Implementing a Primary Care Behavioral Health Integration Model into Telehealth Visits in Rural Minnesota

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Abstract

Nature and Scope of Project: There is a severe shortage of resources for mental health care in the United States, especially in rural areas. Primary care providers are often the first to encounter patients with mental health concerns. Research shows that primary care may not be equipped to manage all mental health issues. The purpose of this project was to obtain feedback from individuals through a survey in rural Northeast Minnesota regarding mental health telehealth and also analyze multiple primary care mental health models to determine how to best incorporate this type of model into telehealth visits in rural Minnesota. The information collected from the survey and the research was presented to stakeholders.

Synthesis and Analysis of Supporting Literature: Several evidence-based primary care behavioral health models were analyzed in the literature review. Each of these models included evidence as to why this model was effective and how it could best be used in other health organizations. The goal of our research and project was to determine in what ways these models could be used in the rural northern Minnesota region and adjust them for potential telehealth use.

Project Implementation: A survey was distributed to community members who will be impacted by these potential care models. The goal of the survey was to get a better understanding of what the patients in this community are looking for in their telehealth care and how we, as healthcare professionals, can best serve them. Survey results and research recommendations were presented to stakeholders.

Evaluation Criteria: This project was evaluated based on the potential for future change of primary care in northeastern Minnesota. Although these care models will not be implemented by the current researchers, the information gathered and analyzed will allow for future researchers

to implement the findings into practice. The findings were presented to stakeholders at Wilderness Health.

Outcomes: 18 stakeholders provided feedback for implementation of care models into telehealth practice. The results of the survey revealed that 50% of respondents believed that a behavioral health care model could be implemented in a telehealth setting within 1-3 years. All of the respondents believed a behavioral health care model would have a positive impact on the mental health of the individuals in rural Minnesota.

Recommendations: Based on the survey results from community members and feedback from stakeholders, there is increased interest in establishing a primary care behavioral health model for telehealth use in rural Minnesota. A behavioral health primary care model for telehealth has the potential for increased access to care, decrease in cost, and increased patient satisfaction.

Implementing the Primary Care Behavioral Health Integration Model into Telehealth Visits in Rural Minnesota

In the United States, approximately 60 million people live within a rural community (Council on Graduate Medical Education, 2020). Regardless of an individual's living situation, however, behavioral health services are challenging to access throughout the country. Nearly half of the United States population who have a mental health concern do not get the treatment they need (National Alliance on Mental Illness, 2017). Moreover, research shows that individuals that have chronic illnesses may be at a higher risk for developing mental health issues, and vice versa (National Institute of Mental Health, 2021). There are several chronic physical health conditions that can cause changes in the brain, which may result in the development of certain mental health conditions. Implementing behavioral health care into primary care has the potential to significantly improve health outcomes by providing better access to mental health services in rural areas.

Nearly 1 in 5 adults suffer from a mental illness in the United States (RHIhub, 2021). Despite this, there are several barriers to adequate access to care in rural regions. First, stigma is a major barrier for individuals seeking proper behavioral and mental health care (RHIH, 2019). Common misconceptions and myths surrounding mental illness, as well as cultural stigma, lead to significant barriers that keep individuals from seeking care for mental illness. According to RHIhub (2021), additional factors surrounding stigma that may hinder individuals from seeking mental health care include: lack of understanding and knowledge about mental health, prejudice towards people suffering from mental illness, secrecy about mental illness within a community, and perception of lack of confidentiality and privacy in small towns. These factors associated

with stigma surrounding behavioral health results in hesitation of patients to seek help or treatment for behavioral health concerns.

A second issue in many rural communities is lack of confidentiality. Individuals may be concerned that peers, neighbors, friends, and other community members would know that they are receiving behavioral health treatment and would subsequently judge them for it (RHIH, 2019). This often leads to individuals not being willing or motivated to seek care, especially in smaller communities.

The mental health provider shortage is another problem that causes delay in care for behavioral health disorders. The Health Resources and Services Administration (HRSA) predicts that by 2030 there will be a shortage of 12,530 psychiatrists to meet the needs of individuals with behavioral health disorders (Kieu, 2021). Approximately 72% of all psychologists working in Minnesota are practicing in the Twin Cities metro region (Minnesota Department of Health, 2016). Research also shows that 28% of rural providers plan on leaving the workforce in five years or less which will further complicate the provider shortage issue (Minnesota Department of Health, 2021). Unfortunately, the provider shortage is not projected to improve anytime soon. This shortage of mental health providers will ultimately lead to increased difficulty receiving behavioral and mental health care in the rural areas of Minnesota.

Cost of care is another factor that can cause rural residents to decline or delay care. Some insurance companies do not cover certain behavioral health treatments and services. This lack of coverage and funding will deter individuals from receiving the care that they may need when it comes to behavioral health. Specifically in Lake County, Minnesota many residents are uninsured. There was an increase in uninsured residents between 2018 and 2019 from 3.14% to

4.19% (Data USA, n.d.). The most recent data reveals that 5.3% of Lake County residents under the age of 65 do not have insurance (The United States Census Bureau, n.d.). Furthermore, even when residents of rural areas do have insurance, they are not able to get an appointment with certain providers because it is not within their network. In recent years, approximately 9% of patients in rural regions of Minnesota had difficulties finding a provider because they did not accept their health care coverage (Minnesota Department of Health, 2021).

Lastly, finding adequate transportation to and from appointments and taking the time to travel for an appointment is a significant barrier in the lack of proper mental health care (RHIH, 2019). Especially when it comes to rural areas, individuals often do not have the time to travel to the nearest mental health practitioner. Specifically, rural Minnesota residents have to travel significantly longer to get care than urban residents. The average travel time for mental health services is 79 minutes for those living in a rural zip code, compared to 25 minutes for those in urban zip codes within Minnesota (Minnesota Department of Health, 2021).

Consequences of Improper Mental and Behavioral Health Care

Mental health is a major area of concern in the overall wellness of a community and of the healthcare realm as a whole. This issue does not discriminate as it impacts individuals of all ages, communities, and social statuses. In fact, the percentage of adolescents that had feelings of depression was much higher in Northeastern Minnesota when compared to the Minnesota average (Community Health Assessment, 2017). Similarly, 12% of adults in this rural region reported they rarely or never get the support they need in regard to their emotional health (Community Health Assessment, 2017). In 2015, 10.2% of Lake County residents wanted help, but delayed or did not talk to someone about it (Community Health Assessment, 2017). This

high percentage of adults not seeking help could be due in part to the lack of accessibility to care in this region.

The need for proper access to medical care and services will continue to increase throughout this region of rural Minnesota. This is evidenced by the following: more individuals who are 65 years old and older than the state and national averages, more reported poor/fair health days than the state average, and Lake County being ranked in the bottom 20% for Health Ranking (Wilderness Health, n.d.). Further development of services, such as telehealth and telemedicine utilized in the primary care setting, has the potential to lessen these health disparities through increased access to primary healthcare, as well as specialty and focused care.

Available Knowledge

PICO Question

The PICO question guiding this project is: For clinics affiliated with Wilderness Health in rural northeastern Minnesota (P) is it feasible to implement a primary care mental health integration model via telehealth (I) as opposed to continuing with the current care model (C) to improve patient care and outcomes (O).

Search Process

A comprehensive literature review was completed using the following databases: PubMed, CINAHL, Business Source Ultimate, and Consumer Health Complete. Search terms included *primary care behavioral health model, rural health, mental health, behavioral health, telemedicine, primary care, telehealth, integrated primary care, and telehealth behavioral health.* Journal articles were selected based on the following criteria: published within the past 10 years, articles from the United States, and in the English language.

Literature Review

A previous DNP student has laid the foundation for this project and has determined that it is feasible to implement telehealth in rural Northeast Minnesota. Her literature review focused on finding the benchmarks of similar telehealth programs to Wilderness Health's initiative and how those telehealth programs were initiated. There is still a gap in knowledge surrounding best practices for integrating behavioral health into primary care, specifically with telehealth use. For this project we looked specifically at programs that currently use primary care behavioral health models in their practice to guide our research.

The literature review began with analyzing current care models that do not involve telehealth to obtain baseline strategies for implementing a primary care behavioral health model. The substance abuse and mental health service administration (SAMHSA) and the Health resources and services administration (HRSA) developed a framework for the different levels of integrated healthcare (Rural Health Information Hub, n.d.). The three levels include coordinated, co-located, and integrated. There is a substantial amount of research around the collaborative care model for primary care behavioral health. The collaborative care model focuses on primary care providers routinely conducting behavioral health screening for patients before exchanging this information with a case manager (Rajesh et al., 2019). The case manager then provides counseling services and manages the care across all providers for the patient. Psychiatric consultants are also available to assist in special mental health cases (Rajesh et al., 2019).

There is significantly less research around co-located and fully integrated models. Co-located care includes the behavioral health care provider and primary care provider in the same facility and participating in regular communication with each other. Integrated

collaboration consists of both primary care and psychiatric providers communicating frequently about mental and physical needs and all patient needs are addressed in one location (Rural Health Information Hub, n.d.).

The Agency for Healthcare Research and Quality (n.d.) provided several examples of current models that are implemented across the United States that have been successful. We analyzed each of these care models in our research to determine which models produced the best patient outcomes. This table can be reviewed in Appendix B.

Although there are several models that have been established for primary care behavioral health, we focused our recommendations around the comprehensive healthcare integration framework presented by the National Council for Mental Wellbeing (The National Council for Mental Wellbeing, 2022). This framework builds off of previously used frameworks and incorporates several pieces of other models/frameworks to strengthen the integration of primary care and behavioral health. The eight domains of this framework include screening, prevention and treatment, continuing care management, self management support, multidisciplinary teamwork, systematic measurement and improvement, linkage with community resources, and financial sustainability.

Literature Matrix Table

The literature review was completed and focused on articles substantially related to the topic of primary care behavioral health integration in both a telehealth and non-telehealth setting. The literature matrix table can be viewed in Appendix C. This table includes each citation, the purpose of the article, research design, methodology, findings, and conclusions.

Organizational Project Information

There are several key contributors to the DNP project. The agency of focus for the project is Wilderness Health, who primarily serves rural Northeastern Minnesota residents. With the help of the staff at Wilderness Health, healthcare providers across Northeastern Minnesota will be encouraged to utilize telehealth and incorporate behavioral health treatment into their primary care practices. Dr. Sherry Johnson served as the advisor of the DNP project, and provided essential guidance throughout the research and implementation process. Dr. Johnson provided guidance on the direction of this project and coordination of meetings with organizations.

The focus of this project was to analyze the research to determine which primary care behavioral health model would be best utilized for telehealth visits in order to provide more comprehensive care to residents in Northeast rural Minnesota.

Gap Analysis

A gap analysis was completed for this DNP project to examine the current state, the desired state, and interventions needed (see Appendix D). The current state has limited access to behavioral health services in rural Northeast, Minnesota. Primary care providers do not have the necessary resources and knowledge to manage the multitude of behavioral health concerns in this area. This results in many rural patients being referred out to specialists many miles away from their home and long wait times to see specialist providers. The desired state was to develop a Primary care Behavioral Health Model for telehealth. With implementation of a model, providers have resources available to them to provide optimal behavioral health treatment for patients living in rural Northeast, Minnesota. The action plan was to research potential solutions to improve behavioral health treatment by primary care providers using telehealth technology.

Needs Assessment

Current studies show that the percentage of individuals who utilize telehealth across Minnesota for behavioral health increased from 19% to 30% since the beginning of the COVID-19 pandemic (Minnesota Department of Human Services, 2020). However, a more widespread utilization of telehealth across Minnesota, particularly in the rural areas of Northeast Minnesota, has the potential to greatly increase the availability of mental health care and resources to an underserved rural population.

In order to get a better understanding of what rural Northeast Minnesota residents expect from telehealth services, we distributed a survey via social media to different rural Northeast Minnesota community groups. The survey questions can be reviewed in Appendix A. Approximately 44% of respondents had no reservations when it came to telehealth implementation. Among the individuals who did have reservations the most common concern was that telehealth would be too impersonal for mental health care. Many individuals also have concerns about insurance related to telemental health visits and health care costs even with insurance. A concerning finding showed that only 63% of respondents said that their primary care provider regularly screened them for depression and anxiety. When discussing telehealth with residents in Northeastern Minnesota, one of the biggest drivers for telehealth was to avoid long travel time and dangerous road conditions.

Currently, rural Minnesota healthcare providers state that one of the greatest barriers to them providing care via telemedicine is the availability and reliability of internet services, cellular coverage, and access to affordable technology (Minnesota Department of Human Services, 2020). Providing necessary technology directly to clients and/or utilizing social service agencies that provide resources to increase the use of telehealth in rural communities increases

reliable utilization of telehealth services. With this in mind, partnering with an agency whose mission is to provide quality mental and behavioral health care to rural areas of Minnesota will assist in meeting the needs of this community.

The organization, Wilderness Health obtained a $771,767 grant from HRSA in June of 2020 (Wilderness Health, 2020). This grant has already helped to lay the foundation for developing telehealth services for the Wilderness Health Network. The most crucial need at this time is an increase in mental health services. There is a severe lack of critical mental health services and patients often have to wait several months to see a provider (Wilderness Health, 2020).

Kerry Reuter, the DNP student who previously researched this subject, obtained data from Wilderness Health on what they perceived is essential for implementation of telehealth services. Kerry collected the data by using the Mentimeter presentation tool. In response to which aspect of rural mental health via telehealth is most important, most participants responded that reducing rural and mental health disparities was most important. Wilderness also determined that the most important theme for successful telehealth implementation is patient and clinician engagement.

Strengths, Weaknesses, Opportunities, and Threats (SWOT Analysis)

A strengths, weaknesses, opportunities, and threats analysis was conducted for this DNP project.

Strengths

There are several strengths related to the DNP project. Integration of behavioral health resources into primary care will help more patients get access to more comprehensive care.

Using telehealth modalities further increases access to treatment. This intervention saves patients travel time and potentially eliminates the need to see a specialist. Patients in rural regions often do not seek behavioral health care for fear of stigma, which could be eliminated using telehealth instead of in-person visits.

Weaknesses

Weaknesses also needed to be addressed for this project. Weaknesses include: provider shortages, patient technology knowledge deficits, and connectivity issues. In order to implement the intervention, we needed providers interested in incorporating behavioral health interventions into their primary care practice. Another concern was patients not having the knowledge base to access the technology required for telehealth visits. Lastly, residents in rural areas may not have access to the internet, which is required for telehealth visits.

Opportunities

Many healthcare systems are providing the option of telehealth for their patients. The COVID-19 pandemic has increased the utilization of telehealth services. Patient diagnoses and treatment plans will be improved through teleconsultation with larger hubs. The grant money provided to Wilderness is also an opportunity to expand telehealth services.

Threats

Telehealth is still a relatively new concept. We do not know how regulations will change and evolve over time. A concern with telehealth implementation is inconsistent access. Provider shortages will likely result in lack of continuity amongst providers resulting in inconsistent recommendations for patients. Patients may also not want to participate in telehealth services.

Patients may believe they are not getting adequate care through telehealth and would prefer in-person visits.

Theoretical Framework

Middle Range Theory

Technology Competency and Caring in Nursing: A Model for Practice is the middle range theory that guided this project (Locsin, 2005). This theory discusses the coexistence of caring in nursing and technology. Technology can bring the nurse and the patient closer together. Technology allows patients to become participants in their care rather than just objects (Locsin, 2005). Our project focused on the use of telehealth services, which relies on the coexistence of technology and caring for patients. It was essential to use technology in our project to improve the quality of care for patients. This theory also focuses on treating the patient as a whole rather than focusing only on the medical condition of the patient (Locsin, 2005). Holistic care is extremely important when working with patients with behavioral health concerns.

Conceptual Framework

The conceptual framework that guided this project is the Iowa Model (Iowa Model Collaborative, 2017). The Iowa Model is widely used in the implementation of Evidence Based Practice (EBP) (Buckwalter et al., 2017). This model provides clear guidelines and decision points that were essential during project planning and researching. Each decision point in the model helps team members make appropriate decisions on how the project could be improved.

The Iowa Model is a multi-step implementation tool. The first step is identifying a situation in which EBP change is warranted. The second step is to determine if the problem is a priority for the organization, practice, department, or unit. Next, a team is formed to develop,

evaluate, and implement the EBP change. The fourth step is to gather and analyze research related to the desired change in practice (including developing a PICO(T) question and literature review). The fifth step is to critique and synthesize the research. The sixth step is to decide if there is enough research to implement a practice change. During this step, it is determined if more research is needed and available, or if other types of evidence are needed. Step seven is to implement the change. The final step is to evaluate the results and determine further steps for development or further implementation (Cabarrus College of Health Sciences, 2022). The Iowa Model was continuously reviewed and utilized throughout each step of this project to ensure proper implementation of EBP in the case of telehealth in rural Minnesota.

Aims/Goals/Objectives Clarified

The overarching goal of this project is to improve access to telehealth services in Lake County, Minnesota for residents who are in need of mental health or behavioral health services. The following section will clarify the objectives that will be focused on to complete this goal.

SMART Objectives

In order to work towards attaining this goal, an objective of the project is to develop a primary care behavioral health model that focuses on telehealth use. This objective is achievable through directly working with the community of Northeast Minnesota and the agency responsible for development of telehealth resources in this area. The relevance of this objective is clear in the aforementioned rate of mental health disorders in rural Northeast Minnesota. Lastly, this objective is time-bound as the implementation of this project will be completed by December of 2022.

Communication Matrix

To stay organized throughout our project we created a communication matrix (Appendix E). The communication matrix includes information about the team members. It also includes meeting times and what was discussed and accomplished during these meetings. The communication matrix was updated throughout the project, which was essential to making sure all team members were on the same page.

Work Breakdown

The work breakdown structure was completed to visualize a project baseline (Appendix G). Based on our goals that we established, we created a plan for our project. The work breakdown structure was helpful for establishing the Gantt chart.

Gantt Chart

In order to execute the project efficiently, a detailed plan was created. The project team used a Gantt chart to outline project milestones (see Appendix F). The Gantt chart is separated into three sections, the planning phase, implementation phase, and the evaluation/dissemination phase. The team was able to use the Gantt chart to better visualize the necessary components of the project and also to breakdown tasks to make the project more manageable.

Logic Model

The logic model puts the whole project into perspective and keeps goals clear (Appendix H). The logic model consisted of inputs, which included the resources that were available to the team to support the project. Activities included the specific actionable portion of the project. Outputs consisted of desired physical products based on the inputs and activities. The final portion of the

logic model was the outcomes. The outcomes show short term, intermediate and long term desired outcomes of the project.

Methodology and Analysis

The needs assessment that was completed for this project revealed that primary care providers conducting telehealth visits may not be equipped with the proper resources to manage behavioral health issues of rural residents in Northern Minnesota. The aim of this quality improvement project was to analyze several primary care behavioral health models and provide feedback to stakeholders on findings that could potentially be incorporated into telehealth visits.

Concept/Planning Phase

The planning phase included a comprehensive literature review, collection of data, gap analysis, needs assessment, and an application for the institutional review board of The College of St. Scholastica. Qualitative research was completed for this project which included extensive literature review on the need for an updated care model for use with telehealth visits. A survey was distributed via social media to rural Northeast community members using google forms. Google forms allowed for responses to be kept anonymous. Wilderness Health stakeholders were invited to the final presentation that reviewed research findings and survey discussion.

Institutional Review Board (IRB)

An IRB application was submitted to the institutional review board at the College of St. Scholastica. An IRB application was necessary to protect the rights and welfare of participants in research. An IRB proposal was submitted and approved prior to surveying individuals in rural Minnesota.

Implementation

The execution phase included discussions and a survey that was distributed to residents in the research area to determine interest in telehealth and common concerns and suggestions. Research was completed to determine what best practice health model would be most beneficial for telehealth visits to increase access to mental health resources for these rural patients. The findings from the research were presented to stakeholders at Wilderness health and the clinics of interest.

A post-discussion questionnaire (Appendix I) was distributed to stakeholders soliciting projections on adoption in their clinics. The two outcome measures that we focused on for our project was the feasibility of adopting a new healthcare model and projected patient experience. The process measures for the project were cost to provide care, number of unnecessary in-person visits avoided, and time of patient contact to resolve the problem. The balancing measures were projected patient outcome severity of changing the model and possibility of new model not improving mental health care in rural northeast Minnesota.

Results

The following section focuses on results of the survey regarding mental health via telemedicine for community members. The survey which was distributed via social media produced a total of 31 responses. Seven rural Minnesota counties were represented in the results including: Lake, Cook, St. Louis, Itasca, and Koochiching Counties. 87.1% of the respondents believed that rural Northeastern Minnesota residents would benefit from tele-health mental health visits. Among the biggest concerns about telehealth for mental health visits, perceiving telehealth as impersonal and insurance issues surrounding telehealth were the largest concerns.

Next, 87.1% of respondents agreed that it would be beneficial if primary care providers addressed mental health concerns during a visit. Some individuals stated they would be interested in participating in individual therapy over telehealth, but many stated that they would not be comfortable with group therapy virtually. Next, 38.7% of individuals stated that their primary care provider does not regularly screen for depression and anxiety during their visit. Lastly, many individuals stated that they are either currently using telehealth for mental health concerns and/or would be very interested in this service. As previously mentioned, travel and weather conditions were common concerns for individuals who stated that this often leads to canceling appointments or waiting longer to be treated.

The above information and results of this survey further confirm that the utilization of telehealth for mental health visits would be beneficial for rural residents. Although there are barriers which exist, such as concerns for impersonal care, internet connectivity, and payment/insurance concerns. There is the potential to continue researching these concerns and implementing measures to combat these issues for a smooth transition to telehealth for mental health visits.

Dissemination

The information gathered from research and the survey were presented to stakeholders at Wilderness Health. The participants of the meeting included team members of Wilderness health, employees of local medical facilities, and community members. At the end of our presentation we provided everyone with a link to a survey to help us gain feedback on interest and feasibility. The results of this survey (Appendix J) revealed that 50% of respondents believed that a behavioral health care model could be implemented in a telehealth setting within 1-3 years. 94%

of respondents responded that they believed implementation of a care model for telehealth use would increase patient satisfaction. 67% of respondents did not think that the care model would change cost of care. The survey results did reveal that 100% of respondents think that a behavioral health care model would have a positive impact on patients mental health. The feedback from this presentation was incredibly positive. Sharing our results increased stakeholder interest in developing a primary care behavioral healthcare model for telehealth use. The responses also show that stakeholders believe that it is feasible to create a model for telehealth use.

Conclusion

There is a severe disservice among residents of rural areas when it comes to mental health services. Among the issues surrounding improper mental health services, provider's not being comfortable addressing mental health concerns, residents not feeling comfortable with technology, concerns regarding confidentiality, and concerns about payment/insurance come to the forefront. Due to this, implementing a primary care mental health model has the potential to benefit rural areas of Minnesota and provide residents of this area with the care that they need. In doing so, mental health care and outcomes can greatly improve and in turn, improve the quality of care that each individual receives.

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Appendices

Appendix A: Survey Form

Survey Form

1. **Which county do you reside in?**
2. **Do you believe rural Northeast Minnesota residents would benefit from telemental health visits?**
    a) **Yes**
    b) **No**
3. **What is your largest reservation for using telehealth for mental health visits?**
    a) **It feels impersonal**
    b) **Technology is confusing**
    c) **Privacy concerns**
    d) **Insurance issues**
    e) **Other**
4. **If you picked other, please explain.**
5. **Do you think it would be beneficial if your primary care provider discussed mental health concerns during a visit?**
    a) **Yes**
    b) **No**
6. **Would you feel comfortable doing individual or group therapy over telehealth?**

a) **Yes**

b) **No**

7. **If no, could you please explain your reasoning**

8. **Do you find that your primary care provider is regularly screening you for anxiety and depression?**

a) **Yes**

b) **No**

9. **Please share any other thoughts you have about telehealth for mental healthcare.**

Appendix B: Care Models

Case Example	General Overview	Location	Type of Practice	Population	Advantages of Case
Stanford Coordinated Care	The Stanford Coordinated Care (SCC) model incorporates human-centered design techniques and patient input for planning and implementing practice. This model also maintains a patient advisory committee. SCC aims to fulfill most of its patient's needs and minimize referrals by employing an interprofession, team-based approach.	Palo Alto, California	Small practice managing the most complex patients for the Stanford University Health Plan	Multiple, complex chronic conditions	Patient engagement, intensive care coordination, patient-centered risk assessment, scribing, home visits
The Health Center	The Health Center (THC) has been taking a patient-centered approach to address the needs of the rural Vermont population for over 40 years. THC is a participant in the Vermont Blueprint for Health which is an initiative which aims at integrating a system of health care for patients, improving the overall health of the population, and improving control over health care costs by promoting	Rural Vermont	Small federally qualified health center	Rural, underserved	Medication management, telehealth partnerships to extend team-based care, integration of dental and primary care

	health maintenance, prevention, and care coordination.				
Fairview Health Services	Fairview uses a team-based care model that integrates comprehensive medical therapy management (MTM). MTM is provided by pharmacists and uses electronic population health tools, and incorporates telehealth and home care into services that are provided. MTM won the 2004 American Pharmacists Association Foundation's Pinnacle Award and is well integrated into care at the Fairview Edina clinic.	Edina, Minnesota	Integrated health system	Urban	Medication therapy management
Foresight Family Practice	Foresight is a small, independent practice between two large integrated systems in Grand Junction, Colorado. Foresight is seen as an exemplar of a small practice involved in several state and national quality improvement (QI) initiatives. Foresight aspires to be the premier primary care practice in this area. They utilize a strong team structure with well-developed roles	Grand Junction, Colorado	Small. independent practice	Rural	Patient-centered risk stratification, patient engagement, integrated behavioral health, community health worker

	and tasks. Furthermore, Foresight practices ongoing QI and utilizes a Patient and Family Advisory Committee.				
WellMed	WellMed is a network that serves primarily Medicare-eligible seniors. WellMed has put together a network of primary and specialty care services that is designed to meet the needs of the population with minimal referral outside the system.	San Antonio, Texas	Integrated health system	Medicare Advantage senior citizens	Community nursing program, palliative care team, home visits, community partnerships supporting wellness
Cherokee Health System	Cherokee Health Systems is a Federally Qualified Health Center (FQHC) and a Community Mental Health Center. It is a national leader in integrating primary and behavioral/mental health care. This system has a structure for an integrated practice team, strives to innovate and improve integrated service delivery, and has developed training in primary care/behavioral health care integration.	Knoxville, Tennessee	Combined federally qualified health center and mental health center	Rural	Integrated behavioral health, telehealth visits, community health workers

Appendix C: Literature Review

Citation	Purpose	Research Design	Methodology	Findings	Conclusion
Archibald et al., 2018	Assess effectiveness of econsults between psychiatrist and primary care providers.	Retrospective eConsult review study	169 out of 5597 psychiatry eConsults were completed during the study period from July 2011-January 2015. Response time to eConsults was analyzed. A post experimental survey was distributed to primary care providers to determine how many traditional consults were avoided by using eConsults.	Average response time for eConsults was 2.3 days. 87% of the clinical questions discussed during the eConsults took less than 15 minutes. The most common disorders discussed during the eConsults were depression and anxiety. 88.7% of the primary care providers rated the value of eConsults as either 4 or 5 with 5 being excellent value.	eConsults could be helpful in rural primary care clinics. It could also be helpful for primary care providers providing telehealth services to see patients with behavioral health concerns.
Chang et al., 2021	Explain the tablet based screening tool to help integrate behavioral health	Quasi-experimental	The tablet screening system experiment took	Positive impact on clinic workflow, Increase likelihood of identifying	A screening tool incorporated into the EHR for behavioral health concern in

	care into primary care settings. Discussion on how the screening tool impacted the workflow in the clinic.		place in a primary care clinic in New York. The system was designed to identify adult patients at risk for specific behavioral health concerns and alert providers prior to the appointment.	behavioral health concerns that may otherwise go unnoticed, and reduce stigma by incorporating behavioral health care into primary care.	primary care clinics may be beneficial in improving screening techniques and increasing identification of behavioral health issues in rural communities.
Chokshi et al., 2022	Assess the usability and efficacy of a telemental health platform versus using traditional treatment for depression.	Retrospective study, comparing two groups. One group received standard care for depression symptoms and the intervention group were treated by providers that used a platform that used evidence based practice to form their treatment	The patients in both groups took the PHQ-9 to get a baseline measure of their depression. Adults ages 18-49 were included in the study. Patients were excluded if they had any other mental health diagnosis. A survey was	Percentage of patients with a 5+ reduction in PHQ-9 score was 79.2% for the platform group and 52% for the regular treatment group. 59.8% of the patients in the platform group achieved remission which was a score less than 10 on the PHQ-9 and 39.6% of patients achieved remission in the	Incorporating a clinical decision support platform can provide essential guidance for primary care providers caring for patients with depression.

		decisions.	administered before treatment and then every 2 weeks during treatment. All subjects received a prescription for at least one psychiatric medication during the trial. The PHQ-9 was then given at the end of the experimental phase to determine efficacy.	regular treatment group.	
Frank et al., 2021	Evaluate impact on appointment attendance, symptom severity, and evidence based interventions utilized when changing over from in-person visits to telehealth visits	Retrospective study	Chart review of mental health visits at an integrated primary care practice. 173 participants included in the chart review. Ages ranged from 4-73 years. Most of the	Increased attendance, decreased symptom severity, and continued use of evidence-based interventions after switching to telehealth from in-person visits.	Providing mental health services via telehealth may be an appropriate option to improve access to care.

			patients had either anxiety or depression. Charts were reviewed before and after intervention.		
Hager et al., 2018	The purpose of this article is to explain Project ECHO.	Program Evaluation/non research study	Project ECHO has established connections between academic medical centers and remote primary care locations. Each hub creates a relationship with remote primary care sites. Each hub team sets up teleconsultations where any of the remote locations can attend. At each of the teleconsultations, different patient cases are	Increased primary care knowledge and confidence in treating patients with behavioral health problems. There was a 24% reduction in costs related to a reduction in emergency room need after implementation of the ECHO intervention.	Collaborating with behavioral health professionals through teleconferencing may help primary care provide better care to those with behavioral health problems.

			discussed and providers are able to collaborate to determine the best course of action.		
Hills, W. E., & Hills, K. T. (2019)	Identifying advantages and challenges of using technologies using the primary care behavioral health model.	Not a research study	Not a research study	PCBH providers in single settings can utilize telehealth services by connecting with a behavioral health provider when one is not onsite. Helpful for when there are multiple sites and the behavioral health care provider can provide care through telehealth to all locations.	Tele-behavioral health providers incorporated into PCBH practices have great potential to increase access to mental health care, especially for patients in rural areas. This system requires technology competency on both ends from the provider and patient. This is still a relatively new concept so more research is necessary.
Jensen et al., 2021	The purpose of this qualitative study was to determine what barriers patients experience when	Qualitative study using semi-structured interviews.	Physician search was completed through use of the Minnesota	There was stigma associated with behavioral health disorders.Many people know each	Integration of behavioral health care into primary care settings may be beneficial in

	trying to receive behavioral health care based on rural physicians perceptions and to explore physicians ideas to overcome these barriers.		Department of Human Services Provider directory and the Wisconsin Medical Society Physician directory. Urban Providers were not considered in the study. There were 101 physicians that were able to be recruited based on the fact they practiced in rural areas. After 3 recruitment phases, 13 total providers were selected for the interviews. Years of experience for the providers ranged from 2 years-48 years.	other in rural communities which makes it more challenging to provide behavioral health care to those living in these rural areas. Physicians in rural communities describe taking on very unique roles and doing assessments and triaging behavioral health concerns. Many of the physicians mentioned discomfort with prescribing medications for psychiatric concerns and difficulty with management. Providers discussed that increased training, more providers and resources would alleviate some of the difficulties in this area Some of the physicians also	providing more behavioral health care access to patients.

				discussed the solutions to working without a psychiatric physician in the clinic. Use of telehealth from outside agencies provided a more integrated approach for some of the clinics	
(Rajesh et al., 2019)	Evaluation of models for integration of behavioral health into primary care.	Not a research study	Not a research study	Adults treated with this model showed improved depression symptoms over a shorter period of time. Patients also showed improvements in their medical chronic conditions such as chronic pain, diabetes, and blood pressure with use of the collaborative care model.	Using an integrated care model can help patients with both their mental and physical health.
Sanchez Gonzalez et al. (2019)	Discussion of a specific case where telehealth was used to provide primary	Not a research study	Not a research study	The providers were able to monitor the patients progression based on the PHQ-9	Utilizing telehealth for primary care behavioral health care is helpful in

	care behavioral health care.			scores and CORE-B scores, which continued to improve over time. There was a decrease in ED visits by the patient. There were significant cost savings based on the patient not needing to utilize the emergency department for anxiety attacks.	rural areas. Many times primary care providers refer patients to a specialty clinic for mental health concerns, but in rural areas, this may not be possible. Using this model with telehealth improved access and availability of care and also reduced cost of care.

Appendix D: Gap Analysis

Current State	Desired State	Identified Gap	Gap due to knowledge, skill and/or practice	Methods used to Identify Professional Practice Gap
Limited access to behavioral health services in rural Northeast, Minnesota. Primary care providers do not have the necessary resources to manage behavioral health concerns.	Develop a Primary care Behavioral Health Model for telehealth. With implementation of a model, providers have resources available to them to provide optimal behavioral health treatment for patients living in rural Northeast, Minnesota.	Lack of primary care behavioral health model integration for telehealth. Limited resources for primary care providers related to behavioral health concerns.	Knowledge- Primary care providers have not had the required education involved in caring for many different behavioral health issues. There is not a systematic model in place for primary care behavioral health for telehealth visits.	Literature review on primary care in rural regions. Survey responses from residents of rural Northeast Minnesota.

Appendix E: Communication Matrix

Project Member's Name	Strengths	Weaknesses
Madison Mack	Organized, timely, planner	Editing papers, self-criticism
Rachel Barger	Planning, organization, communication	Time management, prioritization
Entire Team		

Communication Table

Add Individual and Team-Decided Deadlines, as well as Project Member Expectations. Students will be required to update this DNP Project Action Plan prior to meeting with your Project Chair as this document will serve as an informational guide to the project process through its evolution.
(deadline dates and or revisions can vary/change as needed with proper group communication)

Project Development (Follow the DNP Project Checklist	**Planning** Identified Project Task	**Executing/Revisions** Identified Lead & Component Deadlines	**Monitoring & Controlling** Proposed Group Deadlines & Revisions Dates	**Closing** Submission/Due Date
8201	PICOT Literature review SWOT analysis Literature matrix Goals and objectives			Spring 2022 end of semester
8206	Meet with wilderness health Determine direction of project IRB Project proposal Paper draft due	Madison and Rachel will make edits to the working document to address the suggested revisions from Dr. Johnson.		Summer 2022 end of semester

8207	Meet with Alan M Glaseroff MD via zoom Meet with Wilderness Health Paper draft revision due Send out surveys Mental health zoom Paper draft revision due Meet with Wilderness to discuss findings and recommendations going forward			Fall 2022 end of semester. Plan to have the final paper done 12/10/2022 after meeting with Wilderness Health to wrap up the project.
Individual /Team Experience Notes				

Project Communication Matrix

Stakeholder Communication Sheet Link - Communicate with project stakeholders twice per semester minimally. See these meeting guidelines for agenda formation.

Team Members: Madison Mack and Rachel Barger

Project Chair: Sherry Johnson

Project Title: Integration of Behavioral Healthcare in Primary Care Using Telehealth Technologies

ID #	Purpose/Objectives	Method Of Communication	Frequency	Recipients	Person Responsible	Notes
	Discuss plan on which direction to go with project with Wilderness health	Zoom	1	Madison, Rachel, Zomi, Dr. Johnson	All	Need to establish definitive plan to be able to make a plan going forward
	Check In meeting with Dr. Johnson	Zoom	1-3	Madison, Rachel, Dr. Johnson	Madison and Rachel	Discussed project and updates.
	Meeting with Wilderness Health	Zoom	1	Madison, Rachel, Zomi, Katie, Dr. Johnson, Alexis	All	Discuss project update

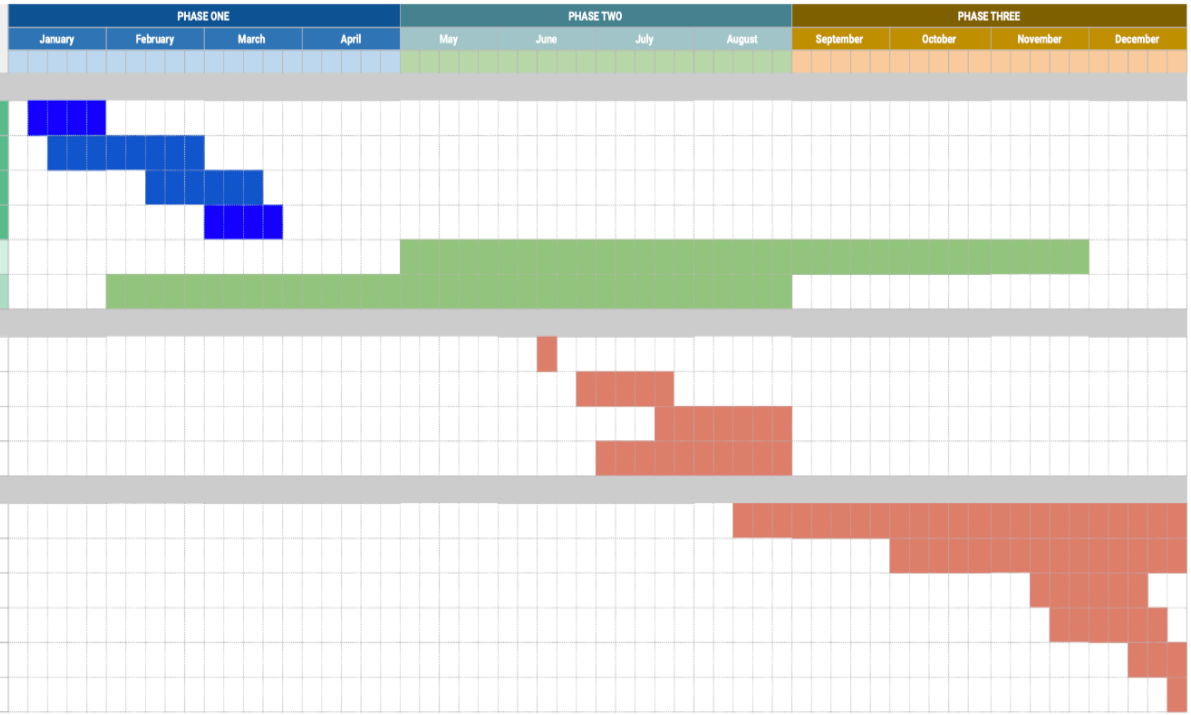
	Meeting with Alan Glaseroff to discuss project	Zoom	1	Madison, Rachel, and Alan	Madison and Rachel	Discuss how to create and implement a primary care behavioral health model.
	Meet with Dr. Johnson	Zoom	1	Madison, Rachel, Dr. Johnson	All	Discuss the project. Will be moving forward with surveying residents of rural northeast Minnesota.
	Mental health group zoom	Zoom	1	Madison, Rachel, Zomi, Carrie, Dean	All	Discuss current mental health concerns in rural Northeast Minnesota. Determine how to best reach potential residents willing to give feedback on telehealth.
	Wilderness Health Final Meeting	Zoom	1	Stakeholders	Madison and Rachel	Discuss final findings from survey and research with Wilderness Health and determine feasibility of implementation.

Appendix F: Gantt Chart

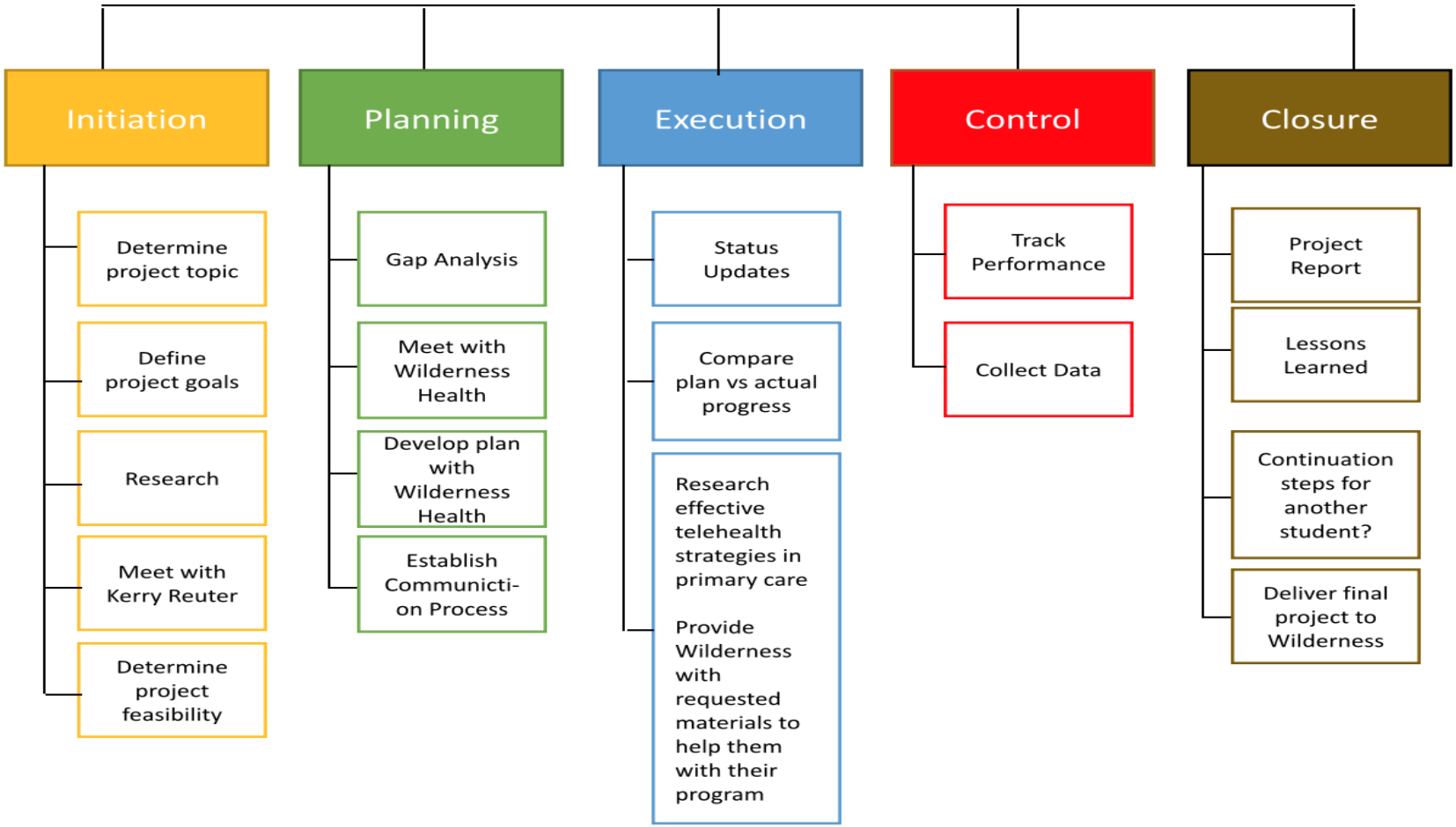
GANTT CHART

PROJECT TITLE	DNP Project
PROJECT MANAGER	Madison Mack and Rachel Barger
DATE	

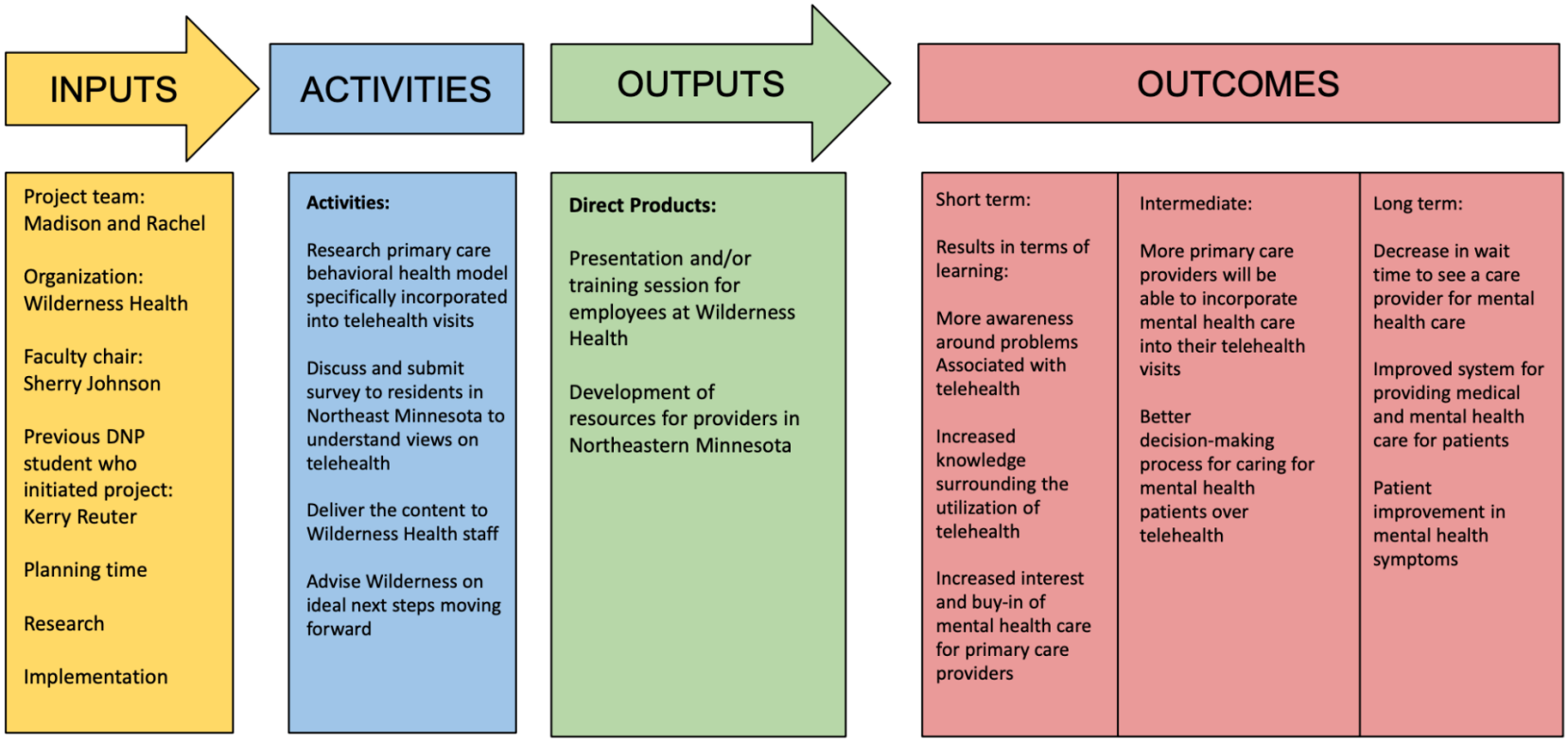
WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK COMPLETE
1	**Project Conception and Initiation**					
1.1	Project topic	Maddie and Rachel	2/1/22	2/1/22	0	100%
1.1.1	Develop PICOT	Maddie and Rachel	2/15/22	5/1/22	76	100%
1.2	Develop project goals and smart objectives	Maddie and Rachel	3/1/22	3/21/22	20	100%
1.3	Aim Statement	Maddie and Rachel	3/16/22	3/28/22	12	100%
1.4	Discuss with stakeholders	Maddie and Rachel	2/1/22	6/22/22	141	25%
1.5	Research	Maddie and Rachel	1/18/22	12/15/22	327	50%
2	**Project Definition and Planning**					
2.1	Solidify project	Maddie and Rachel	6/22/22	6/24/22	4	0%
2.2	Project proposal	Maddie and Rachel	6/22/22	7/5/22	3	0%
2.3	IRB application	Maddie and Rachel	7/1/22	7/18/22	0	0%
2.4	Collaborate with project chair	Maddie and Rachel	7/18/22	7/22/2022	0	0%
3	**Project Conception and Initiation**					
3.1	Implement project	Maddie and Rachel	8/1/22	8/30/22	0	0%
3.2	Collect and analyze data	Maddie and Rachel	9/1/22	12/20/22	0	0%
3.2.1	3 Minute Ted Talk	Maddie and Rachel	?	?	0	0%
3.2.2	Poster	Maddie and Rachel	?	?	0	0%
3.3	Provide data/ guidance to wilderness	Maddie and Rachel	?	?	0	0%
3.3.1	Complete DNP paper	Maddie and Rachel	?	?	0	0%



Appendix G: Work Breakdown Structure



Appendix H: Logic Model



Appendix I

Post-discussion Questionnaire

What do you predict the estimated time would be to implement the new model into practice?

A.) Not Feasible
B.) 1-3 years
C.) 3-5 years
D.) 5+ years

How do you feel patient satisfaction would change with the integration of a behavioral health model through telehealth?

A.) Degraded
B.) Neutral
C.) Improved

On a per visit basis, how do you project the cost of care to change based on implementation of the new model?

A.) Increase
B.) Decrease
C.) Remain the same

What percentage of unnecessary in-person visits do you believe could be avoided with implementation of the model?

A.) 10-20%
B.) 20-50%
C.) 50-75%

What is your projection on improved time from patient requesting a telehealth visit until resolution of problem using the new model compared to the current operating model?

A.) No improvement
B.) Approximately 10% improvement
C.) Approximately 50% improvement

What impact do you think the integrated behavioral health model will have on mental health care for rural Northeast Minnesota residents?

A.) Positive impact on mental health
B.) No impact on mental health
C.) Negative impact on mental health

Appendix J

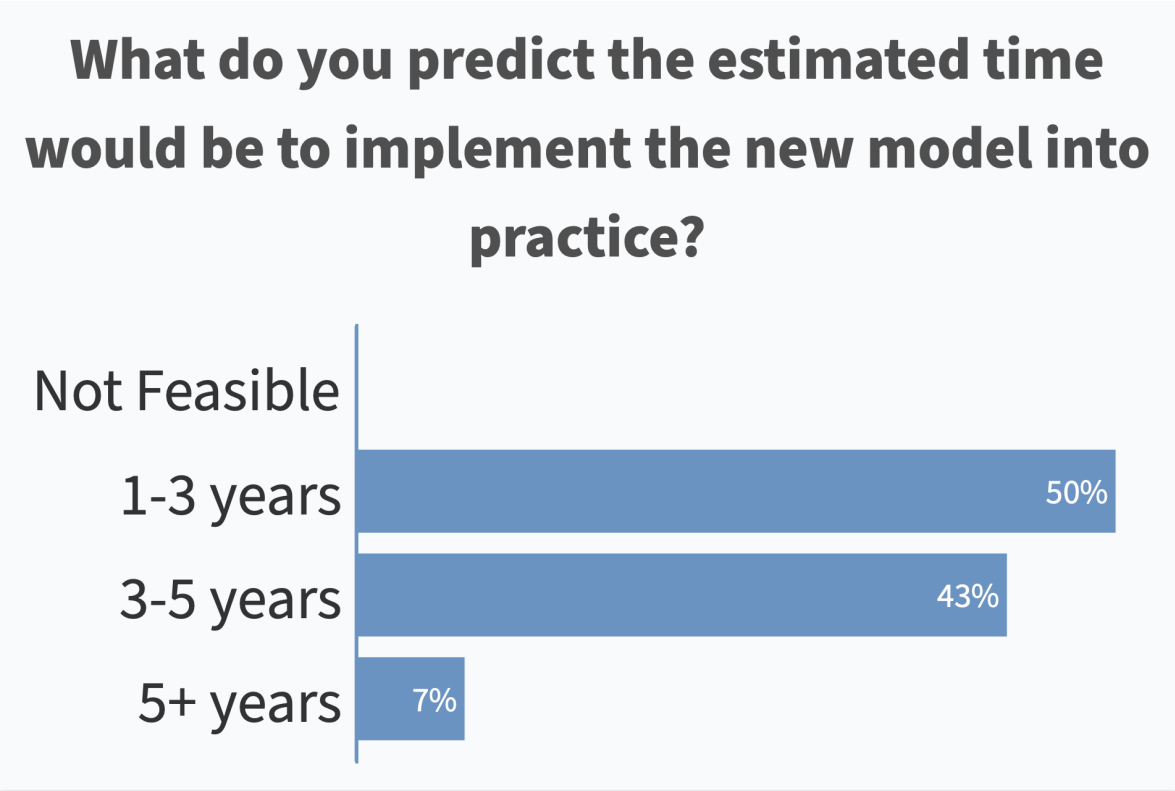

What do you predict the estimated time would be to implement the new model into practice?
Not Feasible
1-3 years
50%
3-5 years
43%
5+ years
7%

Figure 1.

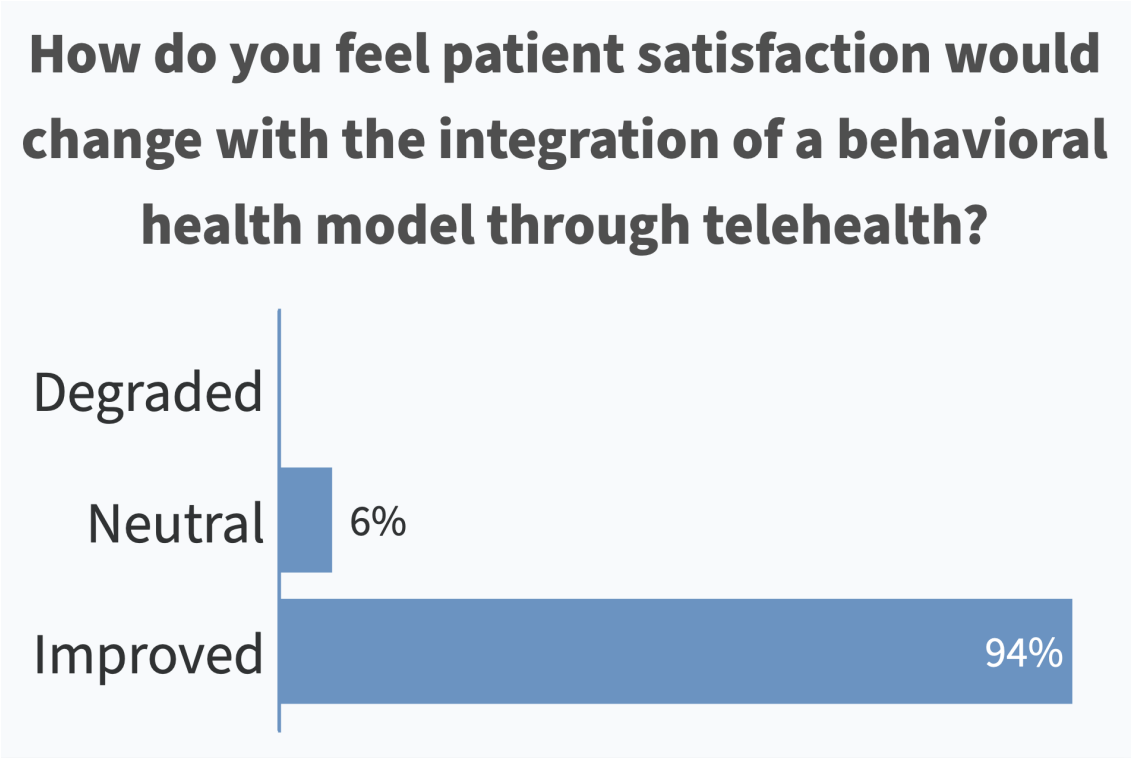

How do you feel patient satisfaction would change with the integration of a behavioral health model through telehealth?
Degraded
Neutral
6%
Improved
94%

Figure 2.

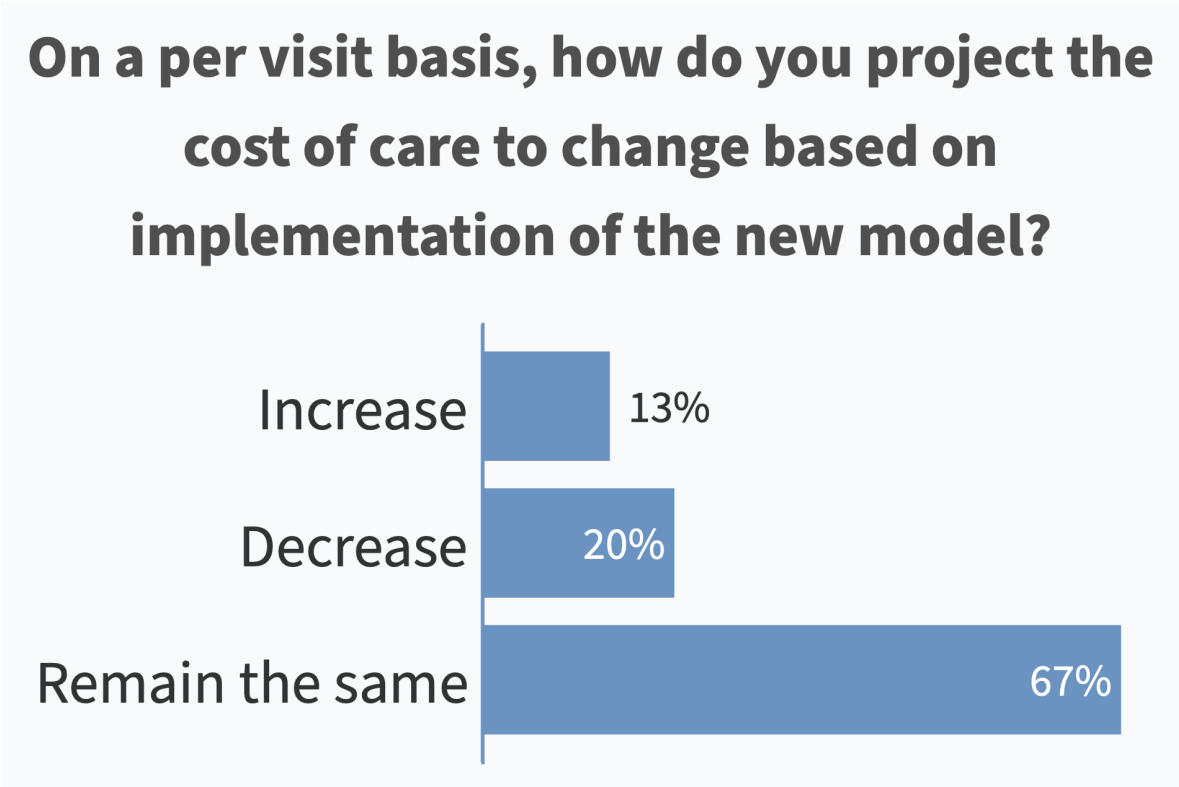

On a per visit basis, how do you project the cost of care to change based on implementation of the new model?
Increase
13%
Decrease
20%
Remain the same
67%

Figure 3.

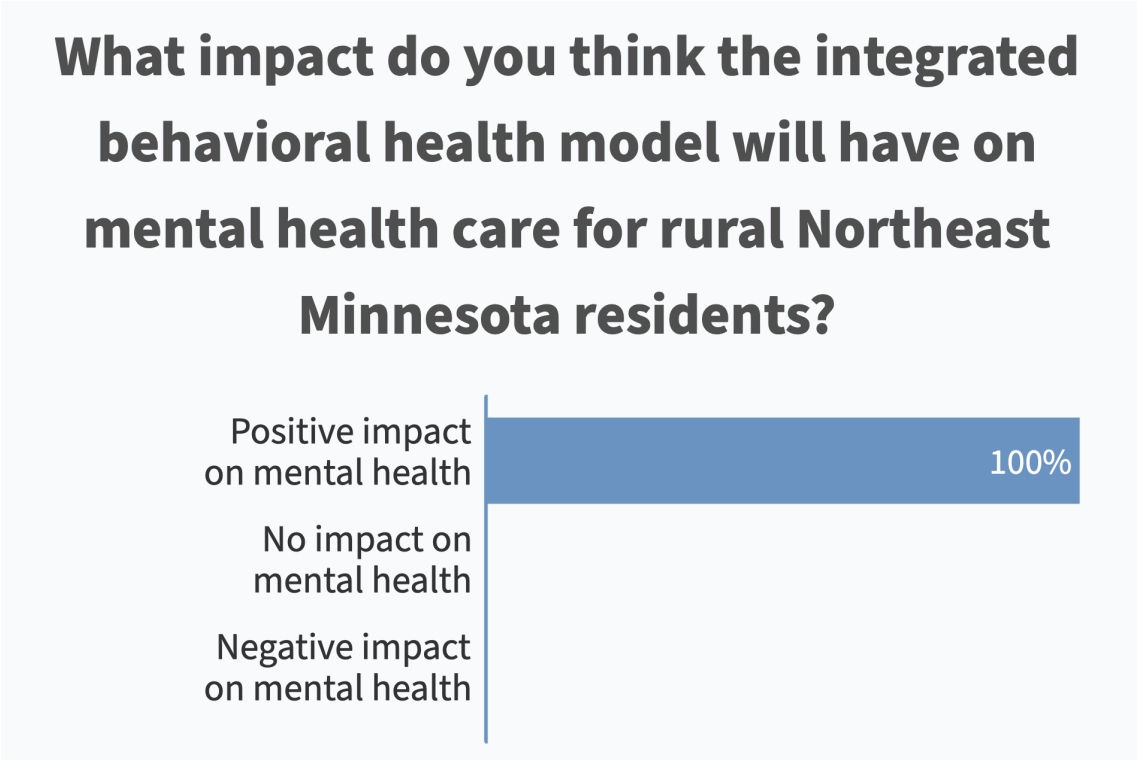

What impact do you think the integrated behavioral health model will have on mental health care for rural Northeast Minnesota residents?
Positive impact on mental health
100%
No impact on mental health
Negative impact on mental health

Figure 4.