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**IMPROVING TREATMENT OUTCOMES FOR AMERICAN INDIANS
WITH POSTTRAUMATIC STRESS DISORDER THROUGH
THE USE OF TELEPSYCHAITRY**

Submitted to the Faculty
Yale University School of Nursing

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Nursing Practice

Shaylice Meserole

May 12, 2023

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This DNP Project is accepted in partial fulfillment of the requirements for the degree Doctor of Nursing Practice.

Joan Kearney, PhD, APRN, FAAN

Date _____

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To Kayden and Mila: Thank you for always being my light, loving me unconditionally and always understanding. I hope I've shown you what is possible.

Abstract
Improving Treatment Outcomes for American Indians with PTSD Through the Use of
Telepsychiatry

The prevalence of PTSD has increased from 6.8% to 20% since the start of the Covid-19 pandemic. For American Indians, the prevalence of PTSD ranged between 16 to 24% prior to the start of the pandemic. American Indians living in rural and tribal communities often experience significant barriers to accessing quality mental health treatment. For these reasons, telepsychiatry is a necessary tool to increase access to care. An entirely home based telepsychiatry program was developed and adapted for PTSD patients within a tribal community and implemented over 12 weeks. 40 patients were engaged at the initiation of the program and a total of 37 remained through the entirety of the program. Patient experiences were assessed based on appointment attendance, the administration of the PCL-5 pre and post program implementation, and patient and staff program evaluations. During the 12 weeks of this program, there was a 4% decrease in patient no shows and rescheduled appointments increased by 23%. Of the 37 patients that completed the program through the 12 weeks, 43% expressed a reduction in PTSD symptoms, 49% saw no change and 8% reported a worsening in PTSD symptoms. Telepsychiatry is a quality treatment delivery method that improves health equity for disadvantaged populations. while also reducing barriers to treatment. Telepsychiatry is comparable to traditional in-person treatment when comparing patient attendance as well as program evaluations. Clinical policies need to address how telepsychiatry can be integrated with in-person care to ensure patients are afforded various options of quality care.

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Part 1

Improving Treatment Outcomes for American Indians with PTSD Through the Use of Telepsychiatry

Posttraumatic Stress Disorder (PTSD) is defined by the American Psychiatric Association as a psychiatric disorder developed after an individual is exposed to a traumatic event which causes extreme disruption in their ability to complete day to day tasks. The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed; DSM-5; American Psychiatric Association, 2013) divides symptoms of PTSD into four categories: intrusion avoidance, negative changes in thoughts and mood and changes in arousal and reactivity. Although the category of avoidance only accounts for 2 of the 20 possible symptoms of the disorder, many patients struggle to engage in treatment or follow through due to anxieties around being exposed to any sort of external stimuli (people, places, conversations, activities, objects or situations) that might illicit memories, thoughts or feelings reminiscent of their trauma. Because of this, many patients prefer to stay home and untreated. For American Indians, who often live within rural and tribal communities, access to quality mental health care can be met with a variety of other challenges including shortages in providers, deficits in culturally competent care, health clinics not being within reasonable proximity to their homes and unreasonable wait times (Bassett, 2013). For this reason, agencies such as the Department of Veteran Affairs and Indian Health Services have been instrumental in attempting to increase accessibility to quality health care for individuals within rural and underserved areas and have called for the increased utilization of telemedicine services. Telemedicine, specifically telepsychiatry, provides clinicians the ability to minimize many of the aforementioned barriers to treating PTSD in American Indians, a particularly vulnerable population.

Problem Statement

According to the National Institute of Mental Health (2019), 6.8% of the US population has been diagnosed with PTSD. Recent studies have shown a marked increase in the

prevalence of PTSD since the start of the pandemic ranging between 15 to 24% nationwide (University of Michigan, 2020). For individuals who identify as American Indian, the prevalence of PTSD ranged between 15 to 25% preceding the start of the pandemic. It is not known how the rates of PTSD within this population have been affected by the global pandemic, but it is reasonable to assume that the rates have increased similarly to all other racial groups. Due to the physical constraints from the pandemic (social distancing, healthcare staffing shortages and the global shutdown) access to all healthcare was directly impacted for all populations and required the immediate adaptation to telemedicine. Although the use of telemedicine was first documented in the 1950s, it has only been in the last decade, with the enhancement of video conferencing, that telemedicine has become more widely accepted in most healthcare systems (Shore et al., 2020); and through the swift adoption since the pandemic, clinicians in many specialties have seen a marked decline in many barriers to patient treatment. Stigmatization, however, continues to be a significant barrier to treating many mental health disorders, including PTSD (Sunjaya, 2020). For American Indians, stigma coupled with the avoidance associated with PTSD and limited access to quality care may ultimately illicit fear in seeking help when tasked with having to be physically present for in person consultations. For American Indian patients living in underserved and rural areas, such as northern Michigan, the continued use of telepsychiatry can be instrumental in improving patient compliance and overall quality of life. Using a collaborative care model, telepsychiatry can be an effective vehicle for the delivery of PTSD treatment, comparable to traditional face to face psychiatric services (Hilty et al. 2018). Currently there is not enough evidence to support the use of telepsychiatry specifically in treating American Indians diagnosed with PTSD, thus this DNP project modified a telepsychiatry program for American Indian patients diagnosed with PTSD. The goal was to improve patient adherence to treatment and decrease severity of PTSD symptoms.

Significance

According to the Centers for Disease Control and Prevention (2020), patients living in rural areas are more likely to die prematurely due to higher rates of unhealthy behaviors, inadequate access to health care and low health literacy. Through its National Center for Chronic Disease Prevention and Health Promotion, the CDC continues to work to achieve health equity across the country by attempting to eliminate health disparities for underserved ethnic groups including African Americans, Hispanic Americans, Asian Americans, Pacific Islanders and American Indians. According to Indian Health Services (2019), of all races within the United States, American Indians have a life expectancy 5 years shorter than any other race predominantly due to inadequate access to quality health care. For American Indians, mental health and substance abuse disorders are among the most prevalent (Bassett et al., 2013) as they are more likely than any other racial group to experience trauma (Manson et al. 2005) and two times more likely than the general public to develop PTSD (Robin et al., 1997). Over the years studies have shown types of trauma present to cause PTSD symptoms to include: historical trauma (past loss of life, land, deconstruction of culture and policies, and generations of unresolved grief), physical and sexual violence as well as childhood trauma (Cohen et al., 2004; Morsette et al., 2006). While 60% of American Indians now live in urban areas, 22% continue to live on reservations (U.S. Dept of Health and Human Services, 2022), which are typically in rural areas. For years agencies such as the Indian Health Service – a subdivision of the United States Department of Health and Human Services – have worked to try to provide more accessible healthcare to the members of more than 560 recognized American Indian tribes (Smith, 2018). Events such as the global pandemic however have placed even further constraints on the overall healthcare system (provider shortages, social distancing policies, etc.) making it even harder for individuals within the rural, underserved, and native communities to receive timely, quality care. Thus, interventions such as telepsychiatry are needed to increase accessibility to care and improve patient engagement. Continued use and training in such

interventions may also aid in increasing provider capabilities to adapt to already advancing technological treatment modalities, particularly for a patient population that may already struggle with individualistic barriers such as avoidance, skepticism around western medicine, or history of poor healthcare service experiences in the past.

Background

Search Strategy

A search was conducted using the following search engines: Medline (Ovid), Psych Info (Ovid) and Google Scholar. Key search terms included Native American OR American Indian OR Indigenous patients OR patients in rural communities OR patients in underserved communities. These key terms were then coupled with telepsychiatry in an initial search and then coupled with post-traumatic stress disorder in a second search. The term telemedicine OR telepsychiatry was also coupled with anxiety disorders OR post-traumatic stress disorder. Inclusion criteria included articles written in English, those discussing the overall effectiveness and barriers of telepsychiatry (regardless of treatment modality or condition being treated), telehealth (including both pharmacological and non-pharmacological treatment modalities) and its effectiveness on treating posttraumatic stress disorder, or the benefits and barriers of using telepsychiatry in underserved, rural, and native populations. Exclusion criteria included articles more than 10 years old. A total of 1187 articles were found with 866 articles remaining after duplicate removal. Following title and abstract review, 62 articles remained for full text review. A final 31 articles were included in this review of literature. Results of the search are provided in the PRISMA flow chart in Appendix A.

Literature Findings

This review of literature will begin by giving a general overview of the various modalities currently supported for the treatment PTSD, followed by alternative forms of treatment. From there, a general overview of telepsychiatry, the advantages and barriers to

using telepsychiatry and a review of literature specifically discussing the use of telepsychiatry for the treatment of PTSD will be provided. Lastly this review of literature will discuss the unique considerations of treating PTSD and other psychiatric disorders within American Indians and other underserved and rural populations.

Psychotherapy Approaches for Treatment of PTSD

There are several supported psychotherapy treatment modalities for PTSD including trauma focused treatments (therapies used to directly address memories, thoughts and feelings related to a traumatic event) and non-trauma focused treatments (therapies that look to reduce PTSD related symptoms, but do not target the memories, thoughts and feelings related to a traumatic event). Both the American Psychiatric Association and the Veterans Health Administration partnered with the Department of Defense published guidelines in 2017 of what they consider to be the strongest modalities for treating PTSD; the two strongest therapies being Prolonged Exposure and Cognitive Processing Therapy. Prolonged Exposure (PE), recommended by both the APA and the VA/DoD as an effective form of treatment, is derived from emotional processing theory (Foa and Kozak, 1986). This theory suggests that traumatic events are not processed emotionally at the time of the event and the fear associated with the event, although initially a realistic fear, can become dysfunctional and no longer accurately reflect the real world or threat (Foa and Kozak, 1986). PE focuses on shifting fear constructs by activating it and incorporating new incompatible information with the flawed information associated with that fear structure (Watkins et al., 2018). In this 8 to 15 session treatment modality, patients are educated on PTSD, provided with coping skills to manage their symptoms as well as provided with in vivo or imaginal exposure processing repeatedly until the distress associated with the traumatic event decreases (Watkins et al., 2018). Through a meta-analysis performed by (Jonas et al., 2013), Researchers found that for participants engaged in PE, 41% to 95% no longer met criteria for a PTSD diagnosis by the end of treatment.

Cognitive Processing Therapy (CPT), another form of treatment strongly recommended by both the APA and the VA/DoD, draws on social cognitive theory and informed emotional processing theory. CPT suggests that after experiencing a traumatic event, individuals diagnosed with PTSD try to make sense of the traumatic event which can lead to distorted cognitions. CPT focuses on cognitive activation of the traumatic memory and works to transition distorted cognitions (typically described as assimilating or over accommodating) towards accommodation (Watkins et al., 2018). This occurs on average over the course of 12 sessions in the form of individual or group therapy and combines cognitive therapy and exposure processing. Jonas et al., 2013 reported in their meta-analysis that when compared to control groups, patients engaging in CPT found a greater reduction in PTSD symptoms (Cohen's $d=1.22$; 95% CI, -1.91 to -0.53) using the CAPS intensity scores.

Pharmacology Approaches for Treatment of PTSD

While the evidence for the use psychotherapy for the treatment of PTSD presents consistently in support of its effectiveness, the use of psychotropics has not been as consistently supported. Currently the only two medications authorized by the US Food and Drug administration for the treatment of PTSD are Zoloft and Paxil however a variety of antidepressants, antipsychotics, mood stabilizers as well as prazosin are also used to treat symptoms of PTSD either alone or in combination with one another depending on a patient's clinical presentation (Ehret, 2019). While the APA guidelines (2017) support the use of Zoloft, Paxil, Prozac and Effexor as a first line treatment intervention, the VA-DOD (2017) only recommends the use of SSRIs after initiating trauma focused therapy. In a meta-analysis performed by Watts et al (2013), researchers found that antidepressants and antipsychotics were the two categories of medication most often studied. In this analysis, when compared against placebo, antidepressants (an analysis of 32 studies) had a combined effect size of $g=0.43$ while antipsychotics (an analysis of 9 studies) had a combined effect size of $g=0.36$. Individual effects sizes varied drastically within both classes of medication leading the

researchers to conclude that clinicians should not assume the findings of a single medication to be “class effective” and should consider a patient’s history of treatment and symptoms when considering initiation of medication. Implications were also suggestive of the need for further investigation of medication sequencing for the continued treatment of PTSD.

Alternative Approaches for Treatment of PTSD

Along with these more common forms of treatment, alternative forms of treatment including, but not limited to acupuncture and MDMA-assisted therapy, have also been studied more recently in hopes of impacting PTSD symptoms. In a systematic review performed by Kim et al. (2013), the researchers reported one pilot study performed by Hollifield et al. (2007) that found acupuncture to be comparable to CBT and statistically superior to control on 4 outcome measures; post-traumatic symptom scale self-report (PSS-SR) (ES, -0.98; P=0.001), Depression: self-rated Hopkins symptom checklist-25 (HSCL-25) (ES, -0.68; P=0.02) Anxiety: HCL-25 (ES, -0.91; P=0.003) and Impairment: Sheehan Disability Inventory (SDI) (ES, -0.64; P 0.03). In 3 randomized control trials reviewed by these same researchers comparing acupuncture to the use of SSRIs, there was no statistical difference between the two groups (Kim et al., 2013).

Newer publications have also begun to show the potential safety and efficacy of the use 3,4-methylenedroxymethamphetamine (MDMA) assisted therapy for the treatment of severe PTSD along with comorbidities such as past history substance abuse, depression and dissociation. Mitchell et al. (2021) compared the use of MDMA-assisted therapy to placebo in a randomized, double blind, placebo control trial and found MDMA-assisted therapy to significantly decrease total scores on the Sheehan Disability Scale (P=0.0116, d=0.43) and produce significant attenuation in CAPS-5 scores compared to placebo (P<0.0001, d=0.91). These findings further support the continued need for investigation of viable treatment options for PTSD.

An Overview of Telehealth/Telepsychiatry

The Department of Veteran Affairs (2020) documented its first implementation of 'telehealth' in the early 1960s through the use of televisions. Over the years it has been one of the strongest supporters for the continued use of telemedicine particularly for veterans in rural and underserved communities. With the advancement of the Internet and computers in the 1990s, the use of telepsychiatry services in large institutions such as correctional managed healthcare, large private healthcare systems and federal agencies began to take shape (Shore et al., 2020). Within the last two years alone there has been a significant increase in the use of telemedicine services, particularly telepsychiatry, due to the constraints placed on health care systems from the global pandemic. Recent published findings have focused on the implications for providing quality and safe treatment and have presented common themes such as appointing an administrative point person to oversee operations, address logistical concerns and troubleshoot issues with technology and equipment for both providers and patients (Koch, 2012; Shore et al., 2020). Researchers have also discussed addressing patient provider ground rules and expectations of treatment at the initiation of treatment (Moring et al., 2020), and the importance of robust training programs for providers prior to engaging in the delivery of telehealth services and throughout the continued use (Sharma et al., 2021). Studies on evidence-based models have shown collaborative care models to be the most effective when using telepsychiatry (Hilty et al., 2018). These models often include the collaborative efforts of primary care, a psychiatric provider, a therapist and at times pharmacy services, often working within the same health system but also achievable through sustainable partnerships established through contracts and grants. Through collaborative partnerships such as these, strong coalitions are formed amongst the treatment team and procedural tasks such as obtaining vitals or lab draws for psychiatric appointments can be completed by primary care and shared amongst the team (Hilty et al., 2018)

Advantages & Barriers to Using Telepsychiatry

As previously discussed, studies have shown telemedicine to be just as consistent both in diagnosing and treating patients since the 1990s (Nesbit et al., 2012). Various studies have not only shown some of the advantages of using telepsychiatry specifically to potentially reduce health costs and increase access to healthcare (Kruse et al., 2018), but have shown it to yield equivalent outcomes, when assessing quality of life index scores and experiential satisfaction ratings, to traditional in-person treatment (Gros et al., 2016; Glassman et al., 2017). Research has also shown 6 months post treatment, patients showed comparable rates of symptom reduction to that of traditional in-person treatment (Liu et al., 2019). In another study surveying 3070 participants, Guinart et al. (2021) found that 82.2% of participants rated their experiences of telepsychiatry as good or excellent and 63.3% found the modality to be as beneficial as traditional in-person treatment. Over the course of years of research, studies have shown telepsychiatry to be just as beneficial, and at times potentially more advantageous (such as during the initial phases of the pandemic) than traditional in-person treatment.

With its apparent strengths and evidence-based contributions to patient care, there are also continued barriers to treating patients via telepsychiatry. Many providers continue to be reluctant to utilize the delivery method due to lack of adequate training of the use of the technology and minimal professional guidance (Sharma et al., 2021). Miskin et al. (2021) found in surveying 333 mental health providers that although 85.9% gave affirmative answers regarding overall satisfaction with their telehealth experiences, comfortability was negatively associated with having technical issues as well as negatively associated with treating certain patient population through telehealth such as patients within the LGBTQ+ community. From the perspective of surveying patients, Malka et al. (2021) found that most preferred face to face encounters versus remote encounters with regard to the ease of use by over one full point on a Likert scale (4.0 versus 2.8 out of 5). Logistically and experientially the research has shown other barriers for patients include lack of adequate equipment and internet access, and deficits in knowledge and comfortability with technology (potentially in less educated and older

populations) (Kruse et al., 2018; Saeed et al., 2021). Shore et al. (2020) also suggested the potential for increased risk for further isolation and social avoidance (by allowing patients to engage in home-based programs and avoid public engagement) in a population that is already potentially struggling in this area.

Providers must also be careful not to diminish the patient experience or patient/provider relationship through their lack of physical presence by ensuring a strong sense of attentiveness and connectedness through virtual means (Ruiz-Cosignani et al., 2021). The vast majority of research shows the potential reduction in healthcare costs as seen in the same systemic review by Ruiz-Cosignani et al. (2021) which suggested potential savings in consultation costs and at least a 10% cost reduction for patients in comparison to traditional in-person treatment, especially when taking into consideration travel costs, childcare costs and time away from work. Contrary to this trend however, in a study performed by Painter et al. (2017), researchers found the annual cost of post-traumatic stress disorder treatment to be more expensive through the use of telepsychiatry (\$8150 annually) than that of traditional treatment (\$6744 annually) when taking into consideration the upfront costs of equipment, wireless technology and provider training and expertise. It is important for healthcare systems and professional organizations to properly train providers on how to deliver treatment via telepsychiatry to ensure provider confidence and a standard of treatment delivery comparable to traditional face to face treatment.

The Use of Telepsychiatry for Treatment of PTSD

In specifically considering the use of telepsychiatry for the treatment of post-traumatic stress disorder, studies have shown outcomes to be comparable to traditional in-person treatment and in some cases more favorable. In a randomized control trial conducted by Acierno et al. (2021), they found when compared to traditional treatment of post-traumatic stress disorder, participants in their home-based treatment group completed a slightly higher number of weekly sessions with a mean number of sessions at 6.80 sessions compared to 6.28

sessions of the in-person treatment group. In another randomized control trial performed by Fortney et al. (2015) the data showed a significantly larger decrease in PTSD symptom ratings (from 35.0 to 29.1) in patients assigned to the telemedicine group compared to patients assigned to the traditional treatment group (33.5 to 32.1) at 6 months post treatment and similarly results were reported at 12 months post treatment (35.0 to 30.1 for the telemedicine group versus 33.5 to 31.7 for the traditional treatment group); these researchers also found there was no significant difference in medication adherence between the two groups. In a systemic review of literature performed by Sunjaya et al. (2020), of 15 studies (following a total of 901 patients between 5 weeks and 18 months of treatment), 14 of the studies found the use of telepsychiatry for the delivery of trauma focused treatment to be similar to traditional face to face treatment with varying yet still improved patient outcomes. In one particular study reviewed by these researchers they found telepsychiatry to be just as effective in varying demographic groups including pediatric and geriatric populations (Sunjaya et al., 2020).

Considerations for Treating Psychiatric Disorders in Special Populations

Recent research has shown post-traumatic stress disorder to be one of the most prevalent mental health conditions within American Indian patients (Bassett et al. 2013); and this population is twice as likely to develop post-traumatic stress disorder than any other ethnic group or race (Stephens et al., 2010). The research has yet to explain the relationship between identified race, presentation of symptoms or the need for racially/culturally specific treatment in hopes of improved patient outcomes (Bassett et al. 2013). Within the systematic review performed by Bassett et al. (2013) of 37 studies, they found that risk factors for PTSD among American Indians include substance use disorders, exposure to violence, both childhood and adult sexual abuse, physical abuse, psychiatric comorbidity, familial history of depression, alcoholism, and combat experience. Unfortunately, research regarding culturally specific interventions for treatment of post-traumatic stress disorder within American Indians remains limited.

Within their literature search, Bassett et al. (2013) were unable to find any randomized control trials with participants who identified as American Indians between 1986 and 2005 and sadly only two randomized trials between 2005 and 2013 discussing mental health treatment specifically tailored to American Indians. In a more recent systemic review performed by Gameon et al. (2020), the authors were able to identify 15 studies that discussed a total of 10 interventions adapted to treat American Indians. However even with these suggestive findings, significant limitations persisted including concerns for internal and external validity due to small sample sizes, choices of study design and research method. Ruiz-Cosignani et al. (2021) suggest through their systematic review of literature the importance of community engagement in hopes of increasing patient awareness and trust of telehealth services being offered as well as support in cultural adaptations to meet the needs of the specific patient population. Telepsychiatry can aid in achieving health equity for American Indians in rural and underserved communities when treatment is accurately tailored to the specific needs of the community where it is being delivered.

Project Model

According to Rosswurm and Larrabee's Evidence Based Practice Change Model (1999), there are six steps necessary in order to successfully implement change within an organization. The first step consists of assessing the need for change. Particular to this project, this initial step included the unstructured interviews of both patients and clinic staff as well as a review of current patient treatment adherence data such as appointment attendance and medication compliance. The second step in this model consists of locating the best evidence or linking the problem to specific outcomes. This step included the formation of a PICO question: Will American Indians diagnosed with PTSD benefit from the use of home based telepsychiatry versus traditional in office treatment by experiencing a decrease in symptoms severity and adherence to treatment? The third step in this model consists of synthesizing the evidence which was completed through the aforementioned literature review. The fourth step of this

model consists of designing a change in practice or the creation of a detailed explanation of the proposed change through the creation or modification of existing protocols or procedures. For this project, this entailed meeting initially with the potential stakeholders to discuss the current resources available as well as the potential resources needed to implement the proposed change. During this step the stakeholders were educated on the effectiveness of telepsychiatry, how a home based telepsychiatry program would differ from the current program being implemented and provided with a step by step process that would guide the initiation of the home based telepsychiatry program. The fifth step in Rosswurm and Larrabee's model (1999) is implementing and evaluating the program change which simply consisted of the execution of the proposed program and the follow up steps to assess the success of the implemented change. For this project, it was evaluated through the analysis of the PCL-5 pre and post program implementation as well as program evaluation surveys completed by all participants (patients and staff). Finally, the six step of this change model consists of integrating and maintaining the change in practice. Following the evaluation of the implementation and based on the findings, making a recommendation for sustainability and scalability of the proposed change.

Supporting Theoretical Model

In addition to Rosswurm and Larrabee's Model for Change (1999), Shore et al. (2005) published a six-step model for creating and implementing a telepsychiatry program executed by the University of Colorado Health Services Center targeting the treatment of PTSD in American Indians. This program not only closely resembles the ordered steps within the change model described by Rosswurm and Larrabee but presents as almost identical to the proposed quality improvement program for this project, making its adaptation for this proposed project straightforward. The first step of this proposed framework entailed a needs assessment which is also the initial step in Rosswurm and Larrabee's (1999) change model. The second step of this model is an infrastructure survey, this step entailed assessing the current structure of the health care facility from an organizational, technological, and programmatic perspective. This included

assessing the current video conferencing software for strengths and weaknesses, reviewing the current policies regarding psychiatric medication services, day-to-day program procedures and initial brainstorming on how to feasibly modify the existing framework. This process took place between the project lead, the behavioral health director, and the medical director over the course of several scheduled meetings discussing any necessary change to the current software in clinic policies and procedures. The third step of this model is partnership organization which entailed strengthening relationships between the tribal community and the health care center, specifically the members of the implementation team. The fourth step of this model published by Shore et al. (2005), consists of a structure configuration which is the final step in the developmental phase. This step consisted of creating the program structure which included assigning staff roles and responsibilities, development of staff training, development of the patient training and educational material, specific modifications to the existing process and the assigning of program evaluation tools. The final two steps of this theoretical model are pilot implementation and solidification which closely resembled the last stages of Rosswurm and Larrabee's (1999) model. These final two steps included establishing a program start date and length of program implementation, the act of implementation and lastly the modification and permanent integration of the program into existing services.

Organizational Assessment

Description of the System

This program at a federally qualified health center located in the upper peninsula of Michigan. The health center operates primarily as a primary care center offering specialty services including dental care, optometry, chiropractic services, in-house lab draws, pharmacy services, tribal home visiting and behavioral health services. The health center is overseen by the medical director and staffing includes: 2 medical doctors, 2 physician's assistants, 2 nurse practitioners, 2 dentists, 2 dental hygienists, 1 podiatrist, 2 behavioral health therapists, 1 chiropractor and 3 pharmacists. Last year, the health center treated approximately 4614 patients, across all

specialties. Of these 4614 patients, 2733 have previously been diagnosed with and/or treated for a mental health or substance use disorder. Within the last 12 months, only 270 of these patients have been treated by the behavioral health team and more specifically only 55 have received psychiatric medication management services. This was primarily due to lack of access to psychiatric medication services.

Setting. Currently, patients are required to present to the facility for all medical appointments including behavioral therapy and psychiatric appointments. Although the psychiatric nurse practitioner provides psychiatric evaluations and psychiatric medication management follow ups remotely, the current clinic policy requires patients to present to the office exam room to complete these evaluations and follow up appointments. Two years ago the clinic initiated its partial telepsychiatry program due to its inability to acquire an onsite psychiatric prescriber but in doing so sought to continue the healthcare system's traditional workflow by requiring patients to present on site for their psychiatric appointments, regardless of the physical location of the provider. Many of the patients serviced by the health center in extremely rural environments, some miles from their closest neighbor and some without access to private or public transportation, internet, or mobile phone service.

Need. Currently, providers are aware of the accessibility issues that patients face. Some of the patients serviced by the health care center live up to three hours away, in between the months of November to April, the upper peninsula of Michigan can experience severe winter weather conditions making it more difficult for patients to travel to the facility to do structured interviews. Patients, as well as staff members have also described some of the barriers to treatment to include lack of transportation, financial constraints, childcare, inclement weather and the exacerbation of symptoms (poor sleep, avoidance, hyperarousal). Only in the last two years, the facility began to acknowledge the need for increased accessibility and flexibility in delivering psychiatric care by hiring a psychiatric prescriber to work remotely in order to begin to increase the availability of psychiatric services. However, this only solves part of the equation

as patients continue to have a difficult time getting to the health care facility to meet with their provider who works remotely.

SWOT Analysis

The internal strengths that are present within the health center that served as facilitators for the implementation of this DNP Project included the current use of telepsychiatry by the healthcare system (although only partly utilized by the center allowing providers to work remotely), the support of the medical director and behavioral health team in implementing this project, staff interest in wanting to learn more about this project and their ability to market its potential advantages to the community, given that many of the staff members are also members of the tribal community at large. Some of the barriers to treatment included the need for updated video conferencing software, lack of appropriate equipment by some patients, and hesitation by some of the clinic staff who were not very experienced in the use of technology. Modifications to the current center guidelines regarding maintaining patient safety, patient privacy as well as patient policy and procedures were also required. Careful consideration was given to ensure the consistent availability of members from the IT department in order to troubleshoot technology issues for both patients and providers.

The external opportunities that may exist by implementing this DNP project include the potential for the program to be replicated at other tribal clinics, the potential for increased funding by IHS for other home-based telemedicine programs and the potential for insurance companies to more readily support and fund home-based telemedicine services. The external threats that may potentially impact this program include community hesitation given the stigmas around mental health treatment and non-traditional healing, hesitation within the medical community due to lack of clear guidance around the use of telemedical services, and the potential for loss of funding if the healthcare system deems it necessary to reallocate funds to other projects or departments. See Appendix B for a graphic representation of this analysis.

Project Goal and Aims

This DNP project modified a telepsychiatry program for American Indians patients diagnosed with PTSD. This project had the following aims

1. Develop and adapt a home based telepsychiatry program for PTSD patients at a small rural federally qualified health center
2. Implement the adapted home based telepsychiatry program and evaluate its effectiveness.
3. Make recommendations for sustainability and scalability of the program.

Part 2

Methods

Overview

This quality improvement project provided telepsychiatry services to 40 patients in an American Indian community diagnosed with PTSD. The telepsychiatry program was offered to these patients' within their homes in hopes of increasing patient adherence to treatment and decreasing severity of PTSD symptoms. The patients received behavioral health services at a federally qualified primary care facility with a small behavioral health team located in northern rural Michigan. Outcomes included treatment adherence indices, PTSD symptom levels and program evaluations.

Goal and Aims of the Project

Goal Statement

This DNP quality improvement project modified a telepsychiatry program for American Indians patients diagnosed with PTSD.

Aims:

1. Develop and adapt a home based telepsychiatry program for PTSD patients in a small, rural federally qualified health center.
2. Implement the adapted homebased telepsychiatry program and evaluate its effectiveness
3. Make recommendations for sustainability and scalability of the program.

Aims and Associated Methods

Aim 1: Develop and adapt a home based telepsychiatry program for PTSD patients in a small, rural, federally qualified health center.

This homebased telepsychiatry program for American Indians diagnosed with PTSD in a rural area of a northern state was adapted from the six-stage model for rural telepsychiatry published by Shore et al (2005). The first aim of this project followed the structural framework of

the first four stages of the model: a needs identification, infrastructure survey, partnership organization and structure configuration.

Preparation

- **Needs identification:** Prior to implementation of this project an extensive needs assessment was conducted and broken down into two specific categories: the needs of the patient population and the needs of the health clinic. Specific to the patient population, patients can often be scheduled out 3 to 6 months for evaluations for psychiatric medication and subsequent follow up appointments. This is due to provider shortage. Allowing providers to work remotely and patients to receive care from providers located in other territories would help to increase access to care. Specific to the health clinic, attendance reports (appointments scheduled, appointments kept, rate of no shows and appointments cancelled) were run to assess patient compliance to treatment. All data pulled for these reports did not include specific patient identifiers and was kept confidential.
- **Formation of the stakeholders:** A small stakeholders group consisting of a physician, a therapist, and a registered nurse was created. In the initial meetings with these stakeholders, feedback was provided on the current available resources within the health center and the community at large as well as feedback on the viability of the proposed program modifications.
- **Fostering partnerships:** This step included building relationships with the local organizations including the primary care staff as well as the tribal community. Consistent communication between the project lead and these organizations aided in educating both organizations on the program's intent, benefits, as well as potential risks in hopes of that information being disseminated throughout the community increasing patient referrals and buy in.

- **Formation of the implementation team:** A team was formed to carry out the implementation of the homebased telepsychiatry program. This team included the project lead (a psychiatric nurse practitioner), a primary care physician, the behavioral health therapist, a psychiatric registered nurse, a pharmacist and a member of the IT team.

Development of the program

Program development entailed:

- Creation of the step-by-step instruction form utilized by the IT department and provided to the patients to educate them on how to utilize the videoconferencing software. At the start of program implementation, the IT staff utilized this guide to train patients as well as answer any questions they had on how to use the videoconferencing platform.
- Creation of the step-by-step instruction form utilized by the IT department and provided to the implementation team to educate them on how to utilize the videoconferencing software. At the start of program implementation, the IT staff utilized this guide to train staff as well as answer any questions they might have on how to use the videoconferencing platform.
- Modification of the current risk assessment procedure.
- Assignment of staff roles and responsibilities.
- Creation of the step-by-step telepsychiatry and in-person patient encounter procedure that were used by the implementation team to execute this program.

Choice of/preparation of instruments/surveys to assess outcomes

- Arrangements were made to assess patient adherence to treatment (including timely and consistent medication pick up from the pharmacy, the number of psychiatric appointments scheduled for the project on a week-to-week basis, the number of

appointments actually attended by participants, the number of appointments cancelled but rescheduled and the number of appointments neither cancelled nor attended) by the behavioral health director to be analyzed by the project lead.

- The PTSD checklist for DSM-5 (PCL-5) was used to assess changes in the participants' PTSD symptoms. The instrument was originally created in 1993 at the VA National Center for PTSD and is one of the most used self-reporting questionnaires. Although the Clinician Administered PTSD Scale (CAPS-5) is considered the gold standard for diagnosing PTSD, the PCL-5 can be used to provide a provisional diagnosis of PTSD, to assess the total symptom severity as well as to evaluate PTSD symptom changes throughout the course of treatment. For this 20-item instrument, participants were asked to rate their PTSD symptoms on a 5-point Likert scale and upon completion, the 20 items are combined to provide a total score. A score of 33 or higher can be used to provide a provisional diagnosis of PTSD. Total symptom scores can range from 0-80 (Bovin et al. 2015). This self-reporting questionnaire was provided to program participants by the behavioral health director at the start of the project implementation in the first visit and during the final phase of the project (last visit) to compare changes in symptom severity between the start and the end of the program.
- Program evaluation surveys were developed to assess both participants' and the implementation team's experience of the program including strengths and weaknesses. Participants as well as the implementation team were asked to complete an overall program evaluation at the completion of the program. These surveys each contained 10 Likert scale items, each with area for comments.

Aim 2: Implement the adapted homebased telepsychiatry program and evaluate its effectiveness.

Implementation

- Program implementation entailed training the staff, enrollment of the participants, training the participants and lastly executing the proposed program.
 - **Staff Training**
 - Members of the implementation team were trained by the IT department on how to use the video conferencing software as well as the modified risk assessment process and day-to-day procedures of both the telepsychiatry and in-person patient encounters by the nurse practitioner prior to the initiation of the program.
 - **Enrollment**
 - Patients were initially assessed by the behavioral health director through a structured clinical interview, identified as having PTSD, and reviewed for program eligibility. Inclusion criteria included patients residing in the catchment area, and who are serviced by the health center for both behavioral health and primary care services. Exclusion criteria for the initial implementation of this project included a diagnosis of severe mental illness (for example uncontrolled bipolar disorder, schizophrenia, substance abuse, or suicidal or homicidal ideations) and patients without access to Wi-Fi, smart phones, tablets or computers.
 - Prior to program initiation, patients were contacted by the psych RN or therapist to discuss the purpose of the program and to answer any questions they had.
 - Once eligible, participants who agreed to enroll were referred to the home based telepsychiatry program for psychiatric medication management services. For this project and it's time frame a maximum of 50 patients could have been accommodated. Later phases of the work will expand patient enrollment.

- **Patient Preparation**
 - Patients who were enrolled in the program received preparation at the start of the implementation process and prior to program commencement on how to use the video conferencing software by the IT department and were again provided time to discuss any unanswered questions or concerns. Patients were also informed to contact the provider's office with any difficulties regarding this.

- **Executing the program**
 - ***Telepsychiatry encounters***
 - Patients had a total of 4-6 telepsychiatry encounters for this project.
 - Similar to traditional face to face encounters, at each scheduled telepsychiatry visit patients were checked in for their appointment at the scheduled appointment time, roomed and initially assessed by the facilitating psych nurse virtually and then evaluated by the psychiatric nurse practitioner virtually. Medications were then prescribed and a follow up appointment was scheduled.

 - ***In-person encounters***
 - In between telepsychiatry visits, patients may have been required to present in person to the health clinic in order to obtain their medications as well as complete any necessary vital sign assessments. The frequency of in-person presentation varied patient to patient (ranging from no in person visits to every 30 days) depending on the medications prescribed, the need for medications adjustments, the need to obtain labs and any concern for side effects or abnormal vital signs.

- **Data collection:**
 - Weekly dashboard reports were run by the behavioral health director summarizing the number of psychiatric appointments scheduled for the project on a week to week basis, the number of appointments kept by participants each week, the number of appointments cancelled, and the number of appointments neither cancelled nor attended. This data was provided to the project lead each week.
 - ***Administration of assessments***
 - PCL-5:
 - The PCL-5 was administered at the first visit by the psych RN and again at the conclusion of the last visit with the psych NP by the psych RN. In both instances, the rating tool was administered to the participants electronically through Qualtrics, a HIPAA compliant experience management platform. The information from this assessment was accessible by the project lead and kept confidential using numeric identifiers labeled and kept by the project lead on a clinic encrypted, password protected laptop.
 - Program Evaluations:
 - Participants: Immediately following their last encounter, participants were asked to complete a program evaluation. This evaluation was created and accessible through Qualtrics and was accessible through a link given to the participants in the final visit prior to terminating the virtual

session. The results were provided directly to the project lead electronically and stored on the clinic provided encrypted, password protected laptop.

- Staff: The implementation team members also received a program evaluation at the end of the program to assess their experiences within the modified telepsychiatry program. This evaluation was also be created through Qualtrics and the link was provided to the team at the final team meeting in order for them to complete at the end of the program. Results were provided directly to the project lead electronically.

Evaluation

Descriptive statistics were used to evaluate the following outcomes: 1) patient adherence to treatment (attending schedule appointments and consistently taking prescribed medication); 2) participants' PCL-5 test scores pre and post program implementation, 3) patient and staff program evaluations to examine program strengths, weaknesses and both participant and implementation team satisfaction.

- Descriptive statistics were used to track and show trends in patient adherence data, patients' changes in PTSD symptoms as well as program evaluation data for patient and staff surveys

Aim 3: Make recommendations for sustainability and scalability of the program.

Sustainability

- Outcomes were reported to the behavioral health director and medical director at the health center

- Based on the results, recommendations were made to permanently implement the modified telepsychiatry program in the behavioral health department for both psychotherapy and pharmacology services and for all patients diagnosed with PTSD.

Scalability

- Based on the evidence, recommendations were made for staff training in order to utilize the modified program for other behavioral health treatment modalities and mental health disorders.
- The modified telepsychiatry program will also be shared with two other tribal health clinics in the state.

Dissemination Plan

Results of this DNP Project were disseminated via poster presentation at the Yale School of Nursing Scholars' Day in April 2023. The DNP Project lead also intends to share the project findings at the SAMHSA Annual Minority Fellowship Conference in June 2023 as well as submit an abstract for project presentation at the International Society for Traumatic Stress Studies 39th Annual Meeting in November 2023. The results of this project were also presented to the health center administration in April 2023 as well as to administration in other neighboring tribal communities. Lastly, publications of findings and recommendations in academic journals will ensue.

Statement Related to Human Subjects

This project was reviewed by the Yale University IRB and has been deemed exempt. Ethical considerations include upholding patient confidentiality, standards and respect for patient privacy and safety.

Part 3

Systems Considerations and Implications

Financial Considerations

For this project, a homebased telepsychiatry program was implemented to allow patients to receive psychiatric services from the comfort of their home. With the current procedure in place, the healthcare facility already provides the necessary financial support for the use of the EHR and videoconferencing system that will be utilized for this project. All implementation team meetings as well as participant and staff trainings were conducted during normal business hours and did not incur any additional costs to the health care facility beyond their current monthly expenses. Both the participant screening tools as well as the program evaluations were accessible through electronic means however hardcopies were available in the event the electronic delivery was inaccessible.

Potential Benefits to Patients

For this project, there were no explicit financial risks for the participants as all eligible participants for this project had to possess access to a smart phone, computer or tablet as well as cellular or Wi-Fi service in order to be eligible for this phase of the project. In later phases of implementation participants without access to mobile devices or internet may be considered at which time planning will be done to figure out the best means for providing them access to these tools. The benefits to participants participating in this project include: reduction in transportation costs (in not having to drive to and from the health clinic for their psychiatric appointments), improved adherence in attending appointments and subsequently medication compliance as well as the potential reduction in urgent and emergency medicine expenses (emergency psychiatric evaluations and inpatient psychiatric hospitalization) due to increased access to outpatient and preventative treatment through the use of the homebased telepsychiatry appointments. The ultimate goal of this project was to improve patient quality of life through increased access to treatment and a reduction in symptoms.

Potential Benefits to Staff

For this project, the benefits to the health clinic and staff included a potential increase in revenue with patients attending more appointments more consistently, and improved efficiency in resources with the current medical rooms no longer being needed for telepsychiatry appointments and now being available for other uses. Specific to the clinic staff the use of this homebase telepsychiatry program aided in a slight reduction in workflow in that administrative staff did not need to check in patients and the psych RN did not need to physically room patients.

Part 4

Results

Brief Summary of Program Implementation

The interventions outlined in Aim 2 were implemented over a 12-week timeframe from October 11, 2022 and ending January 6, 2022. A total of 66 patients were screened for program eligibility and of that group, 52 individuals were referred to the home-based telepsychiatry program. These 52 individuals were then contacted by the psych RN, a member of the implementation team who performed a brief introductory call to explain the program, answer initial questions, and assess each potential participant's desire to engage in the program. Of the 52 individuals contacted, a total of 40 were willing to participate in the program and began homebased telepsychiatry visits. During the course of the program 3 individuals discontinued services with the behavioral health clinic (2 requested to discontinue medications and therapy services, stating that they felt service was no longer necessary and 1 relocated out of the state). This resulted in a final total of 37 participants at the conclusion of the program.

Patient Adherence Based on Appointments

To assess treatment adherence, patient appointment data was collected from the EHR pre and post program implementation. This data included the following designations: patient appointments attended, appointments canceled and rescheduled, and appointments that were not attended or rescheduled (no-shows); and the timeframe of this collection included 12 weeks prior to program implementation and the 12 weeks of program implementation. Specific to the homebased telepsychiatry program, there was a 4% decrease in no-shows during program implementation versus the 12 weeks prior and a 23% increase in cancelled and rescheduled appointments. For the behavioral health department as a whole there was a 4% decrease in no shows during the program implementation and a 4% decrease in cancelled and rescheduled appointments. A visual representation of this data can be found in Appendix C.

PCL-5 Pre and Post Test

The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) was administered to a total of 40 individuals at the start of the program and a total of 37 at the conclusion of the homebased telepsychiatry program. Of the 37 individuals with pre and post PCL-5 scores, 16 (43%) expressed a substantial reduction in their mean PCL-5 scores, 18 (49%) expressed no substantial change in the PCL-5 scores and 3 (8%) expressed a substantial worsening in symptomology and subsequently higher PCL-5 scores post program completion in comparison to beginning the program. Substantial differences in score were noted by a 9-point or greater change in either direction. A visual representation of this data can be found in Appendix D.

Patient Evaluations Post Program Implementation

The post implementation patient evaluation, was provided to patients at the conclusion of their final medication management appointment and although completion of the program evaluation was greatly appreciated, it was not a requirement of program acceptance or successful completion. Of the 37 patients that completed the program through its 12-week duration, each were provided with the electronic link to complete the program evaluation via the videoconferencing chat feature at the close of their last appointment and were encouraged to complete it to assess the program's effectiveness. Of the total participants, only 13 (35%) of the individuals completed and returned the evaluation. Of the evaluations returned, the data trended towards support of the homebased telepsychiatry program as well as increased access to treatment through telepsychiatry. Of the additional information described, one individual reported that the initiation of this program allowed them to access consistent care, which they were previously unable to do due to living several hours away from the health clinic and traveling to regularly scheduled appointments was too much of a financial burden. Another individual reported that these homebased visits allowed them to continue to maintain their own healthcare while also maintaining specialty appointments for their chronically ill child due to not having to drive to the health clinic on a biweekly or monthly basis. These individuals expressed impartiality to preferring the telepsychiatry technology over face- to-face visits mostly due to the

concept and technology being new. Overall, they felt comfortable communicating with their provider through this delivery modality. Three individuals expressed concern for privacy in their own homes during their appointments and at least one recommended requiring headphones for both the provider and individuals for the sessions. A visual representation of the evaluation data can be found in Appendix E.

Implementation Team Evaluations Post Program Implementation

The Staff Program Evaluation was completed by 5 of the 6 implementation team members. Overall, the data trended towards support of program implementation, ease of flow, and favorable support for continued use of the homebased telepsychiatry program. Of the additional comments listed, team members did express some hesitation around recommending the potential use of a homebased telehealth program in other specialties such as primary care or pediatrics as well as concerns for the program to potentially increase the need for additional clinical staff if scaled to accommodate more providers or a larger number of patients. This was related to the workload overwhelming current nursing and medical assistant staff, who would be required to manage both in person and virtual visits at the same time. A visual representation of the evaluation data can be found in Appendix F.

Part 5

Discussion and Conclusion

Discussion of Results

Practical Implications

As found in many of the studies discussed in the review of literature, the data compiled from this project reports highly positive attitudes toward the use of homebased telepsychiatry by both staff and patients as well as comparable, if not improved adherence to appointment attendance. With an initial number of 52 individuals contacted and an actual number of 40 individuals treated through the homebased telepsychiatry program, this more the exceeded the hypothesized number of prospective patients by almost double. The successful diffusion of this innovative program not only displayed the feasibility of implementing a new mode of treatment in a traditionally rural area but also the willingness of a particular population that has previously been perceived to be resistant to change (Kruse et al., 2016).

Appointment data retrieved during the 12 weeks of program implementation supported findings similar to previously discussed literature of homebased telepsychiatry appointments being more consistently attended than face to face appointments for individuals in rural communities and in this case comparable to the previously offered partially remote appointments offered by the health center. Although appointment adherence did not see a drastic improvement as hypothesized, the comparable rates in attended appointments and no shows provide support for the homebased program being a suitable treatment delivery method to face to face and hybrid remote options. Although there was an increase in canceled and rescheduled appointments during the 12 weeks of the program implementation in comparison to the 12 weeks prior, this might infer individuals being more actively engaged in their care and taking the initiative to cancel and reschedule their appointments rather than simply not attending. One notable finding in regard to appointment adherence and access to treatment

was the program's ability to increase access for American Indian women who may have previously forgone treatment due to issues with childcare (Kruse et al., 2016). One individual expressed in the program evaluation her gratitude of the program implementation as it helped her to balance her responsibilities as a mother along with her own selfcare.

Clinical Implications

There was no significant difference in PCL-5 scores pre and post program implementation however several factors could have contributed to this. Being that the program took place over such a short period of time most patients only received 4 to 6 psychiatric appointments over the course of the implementation period which may not have been enough time to assess the efficacy of certain medications as well as the program's efficacy itself on PTSD symptom improvement. Another possible contributing factor is the program only observed patient adherence to treatment specific to their medication management appointments and did not take into account their consistent engagement, or lack thereof, in psychotherapy which is also a vital part of treatment of PTSD and its symptoms. Lastly, consideration must be given for the unique context of each individual diagnosed with PTSD and the psychosocial circumstances that play a role in exacerbating their symptoms at any given time. A common example of this is an exacerbation of PTSD symptoms around the anniversary of a traumatic event or continuing to remain in a traumatic environment. In the future, further analysis would need to be performed to better understand the changes or lack thereof in symptom severity scales such as the PCL-5.

Limitations

There are a few limitations to this project, the first being the length of the project in relationship to the outcomes that were observed. The lack of statistical significance in the post-intervention PCL-5 scores might be attributed to the short span of the project and patients simply not having enough time within the program to truly assess its impacts on their PTSD symptoms. Another limitation concerning observable impact on symptom severity is the

program was narrowed to psychiatry medication services and did not include psychotherapy services which plausibly would aid in improving patients' symptoms.

Another limitation of this project is the lack of assessment of its cost efficiency or inefficiency. Although appointment attendance was increased which would inherently generate increased revenue, it is not understood how certain clinic expenses such as cost for training, cost of videoconferencing platform and staff hours dedicated to new responsibilities in addition to their traditional roles might have increased. In the staff program evaluations at least 2 staff members expressed concern for the potential need to increase staffing if the program were to expand which would also create a loss in revenue.

Sustainability

With the core structure established through this initial implementation of this project and with favorable findings of the project results, approval was given to permanently adopt the homebased telepsychiatry program for treatment of PTSD at the health center. Individuals currently enrolled in the program will receive the option to continue to receive treatment as outlined within the program guidelines and prospective individuals diagnosed with PTSD, who meet the current inclusion criteria, will be given the option to meet with the psychiatric nurse practitioner from home. The next steps towards sustainability will include implementing the project over a six to twelve month period in order to obtain a larger sample size over a longer period of time in hopes of re-examining appointment adherence and changes in symptom severity. Consideration will also be given to address ways to increase access for patients currently excluded from the program due to lack of access to mobile technology and Wi-Fi service such as patients located in isolated remote areas. Using mobile hotspot devices and clinic owned tablets and laptops, patients struggling with the means to acquire such devices may eventually qualify for inclusion for these remote video visits.

Scalability

Recommendations for scalability of the homebased telepsychiatry program will include treatment of other psychiatric disorders, including but not limited to generalized anxiety disorder, major depressive disorder, panic disorder and attention deficit hyperactivity disorder.

Recommendations for the expansion of the program will also include other treatment services within the behavioral health department such as individual therapy, family therapy and case management services. The use of a homebased telepsychiatry program such as the one conducted in this project may also aid in the improvement of screening, early diagnosis and urgent psychiatric concerns needing further assessment such as mobile crisis.

Recommendations for program expansion to other tribal health clinics within the area will also be made in hopes of increasing access to care for other tribal communities.

Implications for Clinical Policy

In reviewing the findings of this project there are several implications for clinical policy that can be inferred; the most prominent being increased access to quality care. Telehealth can improve access to quality healthcare services by allowing healthcare providers to monitor patients remotely in a timely manner as well as the opportunity to provide potentially critical interventions in a suitable timeframe. Given the positive trend in patient appointment compliance, telepsychiatry programs such as this could aid in ensuring that healthcare services are accessible to all patients regardless of their location or socioeconomic status. Also, considering the very specific patient population identified for this project, American Indians diagnosed with PTSD, the completed patient satisfaction evaluations showed that in spite of the concern for potential hesitation in program adoption by the patients due to unique considerations such as culture and digital literacy, the program was very well received and considerably beneficial. For large patient populations diagnosed with PTSD, such as American Indians, with considerably poor access to care, appraisal of current clinical policies in the various health systems that service these populations is warranted as this method of treatment delivery may aid in improving health equity.

Conclusion

Treating posttraumatic stress disorder (PTSD) is often complex, requiring consistent utilization of psychotherapy and medication management. For patients diagnosed with PTSD this requires access to quality treatment, adhering to attending regularly scheduled appointments as well as complying with medication recommendations. For patients living in rural areas, and specific to this project American Indian individuals living in a rural area of a northern state, it is often difficult to accomplish these objectives due to financial constraints, transportation issues and childcare issues among other things. The adapted home based telepsychiatry program for this DNP project offers healthcare facilities and patients a means to provide quality psychiatric treatment while decreasing some of the psychosocial barriers to treatment by allowing patients to attend their appointments from their homes. This DNP Project found that overall telepsychiatry for the treatment of PTSD may be just as viable a delivery method as traditional in-person treatment; and at the very least clinical policies need to address how telepsychiatry can be integrated with in-person care to ensure patients are afforded various options in order to ensure quality, continuous care. Although there was no observable difference in PTSD symptom severity based on the PCL-5 scores during this 12-week medication management program implementation, increasing its availability across a wider array of evidenced-based approaches (CBT, EMDR, Exposure therapy) may aid in reducing symptom severity. Implementation over an extended period may also be helpful to gain a more accurate picture of the home-based telepsychiatry program's effects on patient access and adherence to treatment. Future accommodations may also be necessary to address the unique needs of facilities as well as to expand access to care for individuals in rural areas while continuing to strive for culturally competent care for this particularly underserved population.

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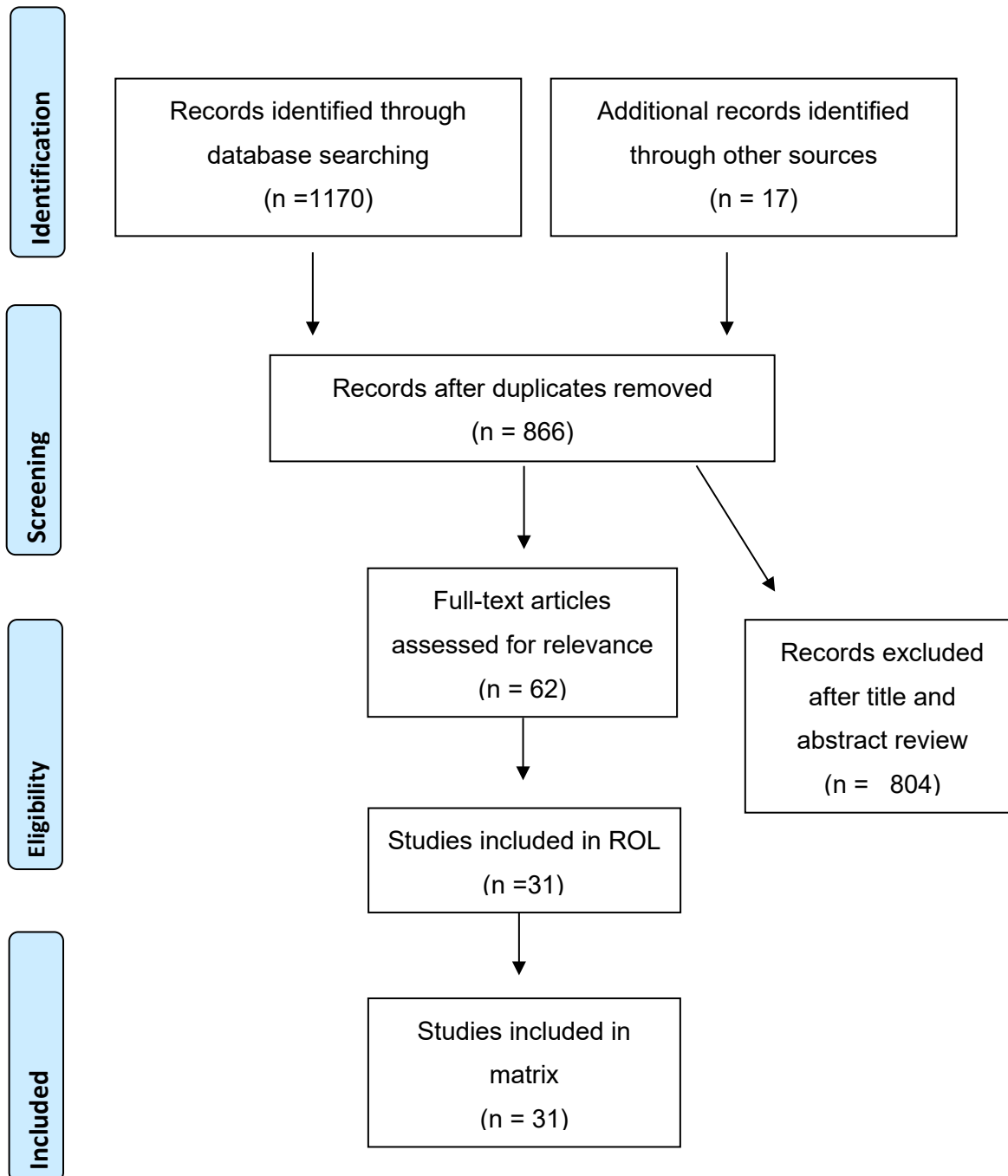
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Appendix A

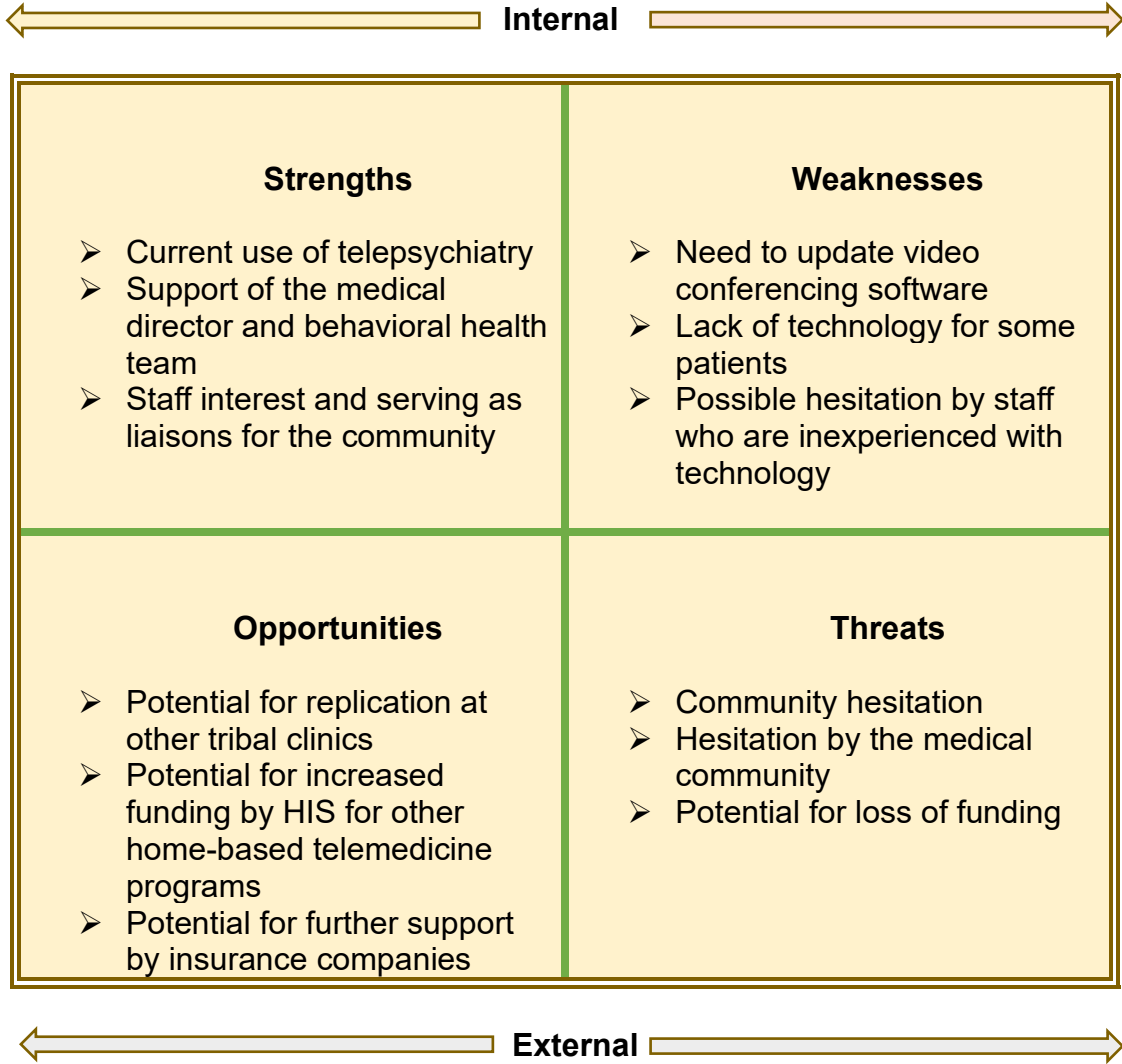
Prisma Diagram



Source: Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & the PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097. <https://www.doi.org/10.1371/journal.pmed.1000097>

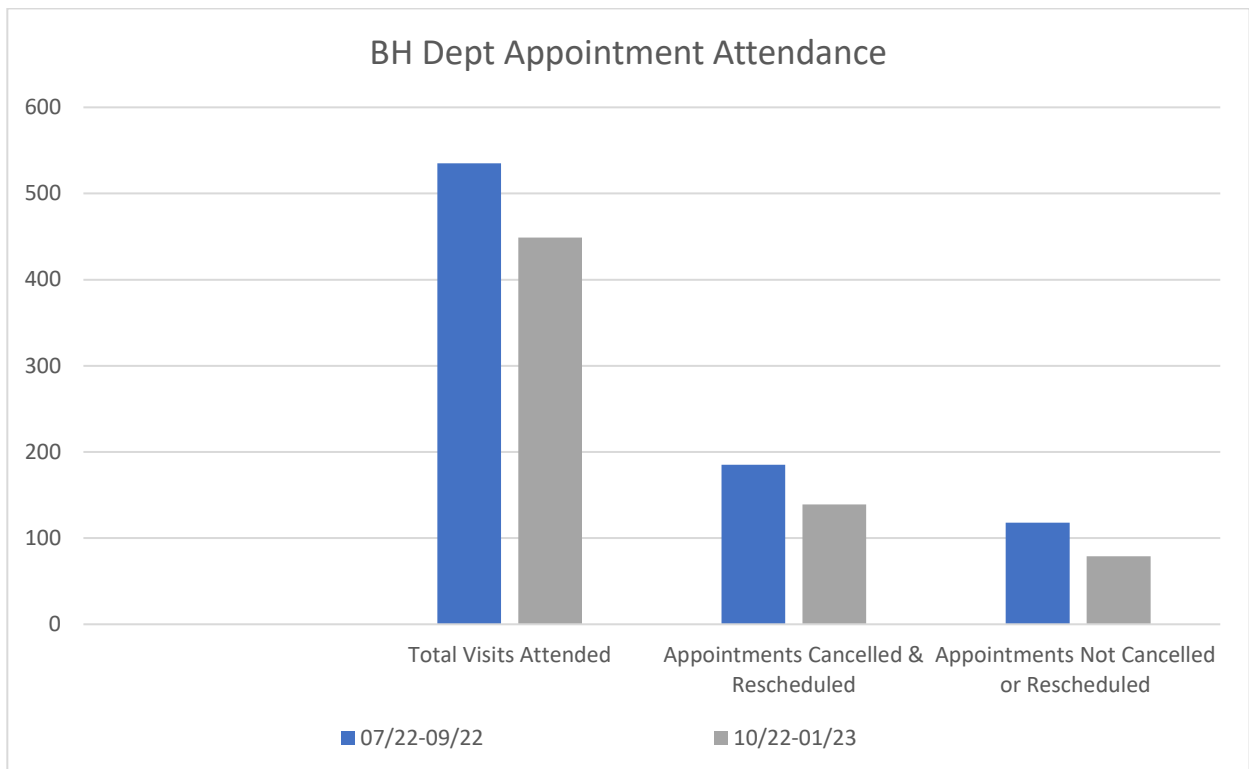
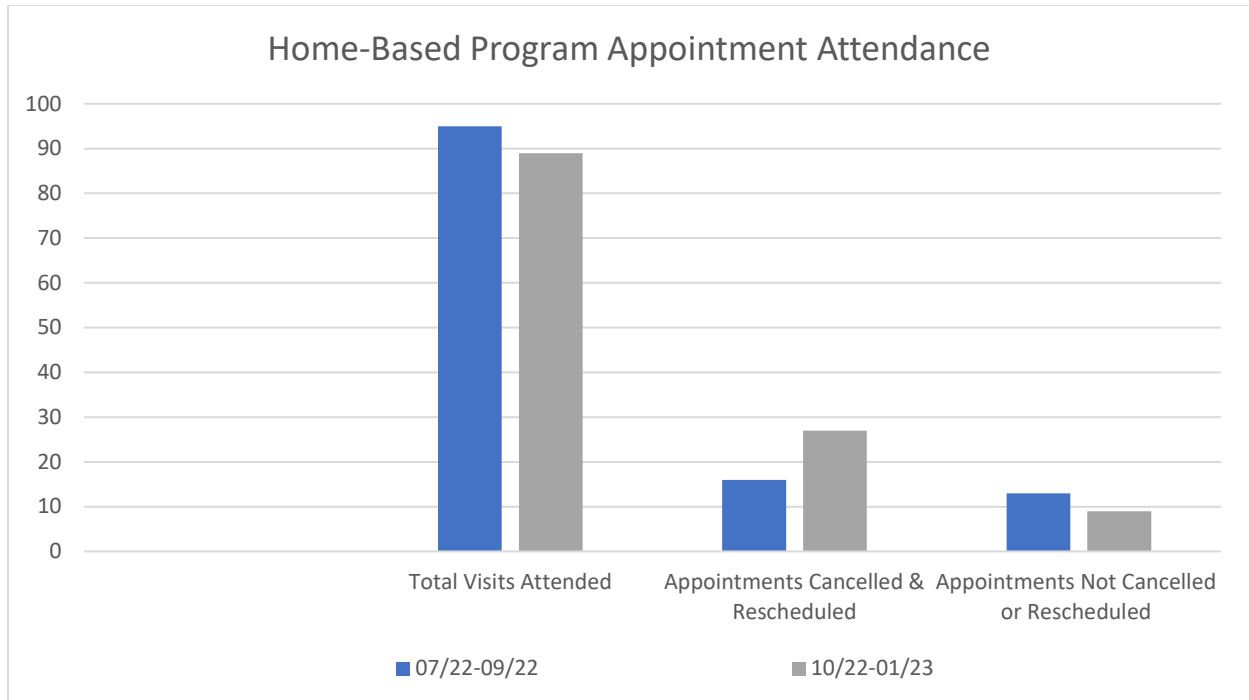
Appendix B

SWOT Diagram



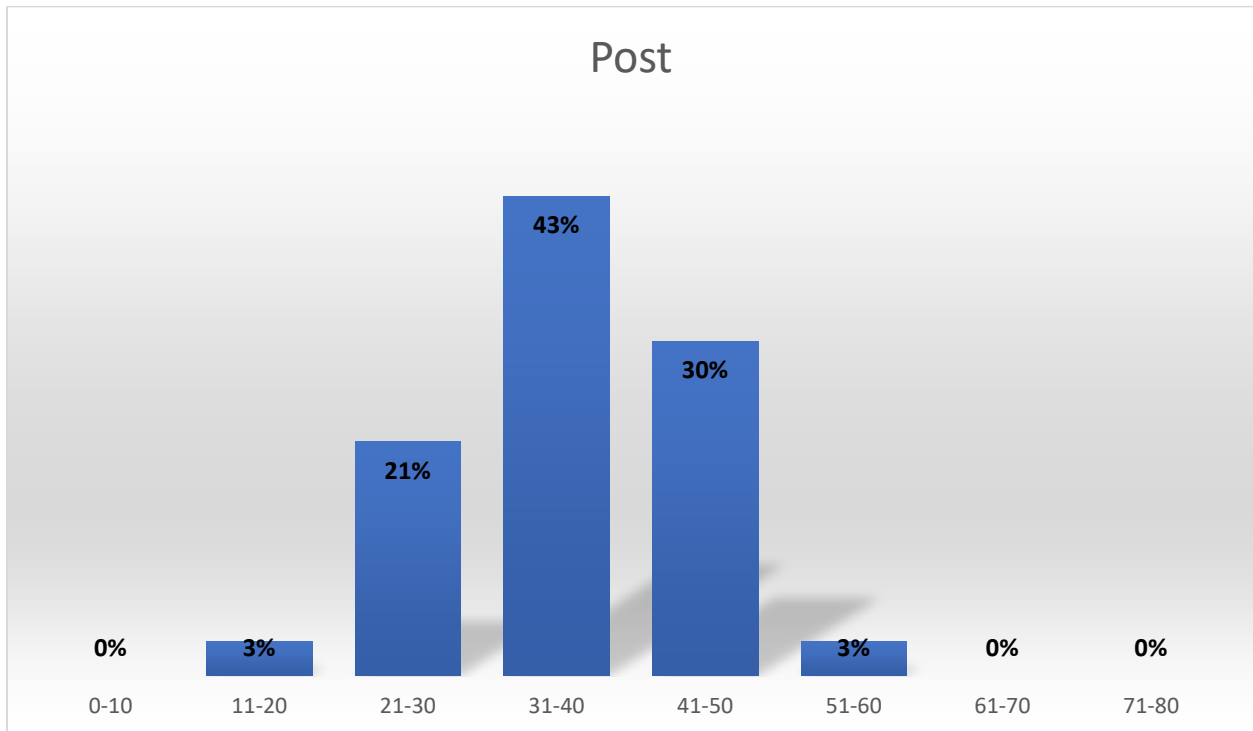
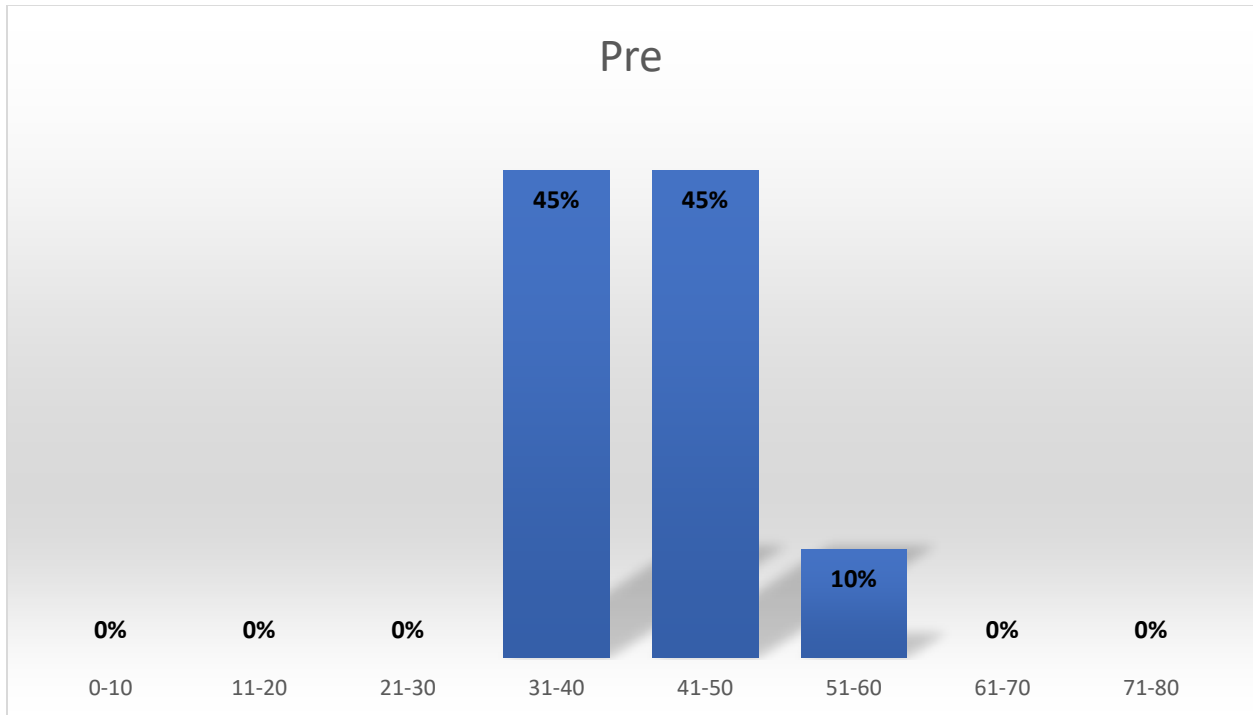
Appendix C

Patient Appointment Attendance Data



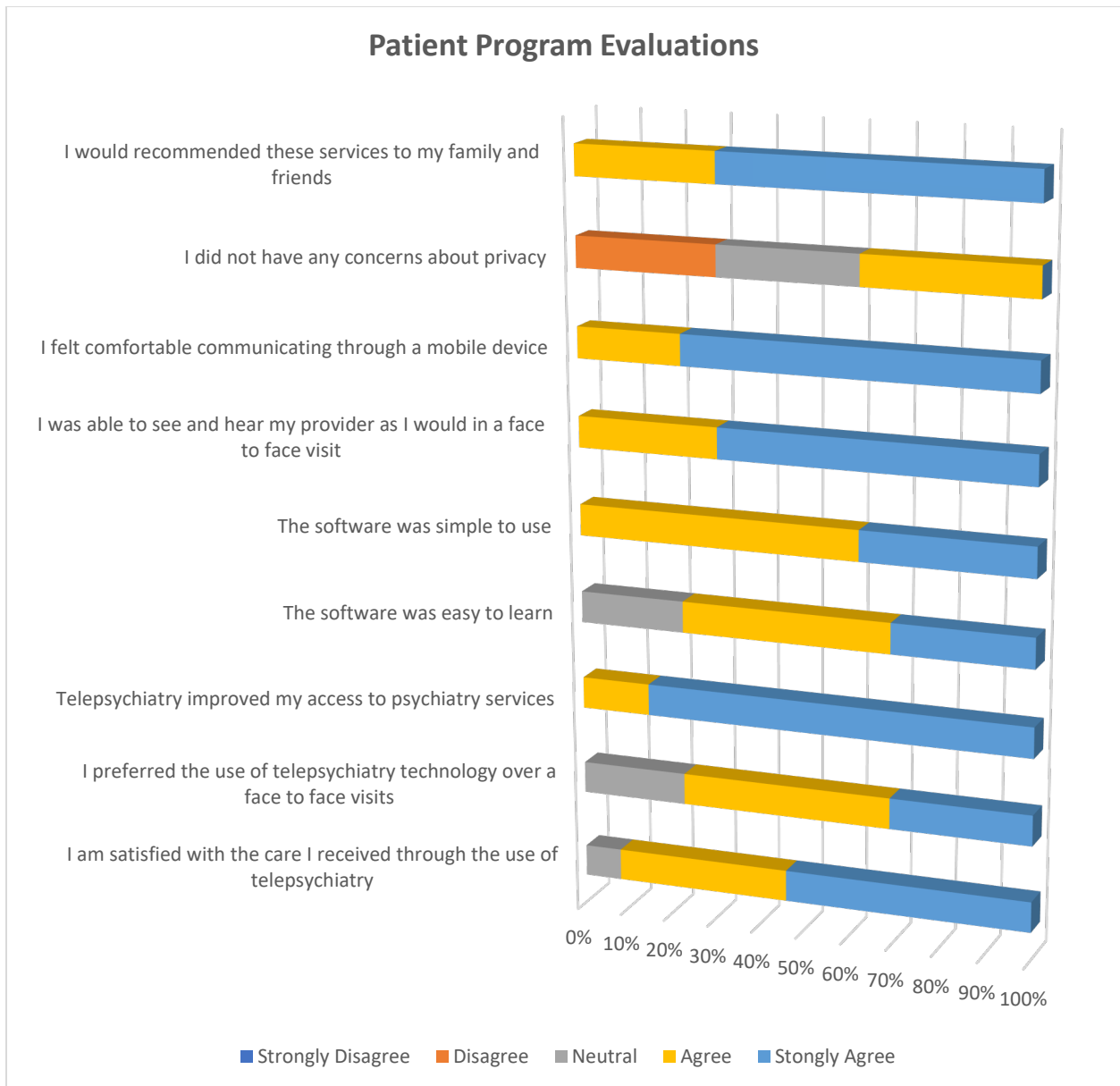
Appendix D

PCL-5 Scores Pre and Post



Appendix E

Patient Program Evaluation Data



Appendix F

Implementation Team Program Evaluation Data

