Implementing Telemedicine to Address Psychiatric Healthcare in North Carolina

Brenna Beckelman, Joshua Frost, Sarah Banducci, Ryan Bell

NeuroBridge North Carolina, Durham, North Carolina
Corresponding author: brenna.beckelman@gmail.com
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Executive Summary: Nearly 20% of Americans live in rural counties (United States Health Resources & Services Administration 2018). Rural Americans have poorer health outcomes compared to urban-dwelling residents, in part due to their restricted access to care (Vogenberg and Santilli 2018). In particular, they have limited contact with mental healthcare professionals due to the lack of these providers in rural areas (Vogenberg and Santilli 2018). In North Carolina, over 2.2 million people (about 20% of the state's population) live in rural counties, and 84 of 100 counties in the state are classified as Mental Health Professional Shortage Areas (North Carolina Department of Health and Human Services 2018). To address the issue of rural mental health, all 50 states, including North Carolina, have drafted policies related to telepsychiatry—the remote delivery of mental healthcare services using technology like video conferencing, phone calls, and electronic transfer of information (World Health Organization 2010). However, obstacles still exist that obstruct the broad use of telepsychiatry in North Carolina. Herein, we explore how restrictions of the state's medical licensure system and limited access to information technology affect the implementation of telepsychiatry in North Carolina's rural counties. We recommend two state legislative actions that could expand access to telepsychiatry in the state, the passage of House Bill 297, and the repeal of NC General Statute § 117-18.1, which could expand access to telepsychiatry in the state.

I. The Utility of Telemedicine and Telepsychiatry in Rural Populations

Providing adequate healthcare services to underserved rural populations in the United States has become a growing concern for both providers and policymakers (Vogenberg and Santilli 2018). Nearly 20% of Americans live in rural counties, defined as regions with less than 10,000 residents (US Health Resources & Services Administration 2018). A unique set of healthcare challenges distinguishes this population from its urban counterpart. Nationwide public health issues, including the opioid crisis, dementia, cancer, and cardiovascular disease disproportionately impact rural populations (Palombi et al. 2018; Zahnd, Fogleman, and Jenkins 2018; Singh and Siahpush 2014). Moreover, rural residents tend to have poorer health outcomes than their metropolitan counterparts (Anderson et al. 2015). Factors contributing to these discrepancies include increasing healthcare costs, reliance on Medicaid/Medicare, and a shrinking workforce of healthcare providers in rural communities (Vogenberg and Santilli 2018).

Among the many healthcare problems affecting rural communities, mental health and access to psychiatric care remain a top concern. In addition to diseases like cancer, dementia, and obesity, rural populations are much more susceptible to mental health disorders than their urban counterparts (Anderson et al. 2015). According to the most recent National Survey on Drug Use and Health, residents in nonmetropolitan areas tend to report higher incidences of mental illness and higher rates of suicidal ideation than metropolitan residents across most adult age groups (Substance Abuse and Mental Health Services Administration 2018). Suicide rates in adolescents and young adults are higher in rural counties than urban counties

(Fontanella et al. 2015). Several factors could contribute to these poor mental health outcomes and disparities between regions. Rural populations have more limited access to public transportation, medical services, and trained healthcare providers (Douthit et al. 2015). Most rural counties do not have mental health professionals and instead rely on primary care providers for all their mental health needs (Andrilla et al. 2018; Kroenke and Unutzer 2017). Due to a lack of trained mental health professionals, the medical community has attempted to arm primary care providers with the tools necessary to diagnose, treat, and manage psychiatric disorders. These measures include integrated care models that pair primary care physicians with remote mental health professions (Kroenke and Unutzer 2017). However, these types of programs are still rare due to funding restrictions, insurance network restrictions, and lack of training for both the primary care and mental health providers (Crowley, Kirschner, and Health and Public Policy Committee of the American College of Physicians 2015).

One solution to the challenges facing rural communities is the use of telemedicine. The World Health Organization defines telemedicine as the delivery of healthcare services using information and communication technologies for diagnosis, treatment, prevention, research and evaluation, and continuing education of healthcare providers (World Health Organization 2010). Telemedicine can take many forms, including video conferences, phone calls, remote biometric measuring devices, and virtual transmission of patient information. Within the last 10 years, numerous studies have shown positive efficacy outcomes for integrated telemedicine programs in gastroenterology (Siegel 2017), rheumatology (McDougall et al. 2017), neurology (Patel et al. 2019), pediatrics (Burke, Hall, and Care 2015; Satou et al. 2017), gerontology (Narasimha et al. 2017; Harerimana, Forchuk, and O'Regan 2019), and dermatology (Lee and English 2018). These studies consistently report benefits such as reduced costs, increased convenience, and higher patient autonomy (Alvandi 2017).

Mental health is a particularly strong candidate for telemedicine given its focus on behavioral and "talk" therapies. The practice of telepsychiatry, a subset of telemedicine, can involve a range of services such as psychiatric evaluations, therapy, medication management, and provider and patient education (American Psychiatric Association 2019). Telepsychiatry has similar outcomes to traditional in-person consultations for psychiatric testing, diagnosis, and therapy (Cullum et al. 2014; Vahia et al. 2015; Narasimhan et al. 2015; Shigekawa et al. 2018; Hubley et al. 2016). For example, patients with severe mental illness have improved medication adherence with telepsychiatry (phone calls and text messages) compared with patients who do not use such services (Schulze et al. 2019). Positive outcomes have been cited for adults diagnosed with depression, anxiety, and substance use disorders (Harerimana, Forchuk, and O'Regan 2019; Kelson et al. 2019; Lin et al. 2019). One study sponsored by the United States Department of Veteran Affairs showed that outcomes from telepsychiatric video conferences between rural patients and remote providers were similar to those seen with individuals receiving in-person treatment for post-traumatic stress disorder and major depressive disorder (Veazie et al. 2019). A randomized control trial for the treatment of attention-deficit/hyperactivity disorder actually found better behavioral outcomes for telepsychiatry than traditional care in children from under-served and rural populations (Myers et al. 2015). Given the sum of the evidence, there is great potential for telepsychiatry to improve the health and well-being of rural populations that otherwise would not have access to mental health services.

II. Telepsychiatry Policy in North Carolina

To reach underserved populations (including rural communities), all 50 states have implemented some form of telemedicine. Since 2017, 40 states and the District of Columbia have adopted policies or received funding to expand telemedicine services (American Telemedicine Association 2019). More patients and providers utilize telepsychiatry each year due to expansions in insurance coverage and parity laws that force insurance companies to pay healthcare providers for services traditionally offered in clinical settings (Douglas et al. 2017; Wilson et al. 2017). As of 2019, 28 states have Medicaid payment parity policies, while only 16 states mandate payment parity for privately insured residents (American Telemedicine Association 2019). While the use of telemedicine and telepsychiatry has expanded across the nation in recent years, several states still limit the use of telepsychiatry through

reimbursement policies, limited services, and restrictive licensing practices.

North Carolina, has roughly 20% of its residents (about 2.2 million people) living in one of the state's many rural counties (North Carolina Institute of Medicine 2018). North Carolinians in rural areas have poor health outcomes and limited access to health services, engage in riskier health behaviors, and tend to fall in a lower socioeconomic status that further precludes access to adequate healthcare (Lewis and Curtis 2018; Zolotor and Yorkery 2018). Eighty-four counties in North Carolina are classified as Mental Health Professional Shortage Areas (North Carolina Department of Health and Human Services 2018). Nearly two decades ago, privately-funded telemedicine programs emerged to address health disparities between rural and urban residents: the East Carolina University Telemedicine Center and the Albemarle Telepsychiatry Project (Little 2015). Modeled on the success of these programs, North Carolina established the NC Statewide Telepsychiatry Program (NC-STeP) in 2014. Since its inception, 60 telepsychiatry referring sites have been established across the state with 47 participating consultant providers. However, current licensure and insurance reimbursement statutes in North Carolina law preclude the wide use of telepsychiatry (Little 2015). According to a recent analysis, North Carolina had some of the most restrictive laws related to telemedicine in the United States (Marks, Augenstein, Seigel 2018). With such a large rural population and lack of healthcare providers, North Carolina must take steps to expand the use of telepsychiatry to ensure access to healthcare services for all its residents.

III. Barriers to Implementation of Telepsychiatric Services
While North Carolina has taken great strides in establishing telepsychiatric services across the state (e.g., NC-STep program), the majority of its counties still lack access to adequate psychiatric healthcare (North Carolina Department of Health and Human Services 2018). The following components represent crucial barriers to implementation:

i. Licensure and Guidelines for Care
North Carolina law mandates that physicians and mental health professionals intending to practice telepsychiatry must be licensed in the state (Little

2015). The North Carolina Medical Board further recommends that support staff receive additional telemedicine-specific training. As a result, mental health professionals practicing telepsychiatry are held to the same standards of care and ethics as traditional, in-person practitioners. However, these standards, designed to protect vulnerable populations, are undermined by incomplete oversight guidelines for telepsychiatry.

Out-of-state licensure requirements have complicated the implementation of telemedicine on a national scale. About one-third of states have directly addressed this question, but each state handles licensure requirements differently. Some restrict doctors from gaining authorization to practice in a certain state, while others require a telemedicine-specific license or full medical license in the second state. These rules are inconsistent and burdensome, discouraging practitioners from providing services to out-of-state patients. The strict licensing guidelines of North Carolina require an out-of-state mental health professional obtain North Carolina licensure, thereby reducing the likelihood of providers from other states treating patients who reside in the state.

ii. Internet Access
A related policy concern is ensuring patient access to telepsychiatry. In North Carolina, 76% of households have Internet, with the highest rates of access in more urban centers (usually around 80% of households). Access in rural areas can drop to below 50% depending on the county (US Census Bureau 2018). Such a lack of broadband access prevents rural populations from utilizing telemedicine.

The state recently allocated US$10 million toward expanding Internet access in rural communities, but these funds are inadequate for the high cost of building the high-speed broadband infrastructure needed for telemedicine. Another option for expanding broadband access to rural counties is via electric cooperatives, not-for-profit businesses operated by and for local communities. NC General Statute § 117-18.1 currently prohibits electric cooperatives from obtaining capital to provide Internet access to rural areas. The United States Congress recently enacted a new grant program (The ReConnect Program) through the United States Department of Agriculture to fund the development of broadband infrastructure in rural areas. Electric

cooperatives in North Carolina, however, cannot apply for these funds based on NC GS § 117-18.1. Thus, it is difficult for rural populations to utilize technologies like video conferencing (currently the only telepsychiatric service NC Medicaid covers) without reliable Internet access (NC Division of Medical Assistance 2019).

IV. Potential Solutions and Policy Recommendations

The Psychological Interjurisdictional Compact (PSYPACT) is an interjurisdictional agreement that would allow physicians in signatory states to practice telepsychiatry in other participating states (Association of State and Provincial Psychology Boards 2019). PSYPACT aims to address the increased demand for psychological services, especially in underserved communities. Rather than apply for licensure from individual state medical boards, PSYPACT provides certification for mental health professionals to practice in other PSYPACT states, thus reducing the burden on healthcare providers and streamlining an entry point into telepsychiatry. Six states (Arizona, Nevada, Utah, Colorado, Nebraska, Missouri) have enacted PSYPACT, but the policy will not be active until seven states sign the agreement.

Currently, North Carolina General Assembly House Bill 297 "An Act Establishing a Psychology Interjurisdictional Compact (PSYPACT)" has been passed in the House and referred to the Committee on Rules and Operations of the Senate after passing the first reading in the Senate. This bill would essentially add North Carolina to the list of states currently participating in PSYPACT, and thus, enable millions of rural residents to receive mental healthcare from trained professionals outside of the state via telepsychiatry.

Lastly, the state legislature should repeal NC GS § 117-18.1 to allow local communities to begin building their own broadband infrastructure and ensure access to telepsychiatry services for their residents.

V. Conclusions

The implementation of telepsychiatry could benefit millions of North Carolinians who do not currently have access to vital mental health services. The policy recommendations we bring forward are simple and low-cost to the state. First, North Carolina should join PSYPACT by passing House Bill 297. Second, the state legislature should repeal GS § 117-18.1 to incentivize local businesses and communities to build their own broadband infrastructures across the state. Both of these measures would contribute to the growth of telepsychiatry in North Carolina and ultimately enhance the health and well-being of residents for years to come.

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Brenna Beckelman is a medical writer based in Durham, North Carolina. She received her PhD in Neuroscience from Wake Forest University.

Joshua Frost is a Masters student in the Bioethics and Science Policy Program at Duke University. He earned his Bachelors of Science in biochemistry and philosophy from Washington and Lee University.

Sarah Banducci is a scientific medical writer at Verseon Corporation, previously a Senior Scientist at Scion NeuroStim, LLC. She earned her PhD in Cognitive Neuroscience from the University of Illinois at Urbana-Champaign.

Ryan Bell is a research analyst at Duke University School of Medicine. Prior to this position, he had postdoctoral positions at Duke University School of Medicine and The University of North Carolina – Chapel Hill. He works as a drug abuse and/or HIV neurocognitive disorder neuroimaging researcher. He received his PhD in Cognitive Neuroscience at The City University of New York.