



2023

Telehealth Benefits in Rural Areas: Occupational Therapy

Grant E. Tolkkinen

Grace K. Torgerson

Kaitlyn J. Wanner

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: <https://commons.und.edu/cat-papers>



Part of the [Occupational Therapy Commons](#)

Recommended Citation

Tolkkinen, Grant E.; Torgerson, Grace K.; and Wanner, Kaitlyn J., "Telehealth Benefits in Rural Areas: Occupational Therapy" (2023). *Critically Appraised Topics*. 61.
<https://commons.und.edu/cat-papers/61>

This Critically Appraised Topic is brought to you for free and open access by the Department of Occupational Therapy at UND Scholarly Commons. It has been accepted for inclusion in Critically Appraised Topics by an authorized administrator of UND Scholarly Commons. For more information, please contact und.common@library.und.edu.

Telehealth Benefits in Rural Areas: Occupational Therapy

Grant E. Tolkkinen, OTS, Grace K. Torgerson, OTS, & Kaitlyn J. Wanner

Department of Occupational Therapy, University of North Dakota, Grand Forks, North Dakota, United States

Please direct correspondence to Grant Tolkkinen at grant.tolkkinen@und.edu

***This resource was written by doctoral-level students in fulfillment of the requirements of the Occupational Therapy course “OT 403 - Clinical Research Methods in Occupational Therapy” at the University of North Dakota School of Medicine and Health Sciences, under the advisement of Professor/Course Director Anne Haskins, Ph.D., OTR/L, Assistant Professor Breann Lamborn, EdD, MPA, Professor Emeritus Gail Bass Ph.D., OTR/L, and Research and Education Librarian Devon Olson Lambert, MLIS.



Tolkkinen, G. E., Torgerson, G. K., Wanner, K. J., 2023

©2023 by Grant E. Tolkkinen, OTS, Grace E. Torgerson, OTS, & Kaitlyn J. Wanner, OTS. This work is licensed under the Creative Commons Attribution International license (CC BY). To view a copy of this license, visit <https://creativecommons.org/licenses/by/4.0/>

Focused Question

What is the efficacy of providing occupational therapy telehealth services, in lieu of in-person services, to adults with mental health conditions who live in rural areas or communities to increase quality of life through maximizing the fit between the client, the rural environment, and the occupation of self-care, specifically health management?

Case Scenario

This paper focuses on the efficacy of occupational-based interventions administered via telehealth within a rural-dwelling adult (18 years and older) population with mental health conditions. The main factors to consider in this scenario are the mental health services in rural areas, the features of the rural population, and the role of occupational therapy (OT) and telehealth in rural mental health. The Occupational Therapy Practice Framework defined health management as “activities related to developing, managing, and maintaining health and wellness routines, including self-management, with the goal of improving or maintaining health to support participation and other occupation” (AOTA, 2020, p.32).

Mental Health Services in Rural Areas

Mental health services include counseling, therapy, medication management, social work, peer support, and substance use disorder treatment, and rural areas face unique challenges with meeting the needs of the population served (U.S. Department of Health & Human Services, 2022). The defining characteristic of mental health services in rural areas is the lack of accessibility to those seeking services (Kirby et al., 2019). One such reason for this lack of accessibility is the absence of healthcare providers. Within the rural healthcare setting, there is a need for physicians specific to mental health treatment, as evidenced by Morales et al. (2020), who found that 60% of rural Americans lived in a designated mental health provider shortage area. This lack of mental health providers in rural areas may be a factor in the increased rate of unrecognized and undiagnosed mental health conditions within the rural population (Egan et al., 2022). Due to the shortage of specialized providers, primary care providers are often given the role to evaluate and treat people with conditions normally assessed by a provider more specialized in mental health (Egan et al., 2022). This shortage of specialists has impacted the quality of care available to the rural population for mental health, which is projected to continue to decrease (RHIH, 2022). Egan et al. (2022) found in a retrospective observational cohort-based study that rural populations face disparities in the quality of care and are often prescribed guideline recommended psychotropic medications due to fewer specialists available to offer more individualized care and treatment. One of the most significant factors affecting the ability of the rural population to utilize mental health services in rural areas is the distance required to reach these services studies (Egan et al., 2022; Kirby et al., 2019; Levy et al., 2018; McDougal et al., 2021; Morales et al., 2020).

Due to the overall shortage of healthcare providers in rural areas, emotional exhaustion among rural healthcare providers is higher among those working in metropolitan areas (Tham et al., 2022). Figueiredo et al. (2023) explained in a systematic review that there was an increase in burnout in healthcare workers across the United States during and following the peak of the COVID-19 pandemic due to an already high occupational load being increased. Occupational load has been defined as the number of roles, tasks, and occupations that an individual undertakes in a specific time span (Baptiste, 2017). This was an increased concern for rural areas as they are already low in the population regarding healthcare employees. In addition to the emotional strains on workers, this pandemic also played a significant role in an increase in mental health diagnoses within rural community dwellers (Figueiredo et al., 2023).



Population in Rural Areas

Rural areas make up 97% of the country's land mass; however, they only comprise 19.3% of the US population and 14.3% of this population reported having and mental illness (Rural Health Information Hub, 2022). Rural populations also have a rate of suicide that is nearly double that of the suicide rate in urban areas (Morales et al., 2020). Suicide is often used as an indicator of rates of mental health conditions within a population, therefore the high rate of suicide in rural areas indicates a high rate of mental health conditions within the rural populations. Rural risk factors for health disparities in rural populations include lower socioeconomic status, geographic isolation, and limited access to health insurance coverage, especially in rural racial and ethnic minority populations (Crouch et al., 2022). Brooks et al. (2007) referred to the population as American Indian; however, Indigenous people is the correct term. Indigenous populations in rural areas are especially at risk for mental health issues and show higher poverty rates and premature death (Brooks et al., 2007). A study was conducted with Indigenous people in rural locations to compare the costs of performing a structured clinical interview via videoconferencing (telehealth) versus in-person consultations. According to Brooks et al. (2007), telehealth interviews generated savings of over \$12,000 over in-person interviews. This benefits Indigenous populations as a cost-effective form of receiving mental health services in rural locations.

Often in rural communities, there is a stigma surrounding mental health. Schroeder et al. (2021) stated, "rural communities have a culture of their own, and as a result of the community size, often lack anonymity" (p.64). In such small, remote communities, the population relies on each other to meet the community's needs. This can increase ethical dilemmas in health care, such as challenges with patient confidentiality, conflicting roles, and altered therapeutic boundaries (Roberts et al., 1999). In rural areas, physicians may see their patients routinely in the community and find it challenging to avoid overlapping relationships. Roberts et al. (1999) stated, "rural communities have been linked to fishbowls. Comings and goings at the mental health clinic are observed, and people listen carefully to comments of clinic staff members" (p. 500).

The Role of Telehealth and Occupational Therapy

Looking at potential solutions to the barriers the rural population faces in meeting their mental healthcare needs, occupational therapists can help address these unmet needs via the use of telehealth to increase occupational engagement. Telehealth is a form of treatment where an individual receives services virtually with their healthcare provider rather than in person (Human Resource and Service Administration, 2022). An occupational therapist's goal is to maximize occupational participation by maximizing the fit between the factors of a person, their environment, and their desired everyday activities (Baptiste, 2017). Telehealth not only offers an effective method of treatment delivery across a variety of treatment settings (Dahl-Popolizio et al., 2020) but also one that clients and therapists alike view positively (Renda & Lape, 2018; Wallisch et al., 2019; Worboys et al., 2018). Using this virtual service model, occupational therapists can reach those who may not have access to services in reasonable proximity and could benefit occupational engagement for individuals in rural areas. With the prevalence of mental health and isolation in rural communities, telehealth is a solution that can improve access to OT services and increase the quality of life of people in rural areas.

When considering a model that would be the best fit for our focused question, the Person-Environment-Occupation (PEO) model aligns with the purpose of this question. The PEO model includes the transaction between the person, environment, and occupation (Baptiste, 2020).



Within this model's *environment*, it includes the virtual aspect, which is pertinent to telehealth services. The *person* component consists of adults with mental health illnesses. The *environment* is rural communities incorporating virtual access to the internet for telehealth services, and the *occupation* focuses on quality of life through participation in occupations. The PEO model considers human growth, development across the life span, and changes over the course of one's life and life circumstances which will be beneficial when applying the focus question (Brown et al., 2019).

Purpose Statement

Currently, there is a challenge in meeting the mental health needs of the populations in rural areas experienced by all healthcare professions, including OT. Telehealth has shown potential for filling the gaps within this population's needs, but the efficacy of telehealth for occupational therapy is unknown when compared to in-person services. The purpose of this critically appraised topic paper (CAT) is to determine the benefits of OT services via telehealth specific to the rural population with mental health illnesses.

Methodology

An initial literature search was conducted from March 1st, 2023, to March 27, 2023. Databases accessed include the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, the American Occupational Therapy Association (AOTA), and Google Scholar. The following search terms were used: “mental health”, “rural”, “adults”, “Telehealth”, “Journal of Rural Mental Health”, “services”, and “occupational therapy”. For the purpose of creating more refined searches, the commands “AND” and “OR” were added to combine such words and phrases. Exclusion criteria included studies not published in English and articles published before 2018. An exception was made for one article from 1999, one from 2007, one from 2011, and one from 2017 because of the relevancy of the data, and because there were no recently published studies with corresponding information.

Types of Articles Reviewed

A total of 58 articles were reviewed, and a total of 39 were selected for further in-depth review. Of these 39 articles, 4 were level I studies (Chessmond et al., 2019; Figueiredo et al., 2023; Morales et al., 2020; Roberts et al., 1999), two were level II studies (Avvenuti et al., 2018; Panerai et al., 2021), two were a level III studies (Novilla et al., 2023; Zhang & Xu, 2021), 7 were level IV studies (Andrilla et al., 2018; Arfi et al., 2021; Creedon et al., 2020; Dahl-Popolizio et al., 2020; Egan et al., 2022; Kirby et al., 2019; Schroeder et al., 2021), and 15 were level N/A (Acharya et al., 2022; Asad & Chreim, 2016; Brooks, et al., 2007; Cole & McLean, 2008; Crouch et al., 2022; Center for Connected Health Policy, 2022; Gagnon et al., 2006; Gajarawala & Pelkowski, 2021; Gamm et al., 2010; Hopkins et al., 2022; Levy et al., 2018; Puspitasari et al., 2021; Thorne and Ebener, 2020; Wallisch et al., 2019; Worboys et al., 2018). Other resources that were reviewed included government and organizational websites (Human Resource and Service Administration, 2022; Rural Health Information Hub, 2022; Telehealth.HHS.GOV, 2023; U.S. Department of Health & Human Services, 2022), selected chapters from books related to OT (Baptiste, 2017; Brown et al., 2019), position papers (American Journal of Occupational Therapy, 2018), and the Occupational Therapy Practice Framework (American Occupational Therapy Association, 2020).

Synthesis

Theoretical Base



The occupation-based model used to guide the search and creation of this paper was Person-Environment-Occupation (PEO). PEO was selected as the factors of the topic of interest best fit into the person, environment, and occupation categories of this model (Baptiste, 2017). These three factors are in continuous interaction with one another and determine the occupational performance of an individual (Baptiste, 2017). Using this concept, the research used in the creation of this CAT paper was analyzed through the lenses of PEO to identify the fit between the client (rural adult receiving telehealth for mental health services), the rural environment, and the occupation of self-care, specifically health management.

Barriers To Quality Mental Healthcare in Rural Areas

Mental health stigma in rural settings

There is a significant stigma for people with mental illness and how it may affect the prevalence of their seeking out services, specifically in rural communities. Reducing this stigma is a factor that needs to be considered when increasing the number of rural residents and care-seeking behaviors (Schroeder et al., 2021). The American Psychology Association defined stigma as “the negative social attitude attached to a characteristic of an individual that may be regarded as a mental, physical, or social deficiency” (American Psychological Association, para. 1). In a systematic review, authors found that stigma in rural areas is more than just the negative societal attitude and is brought on by being labeled by the community, feeling incapable and unpredictable, employer perception, along with an individual's personal self-image of being mentally unwell (Chessmond et al., 2019). Often, society's roles on people cause added pressure on those struggling with their mental health. The roles of being parents and caregivers can be difficult to do when an individual is struggling with mental illness and does not seek out services.

Rural communities have smaller populations and a culture of their own which can decrease understanding of mental health and can lead to those with mental health issues delaying help-seeking behaviors and ultimately leading to more severe symptoms (Schroeder et al., 2019). Furthermore, in a qualitative study, researchers concluded that within rural communities there is a lack of privacy due to the low populated areas (Thorne & Ebener, 2021). This lack of privacy can in turn lead to the rural population having reduced faith in the confidentiality in the services they may receive in mental healthcare. Many individuals may have developed a reliance on informal sources of care, such as family members and religious leaders, for their mental health needs because they do not feel as though their medical information is going to be kept confidential (Rural Health Information Hub, 2022). In a qualitative study, Hopkins et al. (2022) found that rural individuals are often concerned about the high likelihood that they would see their healthcare service provider outside of the healthcare setting and within the community. Smaller communities value community engagement, and people with mental illness may withdraw from these activities to decrease the likelihood of stigmas being placed on them (Hopkins et al., 2022). Overall, providing an education to those in rural settings about mental health to decrease the negative stigma that both the person with the mental illness and the community around them. This is one way to increase confidence in the population to seek mental health guidance.

Distance

One of the biggest barriers to mental healthcare services in rural areas is the extended distances between rural individuals and mental healthcare providers (Egan et al., 2020; Hopkins et al., 2022; Kirby et al., 2019; Levy et al., 2018; McDougal Ronconi et al., 2021; Morales et al., 2020). This distance barrier is often exacerbated by a common insurance restriction within the



United States, which does not allow two behavioral/mental health appointments in one day (Morales et al., 2022). This insurance restriction means rural individuals cannot set aside one day for multiple appointments to avoid travel time and costs. The distance barrier affects certain rural populations more than others. Hopkins et al. (2020) noted in a qualitative study, that farmers, in particular face a challenge in overcoming the distance barrier due to their work schedules. The work schedule of farmers can make it difficult for them to find time to travel to mental healthcare services due to how busy these work schedules can be (Hopkins et al., 2020). It is of note that barriers to farmers' access to mental healthcare services should be addressed as asserted in a retrospective cross-sectional study by Arif et al. (2021). Arif et al. found that agricultural workers had a “64% higher mortality rate from suicide than the total working-age population” (2021, p. 961).

The distance required for utilization of in-person mental healthcare services also serves as a bigger barrier to individuals lower in the socioeconomic hierarchy and those without the ability to transport themselves, compared to those living in urban settings. In a cross-sectional study, Paull et al. (2023) reported that rural areas have a lower median income, which in turn leads to greater challenges in accessing means of transportation in rural areas. In a cross section, Zhang and Xu (2022) found that individuals who are low in the socioeconomic hierarchy face significant challenges in utilizing healthcare services, particularly those who are in rural areas. This is because these individuals will often not have the means of transportation to access healthcare services, in particular public transportation, which is typically available in urban areas but not in rural areas. Zhang and Xu (2022) found that this lack of public transportation affects individuals in poverty, ethnic minorities, and people with disabilities in rural areas the most in terms of accessing healthcare.

The distance between mental health providers and rural populations is a barrier that can make other barriers to utilization of mental healthcare services even larger, in particular the barriers of socioeconomic status, poverty, employment, healthcare insurance coverage and policies, and disabilities.

Lack of Providers

One major concern that has a negative influence on the ability of people living in rural communities to seek out help from a mental health specialist, occupational therapist, or psychologist is the lack of accessibility to those specialty areas (Egan et al., 2022). Within the lack of specialized providers, often times the primary care physicians are responsible for evaluation of a person's mental health illness (Kirby et al., 2019). In a 2010 narrative review, Gamm et al. (2020) discussed constraints that are caused due to this shift of responsibility and lack of training within providers that are not specifically trained in mental health. There was noted to be shorter visits for patients, lack of specialized backup and referrals to other caregivers, heavy patient case load, and limited time for furthering education to learn more about these areas (Gamm et al., 2010). The patient to physician ratio is greater in rural areas than those of urban areas which can lead to a lack of time and resources to treat the community (Gamm et al., 2010). An analysis was completed to determine the scarcity of mental health physicians located in rural areas and the results showed that 65% of non-metropolitan counties are without a provider (Andrilla et al., 2018). This emphasizes that we need to improve this lack of care and accessibility to mental healthcare providers in rural areas. This need is made apparent when looking at the suicide rates in rural areas, which are nearly twice as high as the suicide rates in urban areas (Rural Health Information Hub, 2022). Unfortunately, the United States is not experiencing a rapid growth in healthcare workers, and after the COVID-19 pandemic, has seen



a decrease due to workload burnout (Novilla et al., 2023). A possible solution to this issue highlighted in the literature reviewed would be to allow rural dwellers to access this care from specialized providers via telehealth (Egan et al., 2022). Giving the option for people to receive treatment virtually will increase accessibility without having to increase the number of healthcare workers in this area.

Telehealth

Benefits

When considering the information regarding the lack of specialty care in mental health settings (Gamm, 2010), lack of accessibility to appointments and physicians (Kirby et al., 2019), and the stigma that both the person themselves and the community place on mental health (Chessmond et al., 2019; Schroeder et al., 2021), it is notable that there is a need for change. One way in which healthcare providers can reach a large number of clients that is easily accessible and cost effective is through telehealth. Telehealth is a type of service delivery that occurs virtually, either over the phone or over video chat (Human Resources and Service Administration, 2022). This was created to provide access to resources to people who are living in areas where there is a shortage of providers (Gajarawala & Pelkoski, 2021). Physicians can reach and work with a population that has difficulty receiving services and can be done within the comfort of the client's home. This cost-effect service delivery has been shown to “reduce American health care spending by decreasing problems like medication misuse, unnecessary emergency departments visits, and prolonged hospitalizations” (Gajarawala & Pelkoski, 2021, p. 218). In a qualitative study, Wallisch et al. (2019) found that telehealth utilized for the delivery of OT services was viewed as a more compatible method of service delivery for both the therapist and clients and their caregivers. The therapists reported that they saved time by not having to travel to see their patients in a rural area, and both the clients and their caregivers reported that they viewed telehealth as a convenience as their busy schedules made it difficult for them to travel to in-person services (Wallisch et al., 2019). As stated previously, there are many barriers that are not allowing this population to seek services, and telehealth has been seen to meet those needs (Wallisch et al., 2019). With telehealth, clients can access services from their own homes, which can allow them to be more comfortable and learn how to implement strategies in their natural and everyday environment.

Telehealth benefits clients, and those seeking out care in many ways and has also been shown to be a positive factor for caregivers and physicians as well. This strategy allows occupational therapists and other providers to assess these clients in their everyday environment. This can also increase the privacy of the clients in rural communities and decrease the workload on the primary care physicians who are currently responsible for meeting the needs of those seeking out mental health services (Gamm et al., 2010). In a qualitative study, Gagnon et al. found that telehealth has “an efficient way to provide education and to facilitate exchanges between professionals from various sites and specialties” and is an excellent means of communication, which can allow for an increase in interprofessional engagement (2006, p. 4-5). Overall, there are many factors within telehealth that benefit both the clients and healthcare workers. Telehealth can meet the needs of the rural populations and increase the number of people who get the services needed to increase their quality of life.

Factors of Note in Telehealth

If a practitioner is to utilize telehealth to administer services, several factors that may negatively impact the quality of services provided should be considered. In a retrospective cohort-based study, Egan et al. (2022) found in telehealth, that a lack of face-to-face interaction



and less nonverbal communication between the provider and client can lead to barriers in the development of the therapeutic relationship. Therapeutic relationship is defined as “a trusting connection and rapport established between therapist and client through collaboration, communication, therapist empathy and mutual understanding and respect” (Cole & McLean, 2008, p. 33-34). Also, utilizing an audio only format of service delivery can lead to an inability to use visual materials that are key aspects to multiple evidence-based interventions such as art therapy or physical exercise can challenge the provision of quality services to clients via telehealth (Levy et al., 2018). While video conferencing can bring a visual aspect into services provided via telehealth, it has its own set of challenges in implementation. Egan et al. (2022) found that incorporating video conferencing into telehealth services may not always be possible due to many rural areas lacking access to broadband internet. Egan et al. (2022) also found that many older individuals may not benefit from video conferencing due to unfamiliarity with the concept and required software.

Privacy is another potential barrier to providing quality mental health services via telehealth. In a mixed methods study, Levy et al. (2018) found that many providers of services were concerned about privacy as they were often unaware of others who were nearby the recipients of services. These providers found they could not maintain the same assurance of privacy in telehealth when compared to in-person services. Another finding from Levy et al. (2018) was that Health Insurance Portability and Accountability Act (HIPAA) violations were of concern due to the storage of data from telehealth services. Many popular services (such as Skype) leave health information at risk, and communication systems used when protected health information (PHI) is involved must be secured and encrypted (Levy et al., 2018). A business associate agreement should be used to avoid wrongful disclosure and access of information and ensure HIPAA compliance when PHI is stored in a communication system (Levy et al., 2018).

Health Insurance

Both the public and private sectors of healthcare insurance have varying standards and policies regarding telehealth services coverage. Medicare which is the primary payer for mental health services in the United States, has varying reimbursement rates for telehealth used for mental healthcare services across the states (Creedon et al., 2020). In a summary report by the Center for Connected Health Policy (CCHP, 2022), it was written that “no two states are alike in how telehealth is defined or regulated” (p. 3). This fact can make reimbursement a challenge for practitioners who are providing telehealth services to clients across state lines. Private healthcare insurance companies also have varying policies and reimbursement rates for telehealth services and mental health services. In a retrospective cohort-based study, Egan et al. (2022) found that rural residents may not access mental healthcare services as much as they may otherwise have due to limits on reimbursement for telephone-based services.

The situation regarding reimbursement of telehealth for mental health services has varied from year to year, this is predicted to continue for the foreseeable future (CCHP, 2022). It is of note that the Consolidated Appropriations Act of 2023 allows for the continuation of Medicare and Medicaid reimbursement of telehealth services provided by occupational therapists through December 31, 2024 (Telehealth.HHS.GOV, 2023).

Occupational Therapy Services Used within Telehealth

OT offers various services that can be provided through telehealth. Telehealth technology can be used for evaluations of the client’s needs and their environment, as well as to provide proper interventions. Occupational therapists provide education and training that provide skills on going to the pharmacy, reading medication labels, and filling medication pillboxes.



Occupational therapists also provide education to improve health literacy, which will assist them in making health-related decisions for themselves. Occupational therapists assist in engaging in caregiver training to develop an environment where they are supported. Occupational therapists help to teach healthy coping strategies and establish good habits and routines. They can also advocate for their clients about appropriate accommodation or assistive equipment they may need. Some assessments used over telehealth by occupational therapists that are frequently used in mental health settings are the Montreal Cognitive Assessment (MoCA), Mini-Mental State Exam, Kohlman Evaluation of Living Skills, and the Canadian Occupational Performance Measure (COPM) (AOTA, 2018). These are all considered reliable when administered remotely via telehealth by an experienced OT (AOTA, 2018).

When looking at OT interventions used in telehealth settings, Cognitive Behavioral Therapy (CBT), which is a form of talk therapy that occupational therapists utilize to identify specific problems involving the client's occupational participation, is frequently utilized (Scogin et al., 2018). In a randomized control study, Scogin et al. (2018) found that CBT administered via videoconferencing had significant improvements in sleep, and non-significant improvements in depression symptoms when compared to the control group who received in-person physician-recommended primary care services. Telephone-based reality orientation therapy (T-ROT) is another intervention that can be used by occupational therapists via telehealth (Panerai et al., 2021). T-ROT is a treatment that involves meaningful and repeated stimulation of orientation to person, place, and time in order to promote a higher understanding of and sense of control over one's environment (Panerai et al., 2021). In a level II non-randomized control group study, Panerai et al. (2021) looked at the effectiveness of T-ROT provided to elders with a major-neurocognitive disorder. It was found that telephone-based reality orientation therapy (T-ROT) was effective in comparison to the nontreatment group in the measures of depression, behavior, cognition, and caregiver burden and distress. These findings from Panerai et al. (2021) indicated the ability of T-ROT to positively impact the quality of life of both the clients with a major neurocognitive disorder, and their caregivers.

In a systematic review, Velly and Mohit (2018) found that pain is a symptom that is found to be common in many mental health related disorders, which indicates pain as a symptom that often requires addressing in mental health settings. In a systematic review Feldhacker et al. (2022) found that OT interventions administered for pain via telehealth resulted in statistically significant outcomes for pain reduction and management.

Technology can be an effective tool for occupational therapists utilizing the telehealth method of service deliveries. For example, to ensure the safety of a client who is at risk for a fall, the SmartShoe helps analyze walking behavior patterns in a client's own environment and relays the information to the OT to help ensure safety as well as adherence to an intervention program (Avvenuti et al., 2018). Therefore, SmartShoe technology can be used by occupational therapists to help reduce client's anxiety of a fall and reduced safety. There are some considerations an OT must look at before deciding which assessment and interventions are appropriate for the client. Such considerations are confidentiality, availability, technology requirements, and therapy equipment accessibility. Assessments and interventions that require an in-person setting can also be performed via telehealth using a caregiver or other healthcare professional that is available nearby to the client to assist (American Occupational Therapy Association, 2018).

Summary of Synthesis

After reviewing the literature that was available for this topic, specifically through the lens of the PEO model (Baptiste, 2017), there is a poor fit between the person (adults with



mental health conditions), environment (rural communities), and the occupation (health management). Factors that contribute to this poor fit within the person component of PEO are the perceived self-stigma with mental illness (Schroeder, 2020), trust towards provider (Thorne and Ebner, 2021), lower median income (Paull et al., 2023), and high rates of mental health within this population (RHIH, 2022). Factors that contribute to the poor fit within the environment aspect of PEO are lack of resources and providers within the community (Gamm et al., 2010), distance to mental health facilities (Egan et al., 2020; Hopkins et al., 2022; Kirby et al., 2019; Levy et al., 2018; McDougal Ronconi et al., 2021; Morales et al., 2020), community stigma towards mental health (Schroeder, 2022), and confidentiality with healthcare providers (RHIH, 2022). Factors within the occupational aspect of PEO that contribute to the poor fit include lack of access to transportation (Paull et al., 2023; Zhang, & Xu, 2022), healthcare provider burnout rates in rural areas (Figueiredo et al., 2023; Tham et al., 2022), and lack of mental health literacy (Schroeder et al., 2019).

Telehealth as a form of service delivery has been shown to have several advantages. These advantages include reduced medication mismanagement (Gajarawala & Pelkoski, 2021), reduced American healthcare spending (Gajarawala & Pelkoski, 2021), provision of services in areas with limited mental healthcare providers (Gamm et al., 2010), decreased workload on the local primary providers (Gamm et al., 2010), provision of improved inter-professional collaboration and communication (Gagnon et al., 2006), assessments and interventions administered within the clients natural setting, effectively addresses client's fears related to privacy and confidentiality (Gamm et al., 2010), and eliminates the need for client to travel to service providers.

Within the literature reviewed, we found that telehealth has been shown to be an effective method of delivery of OT therapy services to rural populations. Several common OT assessments, such as the Montreal Cognitive Assessment, Mini-Mental State Exam, Kohlman Evaluation of Living Skills, and the Canadian Occupational Performance Model have been shown to be reliable when administered via telehealth (AOTA, 2018). There are also several OT interventions that have been studied and been shown to be effective such as T-ROT (Panerai et al., 2021), CBT (Scogin et al., 2018), pain management and reduction (Feldhacker et al., 2022), and preventive interventions (AOTA, 2018). OT assessments and interventions that require an in-person setting can also be used effectively when administered via telehealth if a caretaker or healthcare professional is available to assist the client in person (AOTA, 2018). This allows the occupational therapist to take an educational approach to the implementation of services. This could be an effective method to improving the fit between adults with mental health conditions, rural areas, and the occupation of health management.

Focus question

What is the efficacy of providing occupational therapy telehealth services, in lieu of in-person services, to adults with mental health conditions who live in rural areas or communities to increase quality of life through maximizing the fit between the client, the rural environment, and the occupation of self-care, specifically health management?

Clinical Bottom Line

Mental health has been a rising concern for people across the United States and continues to be an issue following the COVID-19 pandemic (RHIH, 2022). With the rise in diagnoses, there is an increase in burnout of healthcare workers in the healthcare system leaving less resources for those experiencing issues with their mental health (Tham et al., 2022). Rural areas have shown a need for access to quality mental health services including those offered by



occupational therapists (Tham et al., 2022). The quality of life for adults in rural communities with mental illness relies on the access to services to manage the symptoms they are experiencing, and to maximize their occupational engagement through health management. Receiving this specialized mental health care has been a challenge due to the barriers of accessibility, affordability, availability, and acceptability (Rural Health Information Hub, 2022).

Rural populations have cultural components that make seeking healthcare difficult. Reports have shown the prevalence of mental health illness and high suicide rates within rural communities in the United States (Morales et al., 2020). Attributing factors to these high rates include stigma (Schroeder et al., 2021), lower median income (Paull et al., 2023), geographic isolation (Andrilla et al., 2018), limited access to health insurance coverage (Levy et al., 2018), and confidentiality and privacy concerns (Gamm et al., 2012). The rural areas make up nearly 97% of the US land but only 19.6% of the population, which highlights the factor of geographical isolation and how there are minimal in-person resources available (RHIH, 2022). This population also reported lower average median incomes, which accounts for limited access to healthcare coverage (Crouch et al., 2022). As a result of the size of the community, rural dwellers have a culture of their own (Schroeder et al., 2020). This culture can often result in a lack of confidentiality and privacy, leading to many community members being reluctant to reach out for services (Gamm et al., 2010; Thorne & Ebener, 2020). Additionally, both the rural community and rural individuals have placed a stigma on mental health and seeking out mental health services (Chessmond et al., 2019). This population often sees mental health illnesses as a lack of independence in the roles of the person resulting in a decrease in the amount of people seeking services (Chessmond et al., 2019).

Within rural mental healthcare, several factors serve as barriers to rural adults receiving quality mental healthcare. The first of these factors is the lack of providers and specialized mental healthcare providers within rural areas. Morales et al. (2020) found that 60% of rural Americans live within an area designated as a mental health provider shortage area. The lack of specialized providers has led to primary care physicians taking on the role that is normally filled by providers who specialize in mental healthcare (Egan et al., 2022). This, in turn, has led to a reported downturn in the quality of mental health care services provided within rural areas (Egan et al., 2022). The lack of healthcare providers within rural areas and increased demand placed upon the remaining healthcare providers, has also led to a higher level of burnout within rural healthcare providers when compared to urban areas (Figueiredo et al., 2023; Tham et al., 2022). These factors are not expected to improve within the foreseeable future, which indicates a need for a model of service delivery to address these barriers to service within the rural population who have mental health conditions (Novilla et al., 2023). Another major barrier to quality mental health services is the distance between rural individuals and a mental healthcare provider, which has led to rural individuals attending fewer care visits than their urban counterparts (Kirby, 2019). The distance barrier exacerbates other barriers to access of quality mental health services within rural areas as well. The distance barrier makes it more difficulty for rural individuals to access mental health services due to rural areas having a lower median income than urban areas which makes access to personal transportation more challenging, and far less access to public transportation (Paull et al., 2023; Zhang & Xu, 2022).

Telehealth is a form of treatment where an individual receives services virtually with their healthcare provider rather than in person (HRSA, 2022). This form of treatment shows promises to be able to reduce most of the barriers that the rural population faces in accessing and utilizing quality mental healthcare services. Occupational therapists can utilize telehealth to



overcome the distance barrier found in rural areas and lead to convenience of access to services for both the therapist and the client (Wallisch et al., 2019). Wallisch et al. (2019) also found that both the occupational therapists and a rural population of clients reported satisfaction and positive feelings towards telehealth. Telehealth can help both the client and occupational therapist save time and financial resources (Gajarawala & Pelkoski, 2021). Many of the assessments that are commonly used in OT have had their psychometric properties verified when they are used in a telehealth setting (AOTA, 2018). Interventions used by occupational therapists have also been utilized and studied in a telehealth setting. Some of these interventions include T-ROT, pain reduction and pain management, education, and preventive interventions (AOTA, 2018; Feldhacker et al., 2022; Panerai et al., 2021; Scogin et al., 2018).

Maximizing the participation, both the therapist and client have been shown to have positive attitudes toward telehealth services, and many of the occupational therapist's services have been shown to be effective when administered via telehealth (Renda, 2018; Wallisch, 2019). Telehealth is easily accessible, which will overcome the barriers of transportation and decrease the time and money spent on care. This is also beneficial because the client is completing the services within their own natural environment, which can help the therapist to assess and evaluate the client in their everyday setting and can be the most accurate representation of their everyday life. The client being in their natural setting helps to address the client's concerns with confidentiality and privacy issues. Telehealth was effective in treating many symptoms present with mental health services.

Within this setting of telehealth for individuals in rural areas with mental health conditions, an occupational therapist can expect to work with several other healthcare professionals who are integral to the success of the treatment. These professionals include physical therapists, physicians, psychiatrists, nurses, information technology professionals, social workers, medical assistants, physician assistants, and administrative professionals (Asad & Chreim, 2016). This means that an occupational therapist must be in constant communication with the various other team members as Puspitasari et al. (2021) found that issues that arise in the planning of patient care are often due to the result of poor collaboration and communication between the various health care professions involved in mental healthcare settings. Thus, when designing an action plan for occupational therapists to successfully implement telehealth to provide services for individuals in rural areas for mental health purposes, the first step is to define the role of OT and communicate with the other team members effectively and consistently (Asad, 2016). The second step of the action plan is to ensure that the technology to be used can maintain the client's privacy and confidentiality and is reliable. For this step, the information technology professionals are crucial. The occupational therapist should use clinical and ethical reasoning to guide the use of telehealth technology that can adequately meet the client's needs. Next, the occupational therapist should find assessments that are both valid and reliable when administered via telehealth. For this step, resources such as the American Journal of Occupational Therapy are of significant use. Once the treatment reaches the intervention phase, interventions used by occupational therapists should also have strong psychometric backing for their use in telehealth settings. When planning the intervention phase, occupational therapists should also consider the technology availability and options, the safety of providing interventions exclusively through telehealth or a hybrid model, the client's desired outcomes and perceptions of services provided, reimbursement, and compliance with federal and state laws (AOTA, 2018). Throughout the whole OT process, occupational therapists should be mindful of their ethical principles to ensure ethical practice as telehealth settings are relatively new in



occupational therapy and have many areas that lack research and require the occupational therapists to make clinical decisions without strong research to guide them (AOTA, 2018).

Ultimately there needs to be a change that will allow people to access quality healthcare that is both feasible and confidential. The evidence reviewed has shown that telehealth can maximize occupational engagement for these clients with a variety of virtual assessments and interventions and minimize the difficulties through greater accessibility and affordability. There has been limited research on these specific interventions within occupational therapy via telehealth, but the current research done has shown a positive impact on client's mental health due to these occupational interventions.



References

- American Occupational Therapy Association (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, 74 (Suppl. 2), 7412410010. <https://doi.org/10.5014/ajot.2020.74S2001>
- American Occupational Therapy Association (2018). Telehealth in occupational therapy. (2018). *American Journal of Occupational Therapy*, 72(2), 7212410059p1. <https://doi.org/10.5014/ajot.2018.72s219>
- American Psychological Association. (n.d.). *APA Dictionary of Psychology*. Dictionary.apa.org; American Psychological Association. <https://dictionary.apa.org/stigma>
- Andrilla, Patterson, D. G., Garberson, L. A., Coulthard, C., & Larson, E. H. (2018). Geographic variation in the supply of selected behavioral health providers. *American Journal of Preventive Medicine*, 54(6), S199–S207. <https://doi.org/10.1016/j.amepre.2018.01.004>
- Arif, A., Adeyemi, O., Laditka, S. B., Laditka, J. N., & Borders, T. (2021). Suicide mortality rates in farm-related occupations and the agriculture industry in the United States. *American Journal of Industrial Medicine*, 64(11), 960–968. <https://doi.org/10.1002/ajim.23287>
- Asad, S., & Chreim, S. (2016). Peer support providers' role experiences on interprofessional mental health care teams: A qualitative study. *Community Mental Health Journal*, 52(7), 764–774. <https://doi-org.ezproxylr.med.und.edu/10.1007/s10597-015-9970-5>
- Avvenuti, M., Carbonaro, N., Cimino, M. G. C. A., Cola, G., Tognetti, A., & Vaglini, G. (2018). Smart shoe-assisted evaluation of using a single trunk/pocket-worn accelerometer to detect gait phases. *Sensors (Basel, Switzerland)*, 18(11), 3811. <https://doi.org/10.3390/s18113811>
- Baptiste, S. (2017). The person-environment-occupation model. In J. Hinojosa, P. Kramer & C. B. Royeen (Eds.), *Perspectives on human occupation: Theories underlying practice*: (2nd ed., pp. 137-159). F.A. Davis Company.
- Brooks, E., et al. (2007). An economic evaluation of telehealth data collection with rural populations. *Psychiatric Services*, 58(6), 830–835. <https://doi.org/10.1176/ps.2007.58.6.830>
- Brown, C., Stoffel, V., & Phillip Muñoz, J. (2019). *Occupational therapy in mental health: A vision for participation* (2nd ed., p. 37). F.A. Davis Company.
- Center for Connected Health Policy. (2022). *State telehealth laws and Medicaid program policies*. Public Health Institute. https://www.cchpca.org/2022/10/Fall2022_ExecutiveSummary8.pdf
- Cheesmond N. E., Davies K., Inder K. J. (2019). Exploring the role of rurality and rural identity in mental health help-seeking behavior: A systematic qualitative review. *Journal of Rural Mental Health*, 43(1), 45–59. <https://doi.org/10.1037/rmh0000109>
- Cole M. B. & McLean V. (2008). Therapeutic relationships re-defined. *Occupational Therapy in Mental Health*, 19(2), 33-56. https://doi.org/10.1300/J004v19n02_03
- Creedon, T. B., Schrader, K. E., O'Brien, P. L., Lin, J. R., Carroll, C. D., & Mulvaney-Day, N. (2020). Rural-Nonrural differences in telemedicine use for mental and substance use disorders among Medicaid beneficiaries. *Psychiatric Services*, 71(8), 756-764. <https://doi.org/10.1176/appi.ps.201900444>



- Crouch, E., Radcliff, E., Merrell, M. A., Bennett, K. J., & Wilson, M. (2022). Examining racial–ethnic differences in positive childhood experiences among rural children. *Journal of Rural Mental Health, 46*(2), 128–139. <https://doi.org/10.1037/rmh0000185>
- Dahl-Popolizio, S., Carpenter, H., Coronado, M., Popolizio, N. J., & Swanson, C. (2020). Telehealth for the provision of occupational therapy: Reflections on experiences during the COVID-19 pandemic. *International Journal of Telerehabilitation, 12*(2), 77–92. <https://doi.org/10.5195/ijt.2020.6328>
- Egan, R. P., Hurley, D. B., Goetz, M. C., Smith, C. S., Palmer, B. A., & St. Hill, C. A. (2022). Disparities in mental health access before and after transitioning to telehealth. *Journal of Rural Mental Health, 46*(4), 271–276. <https://doi.org/10.1037/rmh0000214>
- Feldhacker, D., Jewell, V., Jung LeSage, S., Collins, H., Lohman, H., & Russell, M. (2022). Telehealth interventions within the scope of occupational therapy practice: A systematic review. *The American Journal of Occupational Therapy, 76*(6), 7606205090. <https://doi.org/10.5014/ajot.2022.049417>
- Figueiredo, Koch, U., Oliveira, E., & Ennis-Durstine, K. (2023). Implementing complex interventions to mitigate burnout among qualified healthcare professionals: A realist review protocol. *BMJ Open, 13*(1), e067577–e067577. <https://doi.org/10.1136/bmjopen-2022-067577>
- Gagnon, MP., Duplantie, J., Fortin, JP., & Landry, R. (2006). Implementing telehealth to support medical practice in rural/remote regions: What are the conditions for success? *Implementation Science 1*(18), 1-8 (2006). <https://doi.org/10.1186/1748-5908-1-18>
- Gajarawala S. N. & Pelkowski J. N. (2021). Telehealth benefits and barriers. *The Journal for Nurse Practitioners, 17*(2), 218-221. <https://doi.org/10.1016/j.nurpra.2020.09.013>
- Gamm, L., Stone, S., & Pittman, S. (2010). Mental health and mental disorders—A rural challenge: A literature review. *Rural Healthy People, 2*(1), 97-114.
- Hopkins, N., Proctor, C., Muilenburg, J. L., & Kershaw, T. (2022). 'It's easier to go to the beer store than ask for help': A qualitative exploration of barriers to health care in rural farming communities. *Journal of Rural Mental Health, 46*(2), 128–139. <https://doi.org/10.1037/rmh0000224>
- Human Resource and Service Administration (HRSA). (2022). *What is telehealth?* Telehealth.HHS.gov. Retrieved March 3, 2023, from <https://telehealth.hhs.gov/patients/understanding-telehealth/>
- Kirby, J. B., Zuvekas, S. H., Borsky, A. E., & Ngo-Metzger, Q. (2019). Rural residents with mental health needs have fewer care visits than urban counterparts. *Health Affairs, 38*(12), 2057–2060. <https://doi.org/10.1377/hlthaff.2019.00369>
- Levy, C. E., Spooner, H., Lee, J. B., Sonke, J., Myers, K., & Snow, E. (2018). Telehealth-based creative arts therapy: Transforming mental health and rehabilitation care for rural veterans. *The Arts in Psychotherapy, 57*, 20–26. <https://doi.org/10.1016/j.aip.2017.08.010>
- McDougal Ronconi, J., Kim, S., Hackel, J., Kelly, L., & Zhang, L. (2021). Implementing telemental health to improve access to mental health care in rural Vermont. *The Journal for Nurse Practitioners, 18*(2), 226-231. <https://doi.org/10.1016/j.nurpra.2021.10.007>
- Morales, D. A., Barksdale, C. L., & Beckel-Mitchener, A. C. (2020). A call to action to address rural mental health disparities. *Journal of Clinical and Translational Science, 4*(5), 1–20. <https://doi.org/10.1017/cts.2020.42>
- Novilla, Moxley, V. B. A., Hanson, C. L., Redelfs, A. H., Glenn, J., Donoso Naranjo, P. G., Smith, J. M. S., Novilla, L. K. B., Stone, S., & Lafitaga, R. (2023). COVID-19 and



- psychosocial well-being: Did COVID-19 worsen U.S. frontline healthcare workers' burnout, anxiety, and depression? *International Journal of Environmental Research and Public Health*, 20(5), 4414–. <https://doi.org/10.3390/ijerph20054414>
- Panerai, S., Raggi, A., Tasca, D., Musso, S., Gelardi, D., Prestianni, G., Catania, V., Muratore, S., & Ferri, R. (2021). Telephone-based reality orientation therapy for patients with dementia: A pilot study during the COVID-19 outbreak. *American Journal of Occupational Therapy*, 75(2), 7502205130p1. <https://doi.org/10.5014/ajot.2021.046672>
- Paull, D., Hoerger, M., Midkiff, M., Lietzau, S., & Gerhart, J. (2023). State mental health infrastructure, personality, and politics of shelter-in-place. *Journal of Rural Mental Health*, 47(1), 51–58. <https://doi.org/10.1037/rmh0000221>
- Puspitasari, Heredia, D., Gentry, M., Sawchuk, C., Theobald, B., Moore, W., Tiede, M., Galardy, C., & Schak, K. (2021). Rapid adoption and implementation of telehealth group psychotherapy during COVID 19: Practical strategies and recommendations. *Cognitive and Behavioral Practice*, 28(4), 492–506. <https://doi.org/10.1016/j.cbpra.2021.05.002>
- Renda, M., & Lape, J. E. (2018). Feasibility and effectiveness of telehealth occupational therapy home modification interventions. *International Journal of Telerehabilitation*, 10(1), 3–14. <https://doi.org/10.5195/ijt.2018.6244>
- Roberts, L., W., Battaglia, J., & Epstein, R., S. (1999). Frontier ethics: Mental health care needs and ethical dilemmas in rural communities. *Psychiatric Services*, 50, 497-503. <https://doi.org/10.1176/ps.50.4.497>
- Rural Health Information Hub (RHIH). (2022). *Rural Health Disparities*. Rural Health Disparities Overview. Retrieved March 3, 2023, from <https://www.ruralhealthinfo.org/topics/rural-health-disparities#causes>
- Schroeder, S., Tan, C. M., Urlacher, B., & Heitkamp, T. (2021). The role of rural and urban geography and gender in community stigma around mental illness. *Health Education & Behavior*, 48(1), 63–73. <https://doi.org/10.1177/1090198120974963>
- Scogin, Lichstein, K., DiNapoli, E. A., Woolsley, J., Thomas, S. J., LaRocca, M. A., Byers, H. D., Mieskowski, L., Parker, C. P., Yang, X., Parton, J., McFadden, A., & Geyer, J. D. (2018). Effects of integrated telehealth-delivered cognitive-behavioral therapy for depression and insomnia in rural older adults. *Journal of Psychotherapy Integration*, 28(3), 292–309. <https://doi.org/10.1037/int0000121>
- Telehealth.HHS.GOV. (2023). *Medicare and Medicaid policies*. Health Resources & Services Administration. <https://telehealth.hhs.gov/providers/policy-changes-during-the-covid-19-public-health-emergency/medicare-and-medicaid-policies#:~:text=Types%20of%20eligible%20providers,for%20Medicare%2Dapproved%20telehealth%20services.>
- Tham, Pascoe, A., Willis, K., Kay, M., & Smallwood, N. (2022). Differences in psychosocial distress among rural and metropolitan health care workers during the COVID-19 pandemic. *The Australian Journal of Rural Health*, 30(5), 683–696. <https://doi.org/10.1111/ajr.12873>
- Thorne, K., & Ebener, D. (2020). Psychosocial predictors of rural psychological help seeking. *Journal of Rural Mental Health*, 44(4), 232–242. <https://doi.org/10.1037/rmh0000159>
- U.S. Department of Health & Human Service. (2022). *What is mental health? What Is Mental Health? | MentalHealth.gov*. Retrieved March 3, 2023, from <https://www.mentalhealth.gov/basics/what-is-mental-health>



- Velly, A., & Mohit, S. (2018). Epidemiology of pain and relation to psychiatric disorders. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 87(87), 159–167. <https://doi.org/10.1016/j.pnpbp.2017.05.012>
- Wallisch, A., Little, L., Pope, E., & Dunn, W. (2019). Parent perspectives of an occupational therapy telehealth intervention. *International Journal of Telerehabilitation*, 11(1), 15–22. <https://doi.org/10.5195/ijt.2019.6274>
- Worboys, T., Brassington, M., Ward, E. C., & Cornwell, P. L. (2018). Delivering occupational therapy hand assessment and treatment sessions via telehealth. *Journal of Telemedicine and Telecare*, 24(3), 185–192. <http://dx.doi.org/10.1177/1357633X17691861>
- Zhang, & Xu, D. (2022). The bus is arriving: Population growth and public transportation ridership in rural America. *Journal of Rural Studies*, 95, 467–474. <https://doi.org/10.1016/j.jrurstud.2022.09.018>

