

EVALUATING PROVIDER OPINION OF TELEPSYCHIATRY

by

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## ABSTRACT

Telepsychiatry, or two-way video conferencing for psychiatric purposes, has been around for the last 60 years. However, full implementation of its usage has stalled. Research has shown that clinical outcomes and patient satisfaction are equivalent to or superior when utilizing telepsychiatry, but provider satisfaction is lower. The aim of this project was to initially survey medication providers of psychiatric services at a statewide community mental health center in Montana to determine barriers that may exist to implementation and then provide education to determine whether that would impact their overall opinion of the modality. However, during the time between initial survey and follow-up survey, the COVID-19 global pandemic occurred and forced all providers to utilize telepsychiatry exclusively to continue providing care. This driving force of change allowed for the providers to increase their overall opinion of the feasibility, benefit, and confidence and belief in the modality. Continued challenges were noted but an overall increase of knowledge about telepsychiatry was also found. These findings are encouraging for increasing utilization of telepsychiatry by providers to provide access to mental health services in more rural and underserved communities.

## CHAPTER ONE

## INTRODUCTION

Background and Significance

The World Health Organization (WHO, 2017) reported that mental and substance abuse disorders are the leading cause of disability worldwide and that suicide was the second leading cause of death in 15- to 29 year-olds. Over 800,000 lives are lost due to suicide with an estimated 16 million suicide attempts yearly worldwide (WHO, 2017). The emotional, physical, and financial strain of mental health problems is astronomical. In low-income countries, the rate of psychiatrists is 5 per 10 million people (WHO, 2017). The lack of access to mental health services is a main barrier to care.

Rural states, such as those in the northwestern United States (US), struggle to provide access to mental health care for their population due to limited resources, a small population, and far distances between communities. Telepsychiatry offers an option to more rural communities to increase access to mental health services. “Telepsychiatry has the potential to dramatically increase geographic access to psychiatric services for children and adults in rural areas” (National Council for Behavioral Health, 2017, p. 32). Telepsychiatry, or videoconferencing for psychiatric evaluation, has been implemented for the past 50 years to provide mental health services to areas that are underserved by traditional face-to-face treatment modalities. Underserved areas include rural areas, urban areas with lack of provider access, as well as jails and prisons. By allowing for video access to different areas to supplement or provide current



services, patients that previously would have to travel long distances or forgo services have access and availability to mental health services.

However, there are barriers to adopting telepsychiatry. The full implementation of telepsychiatry is not nearly at capacity and much could be done to improve implementation and access (Adams et al., 2017; Zanaboni & Wootton, 2012). The purpose of this project was to inquire about current mental health medication providers (nurse practitioners, physician assistants, and psychiatrists) at a statewide community mental health center in Montana about their view of telepsychiatry, potential barriers, and if they have received any education on how to perform telepsychiatry appropriately. Additionally, educational modules were delivered to providers, which focused on increasing knowledge about telepsychiatry as well as the safe and appropriate use of telepsychiatry. Providers were then provided the same survey post-educational modules to reassess their view of telepsychiatry and potential barriers to utilizing telepsychiatry.

This information was obtained using a survey, Telemedicine Outcomes Study, that was initially developed by Dr. Jim Grigsby at the University of Colorado Health Sciences Center and conducted by the Center for Health Policy Research. The original survey assessed users, nonusers, and referring and non-referring site physicians. Permission for use was obtained (Appendix A), and the survey was modified with permission to be more relevant to the providers at the statewide mental health center and the current technology they utilize. The survey wording was also changed to be more specific to mental health and psychiatry; from telemedicine to telepsychiatry for consistency.

## Problem

Access to mental health services is lacking, particularly in rural and remote areas in the US. Nationally, there is a current shortage of providers willing to live in the rural outlying communities that the organization serves, and filling those positions proves challenging and costly. Telepsychiatry is a viable treatment modality to address this lack of care; however, the adoption rate of telepsychiatry has stalled. The primary aim of the project was to assess barriers to implementation of telepsychiatry from the viewpoint of the providers that could help to determine what potential hurdles exist and could help illuminate as to what next steps need to be performed to increase utilization. The secondary aim of the project was to provide education regarding the use of telepsychiatry and reassess provider perspective regarding whether the education affected overall utilization of the modality by the providers. Though unanticipated, during the time between the initial and follow-up surveys, the novel coronavirus, COVID-19, global pandemic occurred and forced the providers to utilize telepsychiatry nearly exclusively due to restrictions enforced by leadership over concerns of disease transmission.

By asking medication providers of mental health services questions about their education, current view, perceptions, and willingness to change to new methods of delivery of care, knowledge can be gained as to what barriers need to be addressed to increase the overall use of telepsychiatry, thereby increasing access to outlying communities for mental health services. It is challenging to maintain clinics and access to care when there are few providers willing to travel, so some clinics, prior to the COVID-19 pandemic, have been shut down temporarily in rural areas. If a provider was able to live elsewhere and remotely provide care to these clinics utilizing telepsychiatry, patients could continue to receive mental health care and services that are greatly needed in a time during increased uncertainty and challenges at every level.

The need to increase use of telepsychiatry has become more acute with the emergence of the novel coronavirus at the beginning of 2020. Concern over disease transmission reduced the possibility of in-person access to mental health services. Additionally, mental health conditions and symptoms have increased substantially during this time period, with a marked increase in substance abuse, anxiety and depressive disorders, suicidal ideations, and trauma and stressor-related disorders relative to the same time period in 2019 (Czeiler et al., 2020). It is also thought that those with pre-existing psychiatric conditions, young adults, Hispanic and black persons, caregivers, and essential workers are at a greater risk of increased mental health concerns during this time of social isolation and psychological stress (Czeiler et al., 2020).

#### Definition of Terms

To understand the intent of this project and the outcomes, it is necessary to provide clarification of commonly used terms.

- Telepsychiatry is two-way videoconferencing for the purpose of medication management and psychiatric evaluation of a patient.
- Telemental health is two-way videoconferencing that encompasses telepsychiatry and is also inclusive of therapists and other mental health professionals that do not prescribe medication but may provide other therapeutic services (Chakrabarti & Shah, 2016).
- Telemedicine is related to more physical assessment and is not solely focused on mental health services.

- Telehealth is inclusive of all services that fall under health assessment using two-way videoconferencing.

### Theoretical Underpinnings

Kurt Lewin, who was thought of as the father of social psychology, developed the Change Theory that has three major steps: (1) unfreezing, (2) change, and (3) refreezing, which are related to the states of acceptance of a new process (Mitchell, 2013). This theory lends itself well to technology and has been utilized with different technological implementations in healthcare (Kennedy & Young, 2013; Lee, 2006; Sutherland, 2013). The idea is that adopting the use of telepsychiatry is “unfreezing” old habits and ways of doing something and adopting a new way of practicing. With this step, there must be driving forces to encourage use, or restraining forces must be removed to encourage use, or a combination of the two. A major driving force behind the adoption of telepsychiatry was COVID-19 and the subsequent closure of many public buildings and restrictions implemented to reduce interactions between people to slow the spread of the virus. This forced the agency, in order to remain viable and serve patients with mental health needs and crises, to reevaluate the way in which services were being provided and implement telepsychiatry as a means of ensuring that services continue. Policy change was also critical in the driving force, as the reimbursement, privacy, and policies surrounding providing healthcare in the patient’s home and not in clinic were relaxed in order to allow for services to continue being rendered to this population. Government agencies and most other insurance companies have loosened restrictions with the Coronavirus Preparedness and Response Supplemental Appropriations Act, signed into law March 6, 2020. Section 102 states that it

allowed the Department of Health and Human Services to “waive(d) certain Medicare restrictions and requirements during the coronavirus public health emergency” (Congress.gov, 2020). This allowed for the delivery and reimbursement of health services over a videoconference or telephone modality to be covered and permitted for care to be delivered within the patient’s home. A future potential restraining force and fear is that if these agencies revert to previous policy, the financial incentive to continue providing care remotely will be eliminated and the access that patients once appreciated from home will be eliminated.

Mental health care and its far-reaching implications prove to be an ever-growing problem, and access to resources to help is challenging, especially in rural states such as Montana. Telepsychiatry is the use of two-way videoconferencing for the purpose of medication management and psychiatric evaluation and may be a potential solution to the problem of reduced access for those in underserved areas such as rural or urban underserved areas. In Montana, the problem of lack of mental health service providers is glaring with Montana having the highest rate of suicide per capita in the nation (Centers for Disease Control and Prevention [CDC], 2018). Telepsychiatry implementation has been slow to be adopted and one of the potential reasons for stalled implementation is that providers of mental health and health services have hesitation about its utilization. With this project, a survey was conducted in order to assess current views and possible barriers to implementation. This illuminated some constraints to change that could assist in the “unfreezing” process that Lewin proposed in his Change Theory that could help with the adoption of telepsychiatry in order to provide access to mental health services to rural, outlying communities.

## CHAPTER TWO

## LITERATURE REVIEW

In order to gain a deeper understanding of the existing literature on the use of telepsychiatry, a comprehensive search was conducted utilizing the terms telepsychiatry, telehealth, telemedicine, and telemental health. The search engines used included CINAHL, MSU online library, COCHRANE, Joanna Briggs, UptoDate, and Google scholar. The literature search was not restricted by year of publication and all articles that were reviewed were in the English language.

The review of the literature yielded three main themes regarding telepsychiatry in particular: (1) clinical outcome measurements against face to face visits, (2) adoption of the modality in practice, and (3) education regarding the modality. The outcome component had three main focuses: clinical outcomes, patient satisfaction, and provider satisfaction.

Clinical Outcomes

Telemedicine and telepsychiatry have been utilized for the past 60 years and research indicates that clinical outcomes for patients are similar using either telepsychiatry or face-to-face services (Chakrabarti, 2015; Chakrabarti & Shah, 2016; De Las Cuevas et al., 2006; Hubley et al., 2016a; O'Reilly et al., 2007). Within the last 10 years, there has been an increasing number of large-scale, randomized controlled trials that indicate that telepsychiatry is equivalent, or in some cases superior, to face-to-face visits for clinical outcomes. Trials have been conducted on a myriad of different psychiatric disorders ranging from anxiety and depressive disorders, suicide

prevention, schizophrenia, eating disorders, substance abuse, and post-traumatic stress disorder (PTSD) in all age groups from children to the elderly patient populations (Chakrabarti & Shah, 2016). Clinical outcomes that have been measured and have been demonstrated as equitable between the treatment modalities are medication compliance, number of hospitalizations, and psychiatric symptom management (García-Lizana & Muñoz-Mayorga, 2010; Modai et al., 2006; O'Reilly et al., 2007; Shore et al., 2008; Yeung et al., 2011; Ziemba et al., 2014).

### Patient Satisfaction

Patient satisfaction is a commonly measured variable and shows equivalence, or in some instances, superiority with telepsychiatry (Chakrabarti, 2015; Eysenbach et al., 2016; García-Lizana & Muñoz-Mayorga, 2010; Hubley et al., 2016b; O'Reilly et al., 2007). It is thought that telepsychiatry is beneficial to patients and increases their overall satisfaction as it limits and reduces the overall time that is required for an appointment. Adams et al. (2017), report that an average twenty-minute office visit takes two hours of travel and time per patient. This is exacerbated in Montana where accessing specialists may be a full day or multi-day trip, especially in eastern Montana where some patients travel between 100 and 750 roundtrip miles for a twenty-minute visit with a specialist (Wagnild et al., 2006). Reducing the time barrier as well as the financial burdens of traveling, such as fuel, transportation, and lodging if necessary, and loss of income due to taking time off work are thought to be driving forces behind increasing patient satisfaction. Patient satisfaction does not appear to be dependent on the technology literacy of the patient where it was shown in

one study that elderly patients with dementia and other psychiatric disorders were equally satisfied with telepsychiatry as with face-to-face visits (Dham et al., 2018).

### Provider Satisfaction

In contrast to patient satisfaction with telepsychiatry, providers of telepsychiatry (psychiatrists, nurse practitioners, and therapists) satisfaction rates are lower than their patients (Chakrabarti, 2015; García-Lizana & Muñoz-Mayorga, 2010; Hubley et al., 2016b; Wagnild et al., 2006). Provider satisfaction is not a common outcome that is measured when studying and researching telepsychiatry and its efficacy and adoption. Chakrabarti (2015) and Hubley et al. (2016b) evaluated 196 and 134 articles respectively with systematic reviews that found only 11 articles that addressed provider satisfaction, primarily using a qualitative design.

Of the limited research that is available regarding provider satisfaction, certain variables emerge that influence the rate of satisfaction. These variables include where a provider is located, level of experience with the technology, and perception of patient satisfaction. It is thought that certain factors affect overall satisfaction, such as location, considering that rural primary care providers are more satisfied with telepsychiatry than their suburban counterparts due to access to consultation that they may not have had otherwise (Hilty et al., 2007). Providers also seem to have a misconception that patients are not satisfied with telepsychiatry; however, patient reports show a high level of satisfaction (Shore et al., 2008). Providers also state concerns that their lack of experience delivering telepsychiatry may result in lower levels of care (Wynn et al., 2012). The concern of establishing therapeutic rapport



over technology, technical difficulties, and lack of training regarding telepsychiatry were also cited as barriers and reduced overall provider satisfaction (Hubley et al., 2016b; Wagnild et al., 2006; Wynn et al., 2012). Concern about the legal, regulatory, and ethical components of telepsychiatry were also noted as barriers to implementation and satisfaction (Chakrabarti, 2015).

### Adoption

The adoption of telepsychiatry and most telehealth applications has stalled with the exception of teleradiology (Aldossary et al., 2017; Zanaboni & Wootton, 2012). There are different conjectures as to why it may have stalled, including this one stated by Chakrabarti and Shan (2016):

Negative attitudes, concerns about the quality of the evidence, doubts about cost-effectiveness, technological vagaries, uncertainty regarding the doctor–patient alliance, and a number of legal, ethical and regulatory hurdles continue to hinder the widespread implementation of telepsychiatric services (p. 273).

Some researchers believe that there needs to be personal incentives for providers in order to increase utilization and widespread adoption of the technology and service modality (Zanaboni & Wootton, 2012). There seems to be a large number of pilot projects that have been started for telemedicine; however, the implementation and service programs seem to be far fewer (Aldossary et al., 2017).

The U.S. Department of Veterans Affairs (VA) has been an early adopter of telepsychiatry and, in 2014, the VA had over two million telehealth visits with the majority being related to mental health care (Adams et al., 2017). The next wave of telepsychiatry is thought to be making “house calls” once again. This approach could reduce the burden on patients, caregivers, providers, and clinics, as this would reduce the need for patients and caregivers to

travel to a clinic, in addition to reducing the overall no-show rate of the provider and truly exhibit patient-centered care (Adams et al., 2017). However, there are a myriad of different challenges associated with reaching patients within their home, including the lack of the ability to conduct a physical exam, safety, and reimbursement and policy concerns (Adams et al., 2017). Most importantly, Medicare covers telehealth only in designated rural areas and spends only 0.01% of its overall budget on telehealth services (Neufeld & Doarn, 2015).

However, since March, 2020, telepsychiatry has been much more adopted with concern over viral and disease transmission with COVID-19. Due to the concern over COVID-19, CMS and many insurance companies have loosened restrictions surrounding delivery of health services over a two-way video conference modality and allowed for care to be delivered within the patient's home. As the full effects of COVID-19 and its widespread affect have yet to be measured, it is prudent to review the previous mental health effects of past pandemics such as the severe acute respiratory syndrome (SARS) that occurred between 2002 and 2004. During this time, it was shown for a group of 129 individuals in Canada that the rate for depression and PTSD increased for those within quarantine (Hawyrluck et al., 2004). The research also indicated that the longer rates of quarantine, as well as direct exposure or acquaintance with someone with SARS, were associated with increased PTSD symptoms (Hawyrluck et al., 2004). COVID-19 has already proven to be much more widespread with global restrictions on socialization and orders to quarantine commonplace. Therefore, the potential psychological impact on the overall population could be substantial and the importance of having access to mental health services imperative.

### Education

Research provides some insight into the lack of education of providers with the use of the technology resulting in a barrier to implementing telepsychiatry. Providers report that they lack training on how to properly utilize the technology and this proved to be a barrier to practice (Perry, Gold, & Shearer, 2019). Currently, training on the use of telehealth as a treatment modality is not required by most medical residency programs in the US, Canada, the United Kingdom, Australia, or New Zealand (Saeed et al., 2017). Saeed et al. (2017) point out that the interest in telepsychiatry is high amongst the residents for additional training. A survey of 183 psychiatry residency programs in the United States found that, even though 72% of the residents reported that they were “interested” or “very interested” in learning more on telepsychiatry, very few of the programs offered curriculum regarding telepsychiatry (Hoffman & Kane, 2015). The lack of availability of training reduces the comfort and familiarity with the service modality, lowering the likelihood that future providers will offer this service, regardless of their interest.

Though telepsychiatry has been around for over 60 years, the widespread utilization and adoption of the treatment modality has faltered until recently due to change of practice due to restrictions from the COVID-19 pandemic. The research has indicated that clinical outcomes are similar between telepsychiatry and face-to-face visits and, in some cases, patient satisfaction is higher with the use of telepsychiatry. An area that is not comparable is provider satisfaction, which has proved in some cases to be lower with using telepsychiatry versus face-to-face visits. Research indicates that there may be a few reasons for the difference including (1) misconception about the efficacy or equality of care, (2) believing that patients

do not prefer this modality, (3) issues with technology, (4) concern over reimbursement or policy, and (5) lack of comfort or education with the overall use of telepsychiatry.

## CHAPTER THREE

## METHODS

The purpose of this Doctor of Nursing Practice (DNP) project was to query providers at a statewide mental health center to better understand their perceptions of telepsychiatry and its overall utilization, employing a survey given to both users and nonusers of telemedicine that was originally developed by Dr. James Grigsby and the University of Colorado Health Sciences Center (Barton et al., 2007). Permission was obtained to modify the survey for this project as appropriate (see Appendix A). The survey was modified to be more applicable to mental health medication providers and questions regarding the usage of “store and forward” systems were omitted, as this term is not applicable to the current use of telepsychiatry. The 46-question survey was primarily based on a 4-point Likert scale with a focus on the feasibility, benefit, confidence/belief, and challenges with utilizing telepsychiatry as a treatment modality. Information about the level of experience and year of graduation from graduate school were obtained, as well as the number of times within the past 12 months that providers performed some sort of telepsychiatry. The survey was delivered via Survey Monkey ensuring the confidentiality and anonymity of the answers. Participation implied consent.

Survey requests were sent out to the team of providers (n=14) via email on November 18, 2019, and resent on December 2, 2019. By December 3, 2019, 10 responses (n=10) were received. Education via an online training platform was provided to the medication providers after January 1, 2020, as an educational training module to be performed at their convenience. Starting March 16, 2020, all medication provider visits were required to be performed via

telepsychiatry due to the concern of disease transmission and restrictions implemented by leadership due to the COVID-19 pandemic. The survey request was then again emailed May 5, 2020, to the provider team (n=14) with a response of 10 surveys (n=10). The current psychiatric medication providers at the statewide mental health center in Montana were sent an email stating that participation in the survey is completely voluntary and confidential. There was no incentive offered to complete the survey. The survey was sent to psychiatrists, advanced-practice registered nurses, physician assistants, and a medical doctor who is part of the organization; 14 providers in total. Because there was provider turnover between December and May, the demographics of the group changed slightly, though the overall number of providers (n=14) and those that completed the survey (n=10), did not differ between the pre and post survey.

As part of this project, medication providers were provided access to online training modules for providing telehealth more effectively. These modules were: Best Practice for Delivering Telehealth (1 CEU hour), Clinical Assessments via Telehealth Applications (1.5 CEU hours), Ethical and Legal Guidelines for Telehealth (1 CEU hour), Implementation Guidelines for Telehealth Practitioners (1 CEU hour), and Telehealth in Clinical Practice (1.5 CEU hours) for a total of six continuing-education hours. These modules are self-directed and can be completed at the convenience of the provider. As they are all busy healthcare professionals, online learning suits those who may already be overextended (White, Dudley-Brown, & Terhaar, 2021). These modules were available starting January 1, 2020, and participation and completion of the modules were optional and not tracked.

### Measurement and Instruments

As stated previously, the survey used in this project was originally called “Telemedicine Outcome Survey” and was developed by Dr. James Grigsby and the University of Colorado Health Sciences Center in 2007 with Barton et al. for their research surrounding physicians view of telemedicine. The rutilization of this survey yielded a statistically significant difference in opinion between users and nonusers of telemedicine (Barton et al., 2007). For example, Barton and colleagues (2007) reported that providers that use telemedicine are willing to utilize telemedicine despite its inconvenience (OR=2.88, CI = 2.02–2.04,  $p < 0.0001$ ). Furthermore, the authors found that telemedicine providers believe that telemedicine facilities are convenient to use (OR=8.56, CI = 4.59–15.95,  $p < 0.0001$ ) and travel is reduced with the use of telemedicine (OR=2.97, CI=1.90–4.63,  $p < 0.0001$ ; Barton et al., 2007). Finally, non-telemedicine providers more commonly believe that telemedicine is disruptive to the office routine (e.g., scheduling appointments) relative to telemedicine providers (67.4% versus 48.9%, respectively,  $p < 0.0001$ ; Barton et al., 2007). The original survey has nine main areas of interest that included (1) demographic and practice information, (2) physician attitudes toward and knowledge of telemedicine, (3) perceived advantages for practice, (4) telemedicine and referral patterns, (5) perceived convenience or inconvenience of telemedicine, (6) effects of the technology on patients, (7) perceived financial investment, (8) concerns regarding malpractice and liability, and (9) reimbursement issues that were primarily related to Medicare (Barton et al., 2007). Given that the original survey was modified for the purpose of this project, the reliability and validity of the survey cannot be determined. For this project, the areas of interest were condensed to four main areas of interest including feasibility, benefit, confidence/belief, and

challenges with telepsychiatry. The questions were posed using a 4-point Likert scale with options of strongly agree, agree, disagree, and strongly disagree. Most questions also contained a not applicable (NA) option. Age, sex, year of graduation, number of patients on provider panel, in addition to a write in option for how many times in the past 12 months telepsychiatry was utilized were also included as items on the modified survey.

### Data Analysis

Descriptive statistics were used to describe the results of survey responses. Given the aim of this project, inferential statistics were not utilized. Descriptive statistics are presented as means and standard deviations for continuous level variables and frequency count and percentages for discrete level variables.

### Protection of Human Subjects

This project received exemption from full committee review on August 13, 2019, from Montana State University Institutional Review Board (IRB) with the Code of Federal regulations, Part 46, section 101, paragraph b(2). Surveys were completed anonymously without asking personal information, participation was voluntary, and it was clearly stated that participation was not linked to employment at the mental health center(s).

A link to a 46-question survey was sent to 14 medication providers at a statewide community mental health center in late November and early December, 2019, and then again in May, 2020, via email and was completed anonymously using Survey Monkey. The survey was primarily comprised of 4-point Likert scale questions regarding the participant's opinion of the



feasibility, benefit, confidence in or belief of telepsychiatry, and their current use of the modality.

## CHAPTER FOUR

## OUTCOMES AND RESULTS

The participants of this project were medication providers of psychiatric mental health services between the ages of 25 and 64 years who had graduated from advanced-degree programs between 1989 and 2019. The pre-education and pandemic (pre) group had two male and eight female providers, and the post-education and pandemic group (post) had three male and seven female providers complete the survey, with a patient panel that they managed between 50 and 500 patients. A majority of both the pre and post groups reported that their education of telepsychiatry came primarily from colleagues, professional conferences, graduate trainings, presentations, and medical literature. In the pre group, 70% of the group stated that they currently perform telepsychiatry and, in the post group, 100% reported that they currently perform telepsychiatry.

There was a 74.1% completion rate with 10 providers completing both the pre and post surveys of provider's opinion of telepsychiatry. Average time to complete the survey was seven minutes. Survey requests were sent out to the team of providers (n=14) via email on November 18, 2019, in addition to on December 2, 2019. By December 3, 2019, 10 (n=10) responses were received. The survey request was again emailed on May 5, 2020, to the provider team (n=14) with a response of 10 surveys by May 6, 2020.

The survey focused on four main areas, as well as demographics that are described below: (1) Feasibility, (2) Benefit, (3) Belief or confidence in the modality, and (4) Challenges. The results of survey responses are described below in said categories.

### Feasibility

Eleven of the survey questions asked about the opinion of the overall feasibility of telepsychiatry. Providers were asked their perception of what percentage of consultations could feasibly be performed utilizing telepsychiatry. Pre survey participants (n=7) stated an average of 50.7% consultations were feasible; post survey participants (n=9) answered 76.4%. Another question asked if most appointments could be performed with telepsychiatry and 60% of pre survey participants stated they disagreed or strongly disagreed (n=6) (see Figure 1). Conversely, 60% (n=6) of post survey participants stated that they strongly agree and 40% agree (n=4), resulting in no participants acknowledging that they disagreed that most appointments could be performed utilizing telepsychiatry. Pre survey participants also reported that 30% (n=3) strongly believe that their specialty can be adapted for telehealth (40% agree [n=4] and 30% disagree [n=3]), whereas post survey participants reported 80% strongly agree (n=8) (20% agree [n=2] and 0% disagree) that psychiatry can be adapted for telehealth (see Figure 2).

Figure 1. Question 12-Most appointments that I perform could be addressed using telepsychiatry.

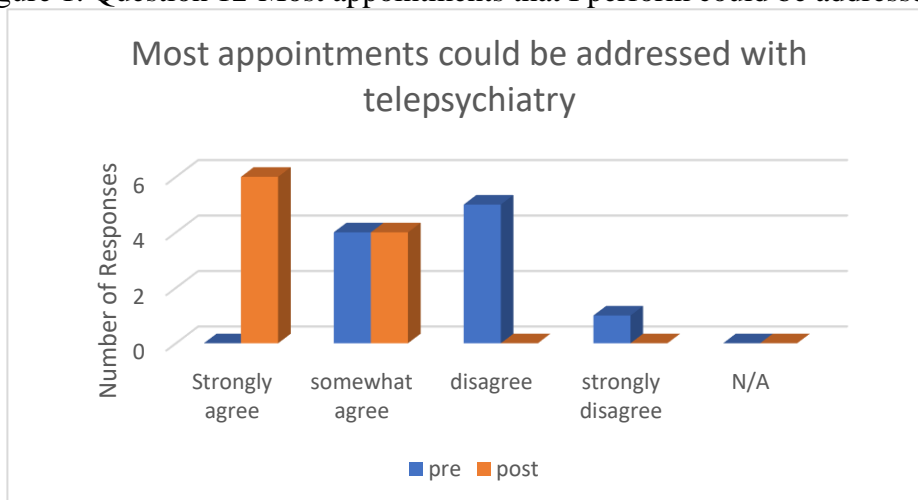
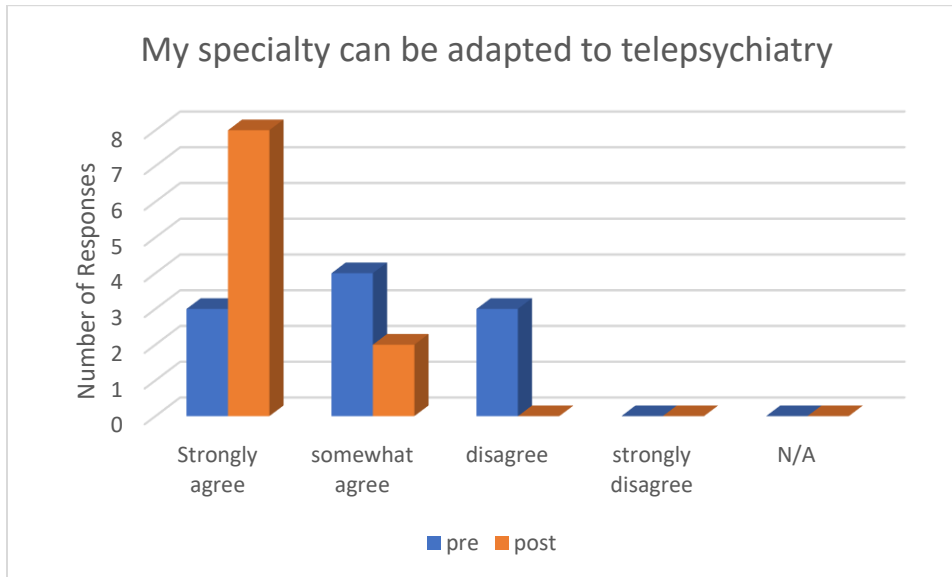


Figure 2. Question 32-I think my specialty is one that can be readily adapted to the use of interactive video for consultation.



### Benefit

Eight of the survey questions related to opinion regarding if telepsychiatry were beneficial. When the pre group was asked whether more patients could receive care with telepsychiatry, the answers were 60% (n=6) strongly agree, 30% (n=3) somewhat agree, and 10% (n=1) disagree. Post survey responses reported 100% (n=10) answering strongly agree (see Figure 3). When asked whether telepsychiatry could increase the number of clients seen, 0% of the pre group answered that they strongly agree, whereas 56% (n=5) of the post group answered that they strongly agree (see Figure 4). Additionally, when queried whether telepsychiatry improves continuity of care for patients, the pre group stated 50% (n=5) strongly agree, 30% (n=3) somewhat agree, 10% (n=1) disagree, and 10% (n=1) strongly disagree. The post group was split 50% (n=5) strongly agree and 50% (n=5) somewhat agree with 0% answering disagree or strongly disagree (see Figure 5).

Figure 3. Question 12-More patients can receive care in a practice with access to telepsychiatry.

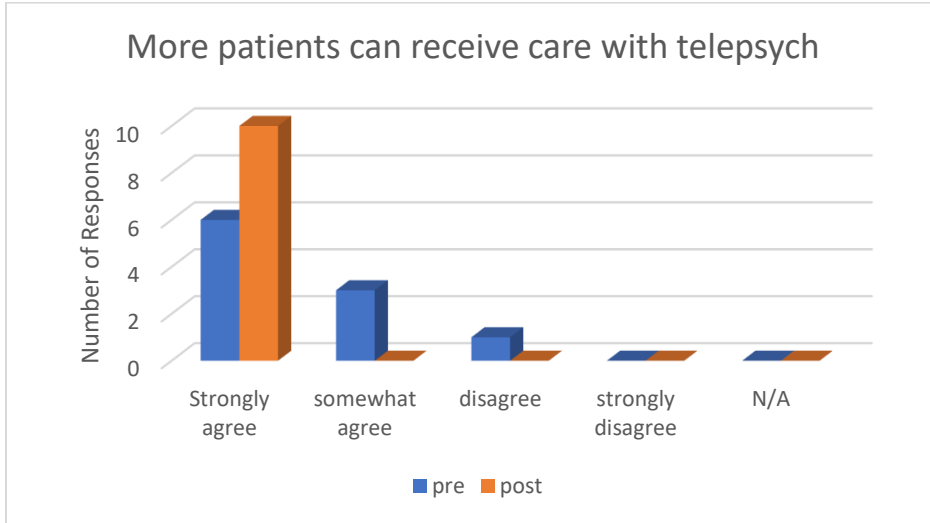


Figure 4. Question 13-Using telepsychiatry has increased the number of patients I can see in my practice.

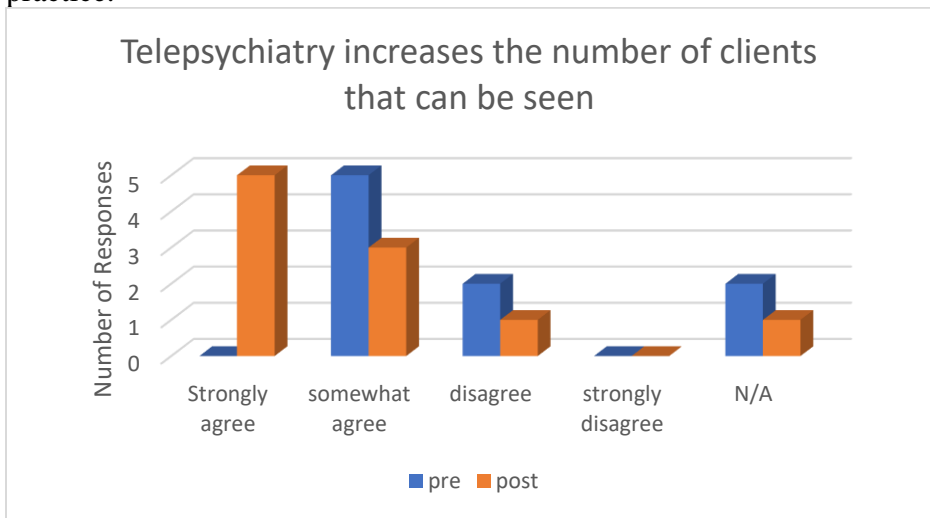
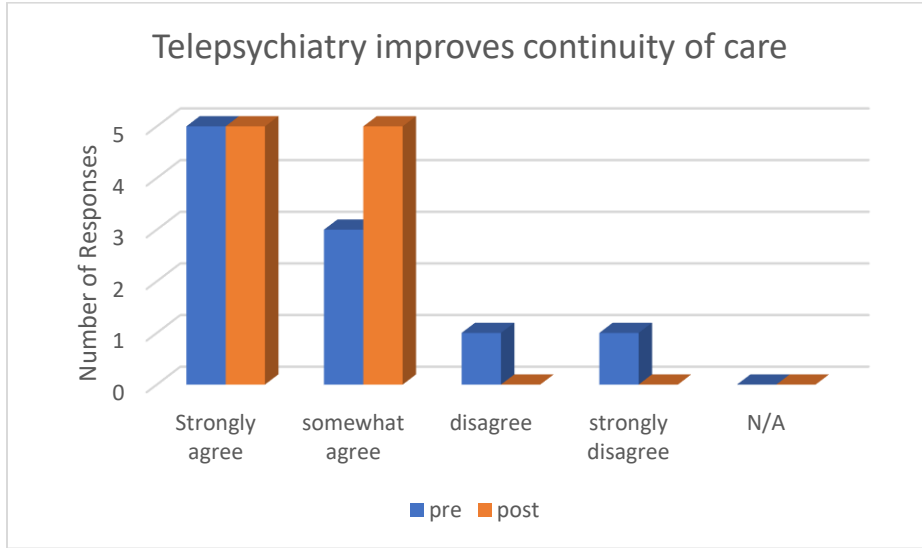


Figure 5. Question 26-Telepsychiatry improves continuity of care for patients.



### Confidence/Belief in Telepsychiatry

Fifteen of the survey questions related to opinion with respect to overall confidence regarding the modality and whether providers believe in its overall efficacy and appropriateness. When asked if they agreed with the statement, “I do not know enough about telepsychiatry technology and applications to expand telepsychiatry into my practice,” the pre survey group reported 22.2% (n=2) strongly agree or somewhat agree, 44.4% (n=4) disagree, and 33.3% (n=3) strongly disagree. The post survey group reported 0% strongly agree, 12.5% (n=1) somewhat agree, 25% (n=2) disagree, and 62.5% (n=5) strongly disagree (see Figure 6). The pre survey group reported that their overall knowledge of telepsychiatry came primarily from colleagues (n=7), professional associations/meetings (n=4), medical literature (n=2), graduate training (n=2), presentations (n=2), and electronic media (n=2). Other areas that were reported were “experience” and “trial and error.” The post survey group reported that their knowledge came from colleagues (n=6), professional associations/meetings (n=2), medical literature (n=4), graduate training (n=2), formal training (n=2), presentations (n=1), mass media (n=1), and

electronic media (n=1). There were, however, more write-in options with “learn as I go” (n=2), “experience” (n=2), “on the job training” (n=1), and “Google” (n=1)—another question related to overall knowledge of telepsychiatry. In the pre survey group, 80% (n=8) reported that they were not at all knowledgeable or somewhat knowledgeable, 10% (n=1) knowledgeable, and 10% (n=1) very knowledgeable. In the post survey group, 70% (n=7) reported being knowledgeable and very knowledgeable and 30% (n=3) somewhat knowledgeable (see Figure 7). Zero respondents reported that they were not at all knowledgeable.

Figure 6. Question 10-I do not know enough about telepsychiatry technology and applications to expand telepsychiatry into my practice.

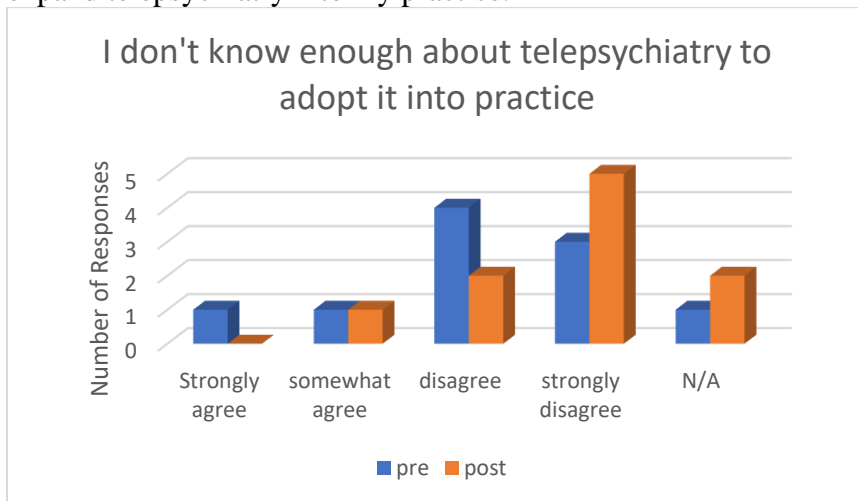
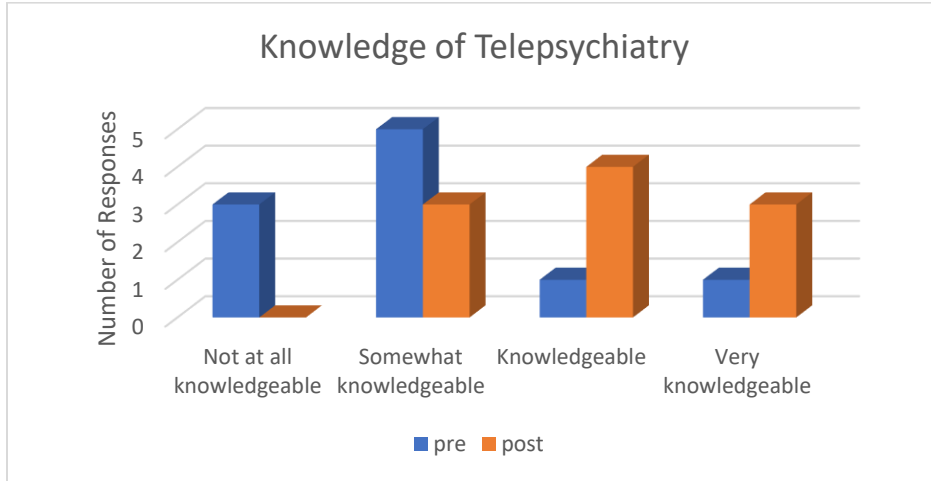


Figure 7. Question 8-How would you describe your knowledge of telepsychiatry?



### Challenges

The remaining seven questions were related to challenges associated with utilizing telepsychiatry. There were persistent challenges present, and there was not a marked change between pre and post survey groups with some questions regarding the challenges associated with performing telepsychiatry. The groups were asked if technical problems with telepsychiatry equipment interfere with telepsychiatry consultations. The pre survey group reported 11.1% (n=1) strongly agree, 55.6% (n=5) somewhat agree, 22.2% (n=2) disagree, 0% strongly disagree, and 11.1% (n=1) N/A. The post survey group reported 22.2% (n=2) strongly agree, 55.6% (n=5) somewhat agree, and 22.2% (n=2) disagree (see Figure 8). The providers were asked whether they were willing to put up with some personal inconvenience (e.g., setup time, scheduling) in order for patients to receive services through telepsychiatry. The pre survey group stated 20% (n=2) strongly agree, 60% (n=6) somewhat agree, 0% disagree, 10% strongly disagree (n=1), and 10% (n=1) N/A. The post survey group answered 40% (n=4) strongly agree, 50% (n=5) somewhat agree, 10% disagree (n=1), and 0% strongly disagree (see Figure 9).



Additionally, they were asked if they dislike the loss of personal contact with telepsychiatry and the pre survey group stated 40% (n=4) strongly agree, 40% (n=4) somewhat agree, 10% (n=1) disagree, and 10 % (n=1) strongly disagree. The post survey group stated 0% strongly agree, 70% (n=7) somewhat agree, 20 % (n=2) disagree, and 10% (n=1) strongly disagree (see Figure 10). Concern about the legal, regulatory, and ethical components of telepsychiatry were also noted as barriers to implementation and satisfaction initially (Chakrabarti, 2015). When asked about whether they agreed if telepsychiatry would increase the risk of malpractice, pre survey had 50% (n=5) somewhat agree whereas post survey, only 11% (n=1) stated somewhat agree.

Figure 8. Question 11-Technical problems with telepsychiatry equipment interfere with telepsychiatry consultations.

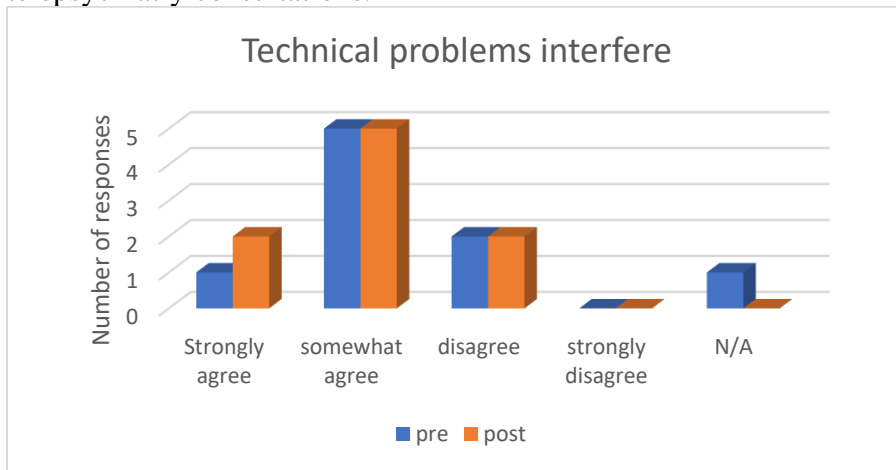


Figure 9. Question 23-I am willing to put up with some personal inconvenience (e.g. setup time, scheduling in order for my patients to receive services through telepsychiatry.

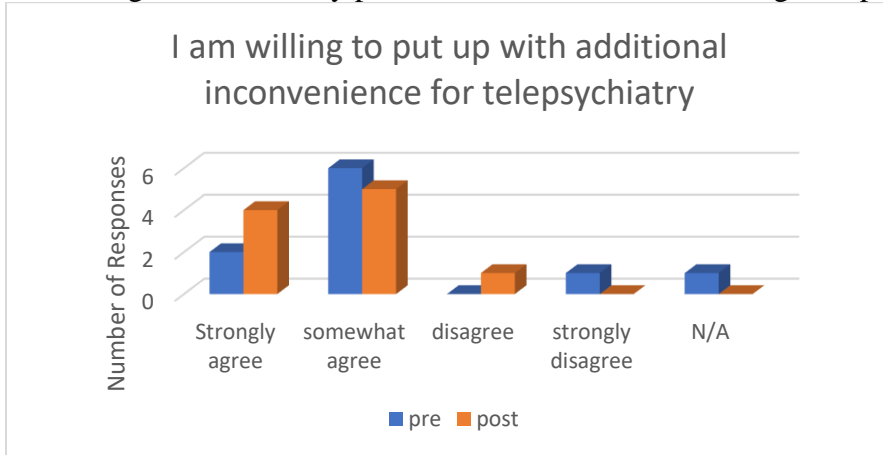
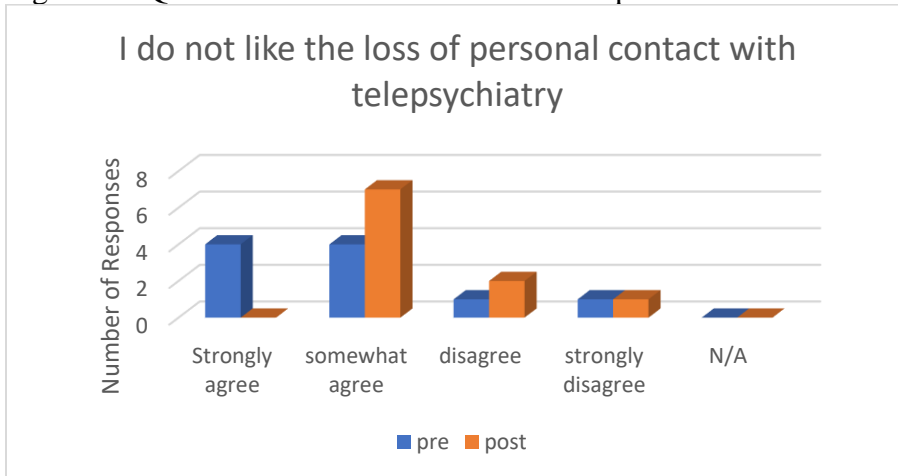


Figure 10. Question 35-I do not like the loss of personal contact associated with telepsychiatry.



## CHAPTER FIVE

## DISCUSSION

The purpose of the project was to assess opinions and beliefs regarding the utilization of telepsychiatry for providers of medication mental health services. In addition, a secondary purpose was to provide an online education module to providers to assist with their overall understanding of the modality. It happened that, after the (pre) survey was given and the online education modules were offered, the COVID-19 pandemic occurred and forced the providers to utilize telepsychiatry exclusively. The providers were then provided the same survey (post) in May, 2020. The 46-question survey (see Appendix B) contained items relevant to demographics, opinion of the overall feasibility of telepsychiatry, benefits of telepsychiatry, confidence/belief about telepsychiatry, and challenges with telepsychiatry.

Results

The survey results (Appendix C) revealed a marked change between the pre and post surveys with the post survey answers trending towards an overall better opinion of the feasibility, benefit, and increased confidence and belief in telepsychiatry as a treatment modality. Of interest, 100% of participants in the post survey stated that they strongly agreed that more patients could receive care utilizing telepsychiatry. The belief in the overall utility of telepsychiatry to increase access to mental health services is important to the overall adoption of the modality.

### COVID-19 and Access

It would be remiss to not discuss the overall impact that COVID-19 has played on the results of this project, as well as the increased importance and need for mental health services. Peters (2020) reports that rural and nonmetropolitan areas are more susceptible to COVID-19 outbreaks due to access to fewer physicians and mental health providers, greater proportion of people with disability, and those who are uninsured. Therefore, the importance of increasing and ensuring access to mental health services during a pandemic is paramount.

As the results of this project indicated, medication providers of mental health services substantially increased their overall utilization of telepsychiatry during the six-month period between December, 2019, and May, 2020. The adoption of this method of care delivery was impacted by policy changes by government agencies that alleviated restrictions previously placed on providing telepsychiatry services, with the Coronavirus Preparedness and Response Supplemental Appropriations Act, signed into law March 6, 2020. Section 102 states that it allowed the Department of Health and Human Services to “waive(d) certain Medicare restrictions and requirements during the coronavirus public health emergency” when it came to telehealth services (Congress.gov, 2020). This meant that the platforms in which telepsychiatry could be performed expanded and that the patient did not have to be located within a clinic. Also, in response to the COVID-19 pandemic, most insurance companies allowed for telephone consultations to be covered at an increased rate. Further, the capacity to provide psychiatric care for patients did not seem to change after transitioning to remote care, and the overall adoption of telepsychiatry appeared to be smooth. The no-show rate for the agency also slightly decreased from 16% from November through February to 14% from March to June, and the overall

productivity remained the same or a little higher than historical average during this same time period.

### Education

As the modules were optional and the providers did not disclose whether they completed the educational modules, it is difficult to determine the effect that education had on the post survey results. Of note, on the post survey, there was an increase of write-in responses about where their knowledge of telepsychiatry comes from with n=5 responses stating “personal experience,” “on the job training,” and “learn as I go,” as well as n=1 participant stating “Google” as a response to where providers acquired their knowledge. Two respondents (n=2) of post survey participants stated “formal training.” This differs from the pre survey in which a majority reported colleagues (n=7) and professional trainings/meetings (n=4) as the main drivers of knowledge about telepsychiatry. With this information, it could be conjectured that the actual practice of telepsychiatry proves more impactful on knowledge dissemination than formal education.

### Provider Concerns

The original research indicated the potential barriers for providers to be (1) misconception about the efficacy or equality of care, (2) believing that patients do not prefer this modality, (3) issues with technology, (4) concern over reimbursement or policy, and (5) lack of comfort or education with the overall use of telepsychiatry. The loss of personal contact, technical challenges, scheduling issues, and inability to perform a physical exam were

all noted as barriers to implementation. Previous research stated that providers were concerned that their lack of experience delivering telepsychiatry may result in lower levels of care (Wynn et al., 2012). As reported before, there was a change from pre survey participants reporting that they do not know enough about telepsychiatry to adopt it into practice into a much more favorable opinion as to the efficacy and appropriateness of telepsychiatry.

The concern of establishing therapeutic rapport over technology, technical difficulties, and lack of training regarding telepsychiatry were also cited as barriers and reduced overall provider satisfaction (Hubley et al., 2016b; Wagnild et al., 2006; Wynn et al., 2012). Though most opinions swung more favorably in the post survey, some concerns were not completely resolved. Technical issues still were reported as a challenge. Though the overall knowledge of telepsychiatry improved, there were still inherent inconveniences that lowered the opinion of the modality. Technical challenges and scheduling issues can be improved through process analysis and continued comfort with the platform. However, while the concern over loss of personal contact and inability to perform a physical exam remained, it was less noted than responses in the pre survey participants.

The providers also had a marked improvement with their concern about using telepsychiatry related to the chance of malpractice incurred by using the modality. This alludes to an overall increase of comfort using telepsychiatry. Coupled with a stated increase in knowledge and a strong belief that more patients can be seen using this modality, this could encourage the adoption and increased utilization of telepsychiatry leading to overall increased access to mental health services for those in need.

### Recommended Next Steps

The COVID-19 pandemic has significantly changed how care is and can be delivered. Continued research as to the overall satisfaction, comfort, and willingness for providers of all care to provide telehealth services needs to be done to support the efficacy, safety, and appropriateness of this modality. Technical difficulties are challenging for both provider and patient, so innovations and developments to ease the utilization of the service should be supported and encouraged. Telepsychiatry and its cousins, telehealth and telemental health, need to be addressed and discussed within educational programs as the overall implementation of this modality is most likely going to continue in the future. Assessing ways to expand this modality would be prudent to reach more patients in rural or underserved areas to provide both mental health and physical health services to those in need.

### Reflection, Insight, and Implications

Initially this project was intended to query what barriers providers stated about the implementation of telepsychiatry and provide some education regarding the modality and assess if the overall opinion changed. However, a global pandemic occurred and changed the way that everyday care is provided. Patients can now receive care within their homes and providers can work remotely as well, reducing face-to-face contacts. Nurse visits require much more personal protective equipment, including gowns, goggles, masks, and face shields, and the overall psychological impact of the pandemic and its subsequent isolation has yet to be determined. The need for mental health services has never been greater and ensuring that the barriers to care are reduced or eliminated is imperative. The outcomes of the survey are promising, indicating that a

provider can provide care utilizing the modality with fewer concerns as they became more familiar with this type of care delivery.

Healthcare providers and advanced-practice registered nurses are trained to practice a skill before they perform it to feel comfortable and confident in its utility and efficacy. Telepsychiatry is no different. One must practice the skill and the modality to be able to perform it appropriately and effectively. One way that this may be accomplished is through graduate education programs mandating a certain number of clinical hours be performed utilizing telepsychiatry, as well as an overview being taught about the appropriate use of the modality. Recognizing its utility and value by being knowledgeable about best practice will help to encourage telepsychiatry to be adopted more readily. More practitioners willing to perform telepsychiatry may increase the areas where mental health services can be offered thereby creating a healthier population.

#### Relationship to DNP Essentials

This project fulfilled both Essential II-Organizational and Systems Leadership for Quality Improvement and Systems thinking and Essential IV-Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care. Regarding Essential II, the overall goal of the project included ways to “understand principles of practice management, including conceptual and practical strategies, for balancing productivity with quality of care...to assess the impact of practice policies and procedures on meeting the health needs of the patient populations with whom they practice” (AACN, 2006, p. 10). Looking at the current access and barriers to care, this project was able to recognize and impart practical ways



to not only assess current practices and their inadequacies, but to make change to potentially increase access to care utilizing telepsychiatry.

Essential IV states, “DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and healthcare systems, and provide leadership within healthcare systems” (AACN, 2006, p. 12). This project is the epitome of utilizing technology to improve care and access and, by supporting the implementation of telepsychiatry with education, this provided support and overall leadership to the providers. The providers were able to receive guidance and improve the process and overall technology by constant communication and assistance where needed.

#### Limitations

The generalizability of this project is limited by the sample size (n=10). The effect that education had on opinions as the COVID-19 pandemic and subsequent change in practice was not able to be determined as it was uncertain as to what practitioner(s) completed the educational modules. This then confounded the educational component so that what effect each had on the post survey results was unable to be determined. The pre and post provider survey groups were not made up of the same group due to turnover and it is uncertain if the same providers completed both surveys as it was confidential in nature.

#### Summary

The way that care is provided may have changed forever due to the COVID-19 pandemic and its subsequent restrictions. Telepsychiatry became a necessity versus an option for providers

of mental health services. This marked change and driving force created a situation that forced providers to use and trial the telepsychiatry. The providers of psychiatric services have had to learn and grow in the utilization of telepsychiatry in order to continue to provide mental health services. This force allowed for the implementation of telepsychiatry to be adopted and for beliefs about the modality to change. Even though the sample size in this project was small, the results of the project showed marked changes in overall knowledge, confidence and belief in the system, an increase in perceived feasibility, and increased use of telepsychiatry over a relative short amount of time due to the providers being forced to utilize telepsychiatry.

The potential positive changes that increasing telepsychiatry can offer are numerous. This has the potential to eliminate the barriers to care and increase the number of patients who can access mental health services. With increased access to mental health care, suicide rates, as well as substance abuse issues, one can anticipate a decrease in such problems as well as the potential for a better overall quality of life. Getting providers on board with providing this type of care is crucial to expanding the overarching impact and increasing the potential for access through telepsychiatry.

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APPENDICES

APPENDIX A

PERMISSION TO USE AND MODIFY SURVEY



Appendix A-

Hello Dr. Grigsby,

My name is Hilary Brannen and I am a doctoral student at [REDACTED] for the Psychiatric Mental Health Nurse Practitioner program. My doctoral project is surveying current providers of psychiatry about their knowledge and willingness to utilize telepsychiatry as a way to educate and potentially increase access to psychiatric services in rural areas such as Montana.

I am requesting permission to have access to and use your Telemedicine User Survey and the Telemedicine Nonuser Survey from the Specialist physicians' knowledge and beliefs about telemedicine: A comparison of users and nonusers of the technology study in 2007. My plan would be to adapt the surveys to fit my doctoral/capstone project and use it as my primary survey tool. I, of course, would cite you as the main author.

My colleague, Kathy Damberger, DNP, utilized your survey with great success and I am hopeful to expand on her project in order to include mostly medication providers of mental health services across Western Montana.

I appreciate your time and please let me know if you have any additional questions.

Respectfully,

Hilary Brannen, RN, BSN, DNP-S

[REDACTED]  
College of Nursing  
[REDACTED]

Grigsby, Jim

To:Hilary Brannen

Thu, Jun 20, 2019 at 3:17 PM

Hi Hilary,

Feel free to use the survey instruments, and to adapt them in any way that seems appropriate for your research. Thank you for offering to have me be an author, but first authorship really should be yours—it's your dissertation, after all.

I assume you can get the surveys from your colleague, but if not, I'll send them to you. Your project sounds interesting. I wish you well with it.

Best wishes,

Jim

Jim Grigsby, PhD  
Professor, Departments of Medicine and Psychology  
University of Colorado Denver

Hilary Brannen [REDACTED]  
To:Grigsby, Jim  
Fri, Jun 21, 2019 at 11:58 AM

Dr. Grigsby,  
Thank you so much! I will cite you as the main author on the survey portion. I truly appreciate your generosity and will forward you the results of the survey once I have it completed. Thank you again and have a terrific weekend.

Hilary Brannen  
Grigsby, Jim [REDACTED]  
To:Hilary Brannen  
Fri, Jun 21, 2019 at 5:23 PM  
Hi Hilary,

I appreciate being listed as an author, but this is your work, and you really should have credit as the first author. I look forward to seeing your results.

Take care,

Jim

APPENDIX B

SURVEY QUESTIONS

<p><b>Appendix B</b></p> <p><b><i>Demographics</i></b></p> <p>1) Age                  2) Year of Graduate school graduation                  3) Gender                  4) Do you currently perform telepsychiatry? (y/n)                  5) What is the approximate number of patients on your panel?</p>
<p><b><i>Feasibility</i></b></p> <p>14) I would be willing to refer to a provider that performed telepsychiatry if it were more convenient for my patients                  18) If interactive video were available in my office, I would use it                  27) I have adequate technical assistance available to me during telepsychiatry consultations                  28) The telepsychiatry equipment is easy for me and my patients to use                  29) I would have to be reimbursed on par with in-person patient visits before I would consider increasing telepsychiatry use                  32) I think my specialty is one that can be readily adapted to the use of interactive video for consultation                  34) I do not think an adequate physical exam can be conducted without the patient being present                  41) Most appointments that I perform could be addressed using telepsychiatry                  42) Those of my colleagues who have referred patients for or used telepsychiatry have found it to be an acceptable means of seeing patients                  44) I would be likely to provide telepsychiatry if I could do it by computer from my office                  46) Assuming interactive telepsychiatry might not work for all the cases on which you consult, for what approximate percentage do you think it might be feasible?</p>
<p><b><i>Benefit</i></b></p> <p>12) More patients can receive care in a practice with access to telepsychiatry                  13) Using telepsychiatry has increased the number of patients I can see in my practice                  15) Using telepsychiatry has expanded my network of professional colleagues                  22) The inconvenience involved in teleconsultation is greater than any benefits I might receive                  24) I am interested in using interactive video to provide me with back-up or on-call coverage within the community                  26) Telepsychiatry improves continuity of care for patients                  33) I would be willing to participate in CME or CEU's via telepsychiatry                  45) The use of telepsychiatry would not be an efficient use of my time</p>
<p><b><i>Confidence/Belief</i></b></p> <p>6) Most of my knowledge of telepsychiatry has come from: colleagues, medical literature, formal training, graduate training, presentations, mass media, or other</p>

- 7) Approximately how many times in the last 12 months have you performed telepsychiatry?
- 8) How would you describe your knowledge of telepsychiatry?
- 9) I am generally one of the first of my colleagues to adopt promising new technologies
- 10) I do not know enough about telepsychiatry technology and applications to expand telepsychiatry into my practice
- 16) I do not use telepsychiatry enough to make it a regular part of my practice
- 17) Telepsychiatry is effective for the following types of care: Emergency services, Preventative services, Chronic condition management, Acute, non-emergency care, home health
- 19) I am satisfied with the quality of care my patients receive with telepsychiatry
- 20) Despite possible inconvenience, I would prefer my patients see a provider in person than over an interactive video system
- 25) More research is needed on the effectiveness of telepsychiatry before I will refer more patients for telepsychiatry
- 30) Interactive video technology is more acceptable for second opinions or informal consults than for diagnosing new patients
- 31) My use of telepsychiatry has increased over time
- 36) Using telepsychiatry would increase my risk of being sued for malpractice
- 37) If colleagues adopted telepsychiatry, it would influence me to think about it also
- 40) I prefer standard charting to an electronic medical record

**Challenges**

- 11) Technical problems with telepsychiatry equipment interfere with telepsychiatry consultations
- 21) I am concerned about the possible issues associated with the use of telepsychiatry
- 23) I am willing to put up with some personal inconvenience (e.g., setup time, scheduling) in order for my patients to receive services through telepsychiatry
- 35) I do not like the loss of personal contact associated with telepsychiatry
- 38) Coordinating telepsychiatry appointments would be disruptive to my established office routine
- 39) The current location for telepsychiatry is convenient for me to use regularly
- 43) If additional credentialing and licensure procedures were required, that would discourage me from using telepsychiatry

APPENDIX C

SURVEY RESULTS

Appendix C- Survey Results

	18-24	25-34	35-44	45-54	55-64	65+
<b>Question 1- Age</b>						
Pre	0	3	3	2	2	0
Post	0	4	2	2	2	0

**Question 2- Graduation Year**

	pre	post
	2016	2016
	2016	2003
	2014	2016
	2012	2012
	2003	2012
	2018	1989
	1989	1992
	2017	2019
	1992	2017
	Median 2014	Median 2012

**Question 3- Gender**

	pre	post
male	2	3
female	8	7

**Question 4- Do you currently perform telepsych**

	pre	post
yes	7	10
no	3	0

**Question 5- Size of patient panel**

	0-100	101-200	201-300	301-400	401-500	500+
pre	3	1	3	2	0	1
post	4	3	1	1	0	1

**Question 6- Where does your knowledge come from**

	pre	post
colleagues	7	6
medical literature	2	4
formal training	0	2
graduate training	2	1

presentations	2	1
mass media	0	1
professional associations		
meetings/conferences	4	2
electronic media	2	1
other:	personal experience	learn as I go (2)
	trial and error	experience (2)
		Google on the job training

**Question 7- In the last 12 months how many times**

	<b>pre</b>	<b>post</b>
		100% for last 2 months
	5	
	150	500
	0	hundreds
	0	daily now
every Wed from 9-5		daily
	100	600
	20	100
	2	50
	0	60
		20

**Question 8- Knowledge of telepsychiatry**

	<b>pre</b>	<b>post</b>
Not at all knowledgeable	3	0
Somewhat knowledgeable	5	3
Knowledgeable	1	4
Very knowledgeable	1	3

**Question 9- Adoption of new technologies**

	<b>pre</b>	<b>post</b>
Strongly agree	2	1
somewhat agree	5	7
disagree	3	2



strongly disagree	0	0
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**Question 10 - I don't know enough about telepsych to adopt into practice**

	<b>pre</b>	<b>post</b>
Strongly agree	1	0
somewhat agree	1	1
disagree	4	2
strongly disagree	3	5
N/A	1	2

**Question 11-Technical problems interfere**

	<b>pre</b>	<b>post</b>
Strongly agree	1	2
somewhat agree	5	5
disagree	2	2
strongly disagree	0	0
N/A	1	0

**Question 12 -More patient can receive care**

	<b>pre</b>	<b>post</b>
Strongly agree	6	10
somewhat agree	3	0
disagree	1	0
strongly disagree	0	0
N/A	0	0

**Question 13- Increased number of clients**

	<b>pre</b>	<b>post</b>
Strongly agree	0	5
somewhat agree	5	3
disagree	2	1
strongly disagree	0	0
N/A	2	1

**Question 14- Willing to refer to telepsych**

	<b>pre</b>	<b>post</b>
Strongly agree	4	6
somewhat agree	4	4

disagree	1	0
strongly disagree	0	0
N/A	1	0

**Question 15- Telepsych expanded colleagues**

	pre	post
Strongly agree	0	1
somewhat agree	4	5
disagree	2	2
strongly disagree	0	1
N/A	3	0

**Question 16 - I don't use telepsych to make it regular**

	pre	post
Strongly agree	3	0
somewhat agree	0	1
disagree	3	1
strongly disagree	2	6
N/A	2	2

**Question 17- What services are effective for telepsych**

	Strongly agree	Somewhat agree	disagree	Strongly disagree	n/a
<i>Emergency services</i>					
pre	4	2	2	1	1
post	4	4	0	0	2
<i>Preventative services</i>					
pre	5	3	1	0	1
post	7	2	0	0	1
<i>Chronic condition management</i>					
pre	5	2	2	0	1
post	7	2	0	0	1
<i>Acute, non-emergency care</i>					
pre	5	2	2	0	1
post	5	3	0	0	2
<i>Home health</i>					
pre	1	3	4	0	1
post	4	3	2	0	1

<b>Question 18-Video in office</b>	<b>pre</b>	<b>post</b>
Strongly agree	3	5
somewhat agree	4	2
disagree	1	0
strongly disagree	0	0
N/A	2	3

<b>Question 19- Satisfied with care</b>	<b>pre</b>	<b>post</b>
Strongly agree	4	6
somewhat agree	4	4
disagree	0	0
strongly disagree	0	0
N/A	2	0

<b>Question 20- Despite inconvenience- prefer in person</b>	<b>pre</b>	<b>post</b>
Strongly agree	2	0
somewhat agree	6	7
disagree	2	3
strongly disagree	0	0
N/A	0	0

<b>Question 21- Concerned with issues of telepsych</b>	<b>pre</b>	<b>post</b>
Strongly agree	0	0
somewhat agree	4	3
disagree	4	5
strongly disagree	2	2
N/A	0	0

<b>Question 22- Inconvenience greater than benefit</b>	<b>pre</b>	<b>post</b>
Strongly agree	1	1
somewhat agree	1	0
disagree	7	4
strongly disagree	1	5
N/A	0	0

**Question 23- Willing to put up with inconvenience for tele**

	<b>pre</b>	<b>post</b>
Strongly agree	2	4
somewhat agree	6	5
disagree	0	1
strongly disagree	1	0
N/A	1	0

**Question 24- interested in tele for on-call**

	<b>pre</b>	<b>post</b>
Strongly agree	2	5
somewhat agree	6	4
disagree	1	0
strongly disagree	1	1
N/A	0	0

**Question 25- More research is needed before I will refer**

	<b>pre</b>	<b>post</b>
Strongly agree	1	0
somewhat agree	2	1
disagree	3	5
strongly disagree	3	3
N/A	1	1

**Question 26- Telepsych improves continuity of care**

	<b>pre</b>	<b>post</b>
Strongly agree	5	5
somewhat agree	3	5
disagree	1	0
strongly disagree	1	0
N/A	0	0

**Question 27- Adequate technical assistance**

	<b>pre</b>	<b>post</b>
Strongly agree	2	2
somewhat agree	4	7
disagree	3	1
strongly disagree	0	0

N/A	1	0
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**Question 28- Equipment  
easy to use me and patient**

	<b>pre</b>	<b>post</b>
Strongly agree	3	2
somewhat agree	4	8
disagree	1	0
strongly disagree	0	0
N/A	2	0

**Question 29- reimbursed on  
par with in person**

	<b>pre</b>	<b>post</b>
Strongly agree	4	3
somewhat agree	1	5
disagree	0	0
strongly disagree	2	0
N/A	3	2

**Question 30- Tele better for  
2nd opinion than  
diagnosing**

	<b>pre</b>	<b>post</b>
Strongly agree	3	1
somewhat agree	5	2
disagree	3	7
strongly disagree	0	0
N/A	0	0

**Question 31- My use of tele  
has increased over time**

	<b>pre</b>	<b>post</b>
Strongly agree	3	8
somewhat agree	2	1
disagree	1	0
strongly disagree	1	0
N/A	3	1

**Question 32- I think my  
specialty can be adapted to  
tele**

	<b>pre</b>	<b>post</b>
Strongly agree	3	8
somewhat agree	4	2

disagree	3	0
strongly disagree	0	0
N/A	0	0

**Question 33- Willing to participate in CEU's for tele**

	<b>pre</b>	<b>post</b>
Strongly agree	6	7
somewhat agree	3	2
disagree	0	1
strongly disagree	0	0
N/A	1	0

**Question 34- Adequate physical exam w/o pt being present**

	<b>pre</b>	<b>post</b>
Strongly agree	6	3
somewhat agree	3	6
disagree	0	0
strongly disagree	1	1
N/A	0	0

**Question 35- Don't like loss of personal contact**

	<b>pre</b>	<b>post</b>
Strongly agree	4	0
somewhat agree	4	7
disagree	1	2
strongly disagree	1	1
N/A	0	0

**Question 36- Using telepsych increase risk of malpractice**

	<b>pre</b>	<b>post</b>
Strongly agree	0	0
somewhat agree	5	1
disagree	3	6
strongly disagree	2	2
N/A	0	0

**Question 37- Colleagues adopted, influence me**

	<b>pre</b>	<b>post</b>
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Strongly agree	0	1
somewhat agree	5	3
disagree	1	1
strongly disagree	2	0
N/A	2	5

**Question 38- Coordinating  
tele appts disruptive to  
schedule**

	<b>pre</b>	<b>post</b>
Strongly agree	0	0
somewhat agree	3	2
disagree	6	5
strongly disagree	1	2
N/A	0	1

**Question 39- Location of  
telepsych is convenient**

	<b>pre</b>	<b>post</b>
Strongly agree	4	8
somewhat agree	3	2
disagree	0	0
strongly disagree	0	0
N/A	3	0

**Question 40- Prefer  
standard charting to EMR**

	<b>pre</b>	<b>post</b>
Strongly agree	1	0
somewhat agree	2	2
disagree	3	4
strongly disagree	4	4
N/A	0	0

**Question 41- Most appts  
could be addressed with tele**

	<b>pre</b>	<b>post</b>
Strongly agree	0	6
somewhat agree	4	4
disagree	5	0
strongly disagree	1	0
N/A	0	0

**Question 42- Colleagues referred for telepsych found it acceptable**

	<b>pre</b>	<b>post</b>
Strongly agree	2	1
somewhat agree	5	7
disagree	1	1
strongly disagree	0	0
N/A	2	1

**Question 43- If additional credentialing were req it would discourage**

	<b>pre</b>	<b>post</b>
Strongly agree	3	4
somewhat agree	3	2
disagree	4	3
strongly disagree	0	1
N/A	0	0

**Question 44- if I could do telepsych from office-more likely**

	<b>pre</b>	<b>post</b>
Strongly agree	3	6
somewhat agree	6	2
disagree	0	2
strongly disagree	0	0
N/A	1	0

**Question 45- use of telepsych not efficient use of time**

	<b>pre</b>	<b>post</b>
Strongly agree	0	1
somewhat agree	3	1
disagree	5	2
strongly disagree	2	6
N/A	0	0

**Question 46- What % of consults are feasible with telepsych**

	<b>pre</b>	<b>post</b>
	25	80



58

30	50
100	75
80	100
30	90
30	90
60	33
n/a	80
	90

Average-  
50.7 76.44444444