasse, Tomblin, & Slack, 2013; Deslich, & Coustasse, 2013).

**Figure 2. Conceptual Framework for the Adoption of Telepsychiatry to Enhance Access to Rural Areas**




Source: Adapted from Yao, W., C. H. Chu, and Z. Li. (2010)

## RESULTS

### Increased Access to Mental Health Care and Telepsychiatry in Rural Settings

Practitioners, psychiatrists, and researchers have long recognized the mental health obstacles exhibited by rural communities' and the need for trained mental health professionals (Deslich et al., 2013). In 2016, it was shown that rural areas reported a slightly but not significantly higher percentage of adults with any mental illness, 18.3 percent, and SMI 4.7 percent, compared to large metro areas where 17.3 percent reported any mental illness and 3.8 percent informed SMI (USCB, 2016). There have been numerous barriers that have limited access to mental health services: transportation, number of providers, poverty, and lack of insurance (Cohn & Hastings, 2013). The utilization of telepsychiatry has shown to bring mental health services closer to the patient while increasing access and the quality of care available (Shore, 2013). Telepsychiatry has also been proven to address the workforce shortage in rural communities by allowing licensed psychiatrists to provide care to a community they would not usually serve (Saeed & Diamond, 2011).

Telepsychiatry has been shown not necessarily to create resources but to reorganize the availability of mental health providers. (Grady, 2012). There has been a continued shortage of mental health providers. A national average of more than 75 percent of U.S. counties qualified as having a shortage, 85 percent of shortage stemming from rural areas, and half of all U.S. counties report no mental health providers (Thomas et al., 2009). Several studies have shown that the shortage of mental healthcare providers in rural communities has been accredited to lower salaries than peers in urban/metro settings, few social/educational opportunities, professional isolation, overburdened by demand, and difficulties adapting to rural life (SAMHSA, 2016). Telepsychiatry has shown to increase access to mental healthcare for rural areas by linking patients to high-quality mental health services that practice evidence-based care and best practices while providers reside in more populated areas (Saeed, 2016).

Additionally, telepsychiatry has proved to alleviate professional isolation, expand networks that increase collaboration between rural mental health clinics, and urban/metro mental health clinics (Chung-Do et al. 2012). Programs such as East Carolina University Telemedicine Center have developed and expanded services provided by the center by adding sites in 13 eastern North Carolina counties using only three psychiatrists to provide patient services (Saeed, Diamond, 2011). Similar results of expansion have been evident in West Virginia, where the Department of Behavioral Medicine and Psychiatry, in conjunction with WVU Mountaineer Doctor Television has operated 35 telepsychiatry clinics in 16 counties (West Virginia University, 2015).

Confidentiality in telepsychiatry has been one of the most critical concerns health professionals must address. The utilization of telepsychiatry for patients runs the risk of allowing undesired individuals to access personal health information (Wasler, Mcclain, Kellar, 2009). Other breaches in confidentiality have included improper storage of video or voice recordings of the session, poor security of transcribed medical information, malware or spyware on the mental health practitioner's or patient's computer, and hackers who can break into the systems (Chamberlin, 2010). Continued concern for telepsychiatry's use has been the overall security of the patient's health and personal information. Researchers have promoted that adding an organizational policy for employees to uphold the privacy of patient information would be an essential element for safety. In recent years much progress in the security and protection of patients has been achieved. For instance, implementing a protocol based on cryptographic technology and/or the application of biometrics has enhanced the safety of patient information (Zaidan et al. 2011)

## Improved Quality of Mental Healthcare and Telepsychiatry

Rural patient access to appropriate and effective mental health services has been limited by several barriers, including accessibility, availability, and acceptability. Utilization of telepsychiatry has shown to overcome these barriers by allowing psychiatrists to connect to health personnel staff and patients from a distance while keeping treatment in the patients' community, which has proven to help better manage their disease, their symptoms, and lives. A range of mental health issues has shown to be handled effectively using telepsychiatry in rural settings (Trondsen et al. 2012). Saeed et al. 2011 established that an increase in patient satisfaction has led to a decrease in missed appointments, 7-10 percent missed appointments compared to non-telepsychiatry rates of 35-42 percent of missed appointments. It was shown that other telepsychiatry benefits included saved time and reduced need for travel outside the community for services. A psychiatric and psychological treatment delivered via telepsychiatry has been reported to have the same clinical outcomes as the treatment delivered face-to-face. When patients have used telepsychiatry in video conferencing, it has been deemed equivalent to face-to-face care received in a physician's office (Fortney et al. 2015). Studies have recognized that telepsychiatry has been used to provide continuous quality care to several types of adult populations who would have otherwise been left with their mental diseases untreated (Shore, 2015).

Rurally located adults usually only have access to primary care physicians for their physical care and mental care. This fact has often led to misdiagnosed mental illnesses, lack of appropriate referrals to psychiatrists and medication mismanagement (Saeed et al. 2017) The integration of mental

healthcare into primary health facilities using a form of telehealth such as telepsychiatry has been a method that has increased the quality of care while treating adults in rural communities (Riding-Mallon, Werth, 2014). There have been many successful studies developed regarding the integration of telepsychiatry into primary health in rural areas (see Table 1).

**Table 1. Telepsychiatry Models and Study Examples in Rural Areas**

| Author | Model | Study | Outcome |
|---|---|---|---|
| Guerrero et al., 2017 | Telepsychiatry integrated into the primary care of an FQHC. | A schizophrenic adult male is seen for chronic pain and has been hospitalized previously for psychiatric issues. | Using telepsychiatry, the patient is treated for all illnesses by the primary care physician, behavioral health specialist, and psychiatrist, having the ability to work as a team and improve the quality of care. Medication is managed by a psychiatrist appropriately. |
| Lu et al., 2014 | Telepsychiatry integrated with Rural Mental Health services (RMH) | A male Vietnam veteran with no access to getting treated for his Post-traumatic stress disorder due to living in a rural area and travel | Telepsychiatry was incorporated into the veteran's treatment because he was having a difficult time leaving his house. He was very grateful for RMH delivering treatment to him that usually would be inaccessible. Being suicidal in the past, the collaboration and access to telepsychiatry helped with his suicidal tendencies, therefore improving his quality of care. |
| Fortney et al., 2015 | Collaborative care in a community health center | An adult female had many mental health symptoms, including suicide and anxiety | Telepsychiatry was utilized as a consultation, a diagnosis was made, and a continuation of the care plan by working with the primary care team. Due to the use of telepsychiatry quality care for the patient was completed and a referral to an outside facility was not needed, the patient was able to be thoroughly educated by the team, and the psychiatrist was able to assess the patient's medications accurately. |

One study in 2017 took place in a rural neighborhood island in Hawaii. This rural community did not have any psychiatrists available to care for 1,500 patients that utilized a federally qualified community health center (FQHC). A grant-funded Behavior Health Integration (BHI) team ended up being the route taken to assist in this health care disparity, and a psychiatrist, who was readily available through video-teleconferencing, was integrated as part of the patient's primary care provided by the FQHC (Guerrero et al. 2017). These authors also matched patients to the level of their mental health issue as diagnosed by the FQHC, with serious being the worst. Also, it was found that the integration of psychiatric consultations through telepsychiatry, five to ten patients a month, were very well received by Hawaiian rurally located adult patients (Guerrero et al. 2017)

Studies have not only proven effective in rural areas but also within the military. In 2012 the U.S. Department of Veteran's Affairs (V.A.) had been responsible for 179,146 telepsychiatry sessions with rurally located veterans (Fortney et al. 2015) Mental disorders have been diagnosed in more than 30 percent of Veterans that have used healthcare through the U.S. VA. Approximately 41 percent of

Veterans who were currently using the V.A. for healthcare live in a rural community (Whealin et al. 2015) Due to geographical location, access to mental health facilities have been scarce, and there have been Veterans that have not wanted to leave their homes due to trauma endured while overseas in countries such as Afghanistan, and Iraq. Telepsychiatry has been a successful treatment method for veterans and other adult patients who felt more comfortable being treated without being face-to-face with their psychiatrist (Ganzini et al. 2013). When telepsychiatry has been used as a treatment with veterans that utilize the V.A. for healthcare, admissions to hospitals and facilities due to psychiatric issues have decreased by 25 percent (Lu et al. 2014).

Telepsychiatry has been proven successful in various trials, but it can also be a supplemental tool in psychiatric care. Reported in a 2017 study performed by a psychiatric department at Wayne State University in Michigan, researchers utilized telepsychiatry as a treatment after receiving many calls from an elderly patient's daughter asking them to care for her mother. The latter had been diagnosed with schizophrenia in the past. The homebound elderly patient lived in a rural area and had not followed up on her mental healthcare in 20 years (Amirsadri et al. 2017). Combining in-person care with a virtual type of care such as telepsychiatry was referred to as 'hybrid care (Hilty & Yellowees, 2015) The 'hybrid care' method used in Armirsadri's et al. 2017 study consisted of a social worker that traveled to the patient's home and combined care by utilizing a tablet to video conference with a psychiatrist. The case study made evident that the patient's mental health had been assessed, and she was able to report significant mental health improvement: the patient's physical health issues were also assessed and referred adequately by the social worker to other providers.

Furthermore, in one study investigating psychiatric care for rural individuals, it was found that only 1 to 2 percent of the patients received a wrong diagnosis when using telepsychiatry (Singh et al. 2007). To evaluate the validity of diagnosing mental disorders via telepsychiatry vs. conventional psychiatry, These authors established an ethics committee that approved strict methodology using current patient-accessible hardware and software, such as personal computers and video conferencing hardware and software, y. A total of 37 patients were reviewed for this particular study, and it was found that 83 percent of patients diagnosed per the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) through the use of telepsychiatry was correctly diagnosed. This study was beneficial in showing the accuracy of diagnosis in telepsychiatry due to advances in technology and telecommunication devices. The researchers expected that further advancements in technology could increase the validity of noncontact diagnosis in psychiatric care (Singh et al. 2007)

## DISCUSSION

This study aimed to identify and coalesce the benefits of telepsychiatry for adults living in rural communities to determine if telepsychiatry has improved access and quality of care. This review's results have suggested that having access to telepsychiatry can assist the adult rural population in getting mental healthcare that they may not have received otherwise Increased access to telepsychiatry to the rural mental adult population supported in this literature review. When rurally located adults have utilized telepsychiatry, the quality of care that this population receives to reduce mental health issues has been improved.

Rural areas with different access and quality of mental health care as surrounding urban areas have been demonstrated to be a huge priority (Nelson et al. 2013) Access to telepsychiatry has been established as a viable option for adults with mental illnesses living in rural areas. Mental health provided using telepsychiatry can be maintained in urban areas, and rural populations can significantly benefit from this healthcare technology (Deslich et al. 2013). Adults with mental illness who require psychiatric care and live in rural parts of the state could experience personalized, patient-centered care with telepsychiatry utilization (Shore, 2015). Incorporating telepsychiatry in some capacity in the primary care setting, rural adults needing mental health treatment would experience integrated healthcare and increase their quality of mental health care.

Telepsychiatry can potentially impact patients' quality of care, especially in areas that do not have access to specialists, such as rural communities. However, it has not been widely utilized due to a lack of training, cooperation from physicians, and technology. Rural areas in the U.S. have suffered for many years lack of adequate service to broadband network infrastructure. These areas have depended on more antiquated technologies as cellular-based fixed wireless access, satellite internet, or DSL. These technologies have been helpful for limited web browsing but are typically not reliable or sufficient to sustain telehealth. As technology continues to develop, telepsychiatry's access will also need to continue to improve, making access more available.

These results of this study suggest that telepsychiatry opens up possibilities for new service treatment and delivery techniques (in addition to eliminating the barriers linked with distance) in many ways. New service designs may include synergies of effectiveness not available in traditional services.

Finally, there has been reported stigma associated with mental health treatment which has been shown to act as a barrier to mental health treatment: due to a smaller population, rural patients have been more easily recognized by familiar people when going to receive mental health treatment (Gamm et al. 2010). Those living in rural areas often have believed they have less privacy and confidentiality, and it was established a lack of understanding and knowledge of mental disease treatment, as well as the lack of perceived need for mental healthcare, which has caused skepticism of rural adults in seeking treatment (Gamm et al. 2010).

The primary aim of this review did not cover theoretical factors promoting telepsychiatry within health care organizations. However, Multiple, interdependent synergies within an organizational setting should also be tested. The Normalization Process Theory can be instrumental in this effort, as it introduces a nonlinear understanding of acceptance.

Our study's target audiences consist of the following constituents: Hospital administration and staff whose help is needed to execute the telehealth program (through funding, advocacy, and using the telehealth solution for their patients). It must also include referring providers who might want to participate in the service (by recommending their patients to benefit from the service). Providers can be private practice physicians (e.g., primary care) who refer their patients, or from hospitals or be clinicians at local nursing homes and long-term care facilities. Also, it must involve promoting organizations that want to use as ways to publicize and advocate the service to their members. These can be local employers, urban and rural churches, and charities with close relationships with the local population and are more likely to know about the patient's healthcare needs.

## Practical Implications

Telepsychiatry in mental healthcare in the U.S. has not been utilized as it should in rural adult populations due to access and shortage of providers and poor distribution of psychiatrists. Different nations have utilized telepsychiatry to serve rural and underserved areas, and these modalities can be fully implemented in the U.S. to further increase rural access to mental healthcare. Telepsychiatry is a way that can enhance mental health providers and can facilitate rural areas and their urban counterparts to be more equipped and knowledgeable to handle the population in need (Daughton et al. 2013).

Telepsychiatry has incredible promise and potential to help those suffering from opioid addiction. With the future economic burden combined with increasing unemployment, the number of individuals battling addiction may increase. This factor has historically shown to be problematic, as the already overworked healthcare system cannot handle more treatment in terms of physicians and support. Telepsychiatry is a way that can improve mental health with opioid dependence and can facilitate rural areas and their urban counterparts to be more equipped and competent to manage this population in need.

As technology continues to advance, telepsychiatry's access will also need to continue to advance, making access more available. In this review, sources referenced were related to the shortage of mental healthcare providers and addressed telepsychiatry to decrease the shortage as a short-term fix, but no long-term options were reviewed to address the long-term effect of provider shortage.

## CONCLUSION

This literature review suggested that telepsychiatry has increased access to mental health services for adults in rural areas and improved mental healthcare delivery. Telepsychiatry utilization in rural areas has demonstrated a significant ability to improve mental health care delivery and quality of mental health care received by rural adult patients. Telepsychiatry is a practical, cost-efficient alternative to traditional psychiatric services that increases patient access to providers. Telepsychiatry is at the forefront of technological advances in the mental health field and can significantly benefit patients and providers. It also possesses both clinical service and non-clinical uses such as administrative, learning, and research application. The results of this study have shown that videoconferencing-based telepsychiatry has been an enabling and empowering form of service delivery, which has promoted equality of access, and high levels of satisfaction among subjects. The variety of services offered by videoconferencing-based telepsychiatry, potential users, and circumstances of the offering of such services are theoretically unlimited.

### Limitations and Future Research Scope

Limitations of this review include that it was not a systematic, fully longitudinal review of the literature. The scope was also narrowed to exclude specifics on medication management, treatments, and therapies. Moreover, not all findings apply to all locales or settings. Finally, the healthcare environment is rapidly changing, with consumer/patient use of technology, particularly with the coronavirus pandemic, so this technology has experienced several changes to keep up. Journals and literature reviews used in these articles were limited to the U.S. rural areas. Another limitation in this research was that several studies stated that telepsychiatry increased access to care, but it was not indicated what rate access had been increased. Finally, Restrictions of this analysis could be attributed to the literature search strategy, researchers, and publication bias.

Further research in this particular area and telepsychiatry is needed. Better evaluation with formal measures, i.e., randomized trials, metanalysis, and analysis of variance to predictors of results (access) is required. Studies need to be directed on areas where there is a relative absence of information, such as anxiety, substance use, and psychotic and other disorders.

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