**Implementation of Routine Anxiety Screening in a Rural Health Clinic: An Evidence-Based Project**

Amber Albrecht, BSN, RN, DNP-S

Cassidy Freeman, BSN, RN, DNP-S

Jayme Jonasson, BSN, RN, DNP-S

University of Mary

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Dr. Jenna Herman & Dr. Joanne Lassiter

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**Abstract**

**Title:** Implementation of Routine Anxiety Screening in a Rural Health Clinic: An Evidence-Based Project

**Author/Affiliations:** Amber Albrecht BSN, RN, Cassidy Freeman BSN, RN, Jayme Jonasson BSN, RN (DNP Family Nurse Practitioner), University of Mary, Bismarck, North Dakota

**Background:** Anxiety disorders are the most common mental health diagnosis in the United States. Despite the commonality, anxiety disorders are often undiagnosed and undertreated. Underdiagnosis and undertreatment of anxiety are particularly pronounced in rural areas. In fact, 60% of rural America is in a mental health provider shortage area. The consequences of failing to diagnose and manage anxiety can result in impaired occupational functioning, diminished quality of life, exacerbation of physical health issues, strain on interpersonal relationships, and suicide. Although it is recommended that all adults be screened for anxiety, no recommendation exists on the timing or frequency of the screening. **PICO:** How does implementing a routine GAD-2 screening tool with an anxiety treatment toolkit at a rural primary care clinic influence the healthcare team’s confidence in the quality of care in adults ages 18-64 compared to current practices? **Project Interventions:** This evidence-based project included the development and implementation of utilizing the GAD-2 during as a routine screening tool at Langdon Prairie Health. Information and education regarding use of the GAD-2 was provided to staff at the rural primary care clinic during a staff meeting. Pre-surveys were distributed to assess staff confidence regarding anxiety and the GAD-2 tool. The effectiveness of the GAD-2 tool was evaluated using post-implementation surveys. **Outcomes:** Results of the project were based on a total of 5 post implementation surveys (n=5) completed by staff at Langdon Prairie Health. Out of the total staff members surveyed, 100% (n=5) strongly agreed with feeling confident administering the GAD-2 tool. Only 80% (n=4) of those surveyed strongly agree with feeling confident in identifying anxiety. Of those surveyed, 100% (n=5) would recommend the GAD-2 tool for screening anxiety in the selected population and were satisfied with the implementation of the GAD-2 project. **Conclusion:** Overall, the findings suggest that the use of the GAD-2 is of beneficial use to Langdon Prairie Health. This project has many limitations such as the limited number of surveys filled out and limited times the GAD-2 was utilized. The project leaders recommend that future efforts by the clinic should focus on utilization of the GAD-2 for all routine visits for adults ages 18-63.

**Table of Contents**

Abstract………………………………………………………………………………...………....2

Chapter I: Introduction to DNP Project

Introduction…………………...……………………………………………..……………5

Problem Statement…………………………………………………………..…………....6

Objectives………..…………………………………………………………..………......10

PICO Question……………………………………………………………...…….……...11

Project Setting, Champion, Stakeholders, and Participants……………………………...12

Organizational Needs Assessment……………………………………………………….13

SWOT Analysis………………………………………………………………………….15

Conclusion…………………………………………………………………………...…..17

Chapter II: Literature Review, Synthesis, and Theoretical Framework

Introduction………………………………………………………………………………19

Literature Search Process & Table………………………………………………………20

Literature Appraisal & Literature Matrix Grid…………………………………………..27

Literature Synthesis…………………………...……………………….………………...43

Theory Overview/Clinical Fit……………………………………………………………47

Theory Evaluation………………………………………………………………………..49

Conclusion………………………………………………………….……………………55

Chapter III: Project Recommendations/Change Theory/Implementation & Evaluation Planning

Introduction……………………………………………………………………………....56

Project Recommendations……………………………………………………………….56

Determinants of Change…………………………………………………………………59

Change Theory…………………………………………………………………………...60

Implementation Planning & Work Breakdown Sheet…………………………………...62

Budget……………………………………………………………………………………67

Evaluation Planning……………………………………………………………………...68

Conclusion……………………………………………………………………………….70

Chapter IV: Project Evaluation

Introduction………………………………………………………………………………72

Implementation Discussion………………………………………………………………72

Interpretation of Project Outcome Data………………………………………………….78

Conclusion……………………………………………………………………………….89

Chapter V: Dissemination

Introduction………………………………………………………………………..….….91

Dissemination of Results…………………………………………………………….…..91

Future Directions……………………………………………………………………..….92

Conclusion……………………………………………………………………..…….…..93

References………………………………………………………………………………………..95

Appendices………………………………………………………………………

**Implementation of Anxiety Screening in a Rural Health Clinic: An Evidence-Based Project**

Anxiety disorders constitute the most prevalent mental health conditions in the United States, yet frequently go undiagnosed and undertreated (Anxiety & Depression Association of America [ADAA], 2022). Underdiagnosis and undertreatment are particularly pronounced in rural areas where limited access to care compounds the challenges associated with anxiety screening, symptom recognition, and resource availability. North Dakota, with nearly half its residents residing in rural settings (North Dakota Epidemiological Outcomes Workgroups [ND SEOW], 2023) faces a unique challenge of providing equitable mental health services. The consequences of untreated anxiety extend beyond individual well-being, affecting societal and economic domains. Within healthcare, addressing mental health needs in the rural setting stands as a critical yet often overlooked challenge. After delving into the complexities of healthcare delivery, particularly in remote locales like Langdon, ND, the imperative to enhance mental health services became increasingly evident.

The DNP project leaders proposed a comprehensive approach to bridge the existing knowledge gaps and impact the quality of care for anxiety in a rural North Dakota primary care setting. Led by a team of dedicated healthcare professionals and supported by stakeholder engagement, this project aimed to implement routine anxiety screening of adults in a rural setting, explicitly using the Generalized Anxiety Disorder 2-item scale (GAD-2), and a resource toolkit. This initiative sought to provide early detection, timely intervention, and increase accessibility to mental health resources for individuals living in rural areas. Chapter One further describes the problem through discussion of problem identification, background, scope, and consequences. Knowledge gaps are identified and solutions to the problem are proposed. Objectives for the project and PICO question are described. The PICO question reads, *How does implementing a routine GAD-2 screening tool with an anxiety treatment toolkit at a rural primary care clinic influence the healthcare team’s confidence in the quality of care in adults ages 18-64 compared to current practices?* Finally, the project setting is described along with the results of an organizational needs assessment and SWOT analysis to illustrate the identified areas for improvement in moving towards sustainable and equitable mental health care delivery.

**Problem Statement**

Anxiety disorders are the most prevalent mental health condition in the United States. Despite the commonality, anxiety remains underdiagnosed and undertreated (ADAA, 2022). Underdiagnosis of anxiety can be attributed to a lack of screening, unfamiliarity with symptoms, lack of adherence to follow-ups, and lack of resources (Kasper, 2006). Individuals living in rural areas are at an even more significant disadvantage in access to care, increasing the probability of anxiety going undiagnosed. North Dakota has a particularly rural population, with nearly half of the residents living in rural settings (ND SEOW, 2023). Multiple studies address the impact of untreated anxiety which can cause a myriad of somatic symptoms, difficulty with work, difficulty with daily activities, problems with eating and sleeping, relationship difficulties, and suicide (Bolgeo et al., 2023; Nelson et al., 2019). Although it is recommended that all adults be screened for anxiety, no recommendation exists on the timing or frequency of the screening (U.S. Preventative Services Task Force [USPSTF], 2023). Routinely screening adults for anxiety in a primary care setting may allow for timely recognition and management of the condition and will enable the patient to become familiar with available resources before symptoms become severe.

**Problem Identification**

The occurrence of undertreated mental health issues among adults residing in rural areas in comparison to their urban counterparts has been well established. This disparity can be attributed to several factors, such as limited access to providers and specialized mental health care, extensive travel needed to access far-situated mental health resources, the shortage of trained mental health providers and care coordination in rural medical care, and the underutilization of available services. In contrast, individuals residing in urban areas have greater access to providers and specialized care. The need for equitable access to mental health services is paramount, and targeted efforts are necessary to address this disparity in treatment (Morales et al., 2020).

**Background to the Problem**

It's important to note that North Dakota has a higher percentage of rural residents than the national average and, thus, is at a further mental health resource disadvantage compared to other states. Nearly half of the state's population, 48.7%, live in rural areas, compared to the national average of 13.9% ([ND SEOW, 2023). Regrettably, mental health disorders appear to be steadily increasing in North Dakota, according to the survey data collected by North Dakota State Epidemiological Outcomes Workgroups (2023). The National Center for Health Statistics survey conducted by the U.S. Census Bureau further corroborates this statement, showing that 18.4% of North Dakota residents reported symptoms of anxiety in early 2020 compared to 26.8% in late 2023 (U.S. Census Bureau, 2023)

Accessing mental health resources in North Dakota can be challenging due to the distribution of its residents. Many areas require extensive travel time to reach mental health services, which can be difficult when 60% of rural America is considered a mental health provider shortage area and 65% of non-urban areas lack a psychiatrist (Morales et al., 2020). Because of aspects such as distance to and availability of providers, only 19.8% of adults in North Dakota have received mental health services in the past year (ND SEOW, 2023). Unfortunately, a shortage of mental health providers is only one part of a multifaceted issue that creates barriers to accessing mental health services.

**Problem Scope**

Anxiety is the most common mental health condition, affecting 6.8 million adults in the United States. However, despite anxiety disorders being highly treatable, of individuals involved, only 43.2% receive treatment (ADAA, 2022). In North Dakota in October 2023 specifically, 26.8% of the adult population had symptoms of anxiety (Centers for Disease Control and Prevention [CDC], 2023). A national survey completed by Momin et al. (2023) of 200 US adults found that 29% reported a history of anxiety. Alarmingly, 55% of this total sample had significant enough anxiety symptoms to quantify a GAD-7 score >15, which indicates treatment is appropriate. Of the undiagnosed group, 21% thought they did have an anxiety disorder. These differences in adults who have anxiety symptoms and who have not been diagnosed and are not receiving treatment illustrate the intended patient population to benefit from this project. By routinely screening adults for anxiety, adults who may not otherwise voice or recognize their symptoms can be recognized and offered appropriate treatment.

**Problem Consequences**

The consequences of failing to diagnose anxiety are multifaceted and extend beyond individual well-being to societal and economic domains. At the patient level, untreated anxiety can result in many adverse outcomes, including impaired occupational functioning, diminished quality of life, and exacerbation of physical health issues. Prolonged untreated anxiety may contribute to the development of comorbid psychiatric disorders. In the educational setting, undiagnosed anxiety can affect academic performance and hinder social interactions, potentially leading to long-term consequences in terms of educational and vocational trajectories. The economic burden of untreated anxiety is substantial, encompassing increased healthcare costs, decreased workplace productivity, and elevated rates of disability claims (Kasper, 2006). Furthermore, the societal domains may be affected as untreated anxiety can contribute to stigmatization and strain on interpersonal relationships.

**Knowledge Gaps**

The use of the GAD-2 as a screening method for anxiety does have some notable knowledge gaps within the current literature. While the GAD-2 is gaining popularity for its ease of administration, limited research has explored the screening tool's performance across diverse populations, including variations in age, gender, and cultural backgrounds (Bisby et al., 2022). The GAD-2 primarily focuses on generalized anxiety symptoms, potentially overlooking the manifestations of different anxiety disorders. The scale's efficacy in discriminating between clinical and non-clinical populations and its ability to capture variations in symptom severity warrants further investigation. The stability and test-retest reliability of the GAD-2 also require additional research to establish its robustness over time (Hughes et al., 2018). Future research efforts should address these knowledge gaps to refine the utility and reliability of the GAD-2 in diverse contexts and populations.

**Proposed Solution**

In a rural North Dakota primary care clinic, implementation of an anxiety screening using the GAD-2 as part of a comprehensive resource toolkit presented a promising avenue for enhancing the quality of care compared to current practices. The introduction of systematic anxiety screening has the potential to address the knowledge gaps discussed above by providing clinicians with a standardized and efficient tool for the early detection of anxiety symptoms. The routine integration of the GAD-2 alongside the resource toolkit can contribute to timely identification and intervention for individuals experiencing anxiety, thereby mitigating the consequences associated with undiagnosed anxiety. Furthermore, this approach aligned with the paradigm shift for providing preventive and holistic healthcare, allowing for a better understanding of patients' mental health needs. The implementation process included comprehensive training for healthcare professionals in administering and interpreting the GAD-2, as well as ongoing monitoring and evaluation to assess the impact on the quality of care and patient outcomes.

**Objectives**

The first objective of this project was to impact the detection of anxiety in adults. It was expected that by screening adults at routine appointments, level of awareness would be influenced for both the patient and provider of the presence of anxiety symptoms. Secondly, the project aimed to provide a compilation of resources for patients with symptoms of anxiety. The toolkit served as a resource for providers and patients of available services in the surrounding areas and methods of coping with symptoms independently. The toolkit aimed to save patients and providers time in locating the information by making it available and accessible, which may have affected the likelihood of resource utilization and may have helped emphasize the importance of follow-up care for the patient with anxiety. Finally, through the combination of routine screening and readily available resources, the project outcome aimed to influence the behaviors and perceptions surrounding quality of care for patients with anxiety. Recognizing anxiety symptoms in an otherwise healthy state allows the provider to address the concern and potential treatment in a routine setting. By opening the dialogue and providing resources when a patient is not in distress, emphasis on management strategies and timely follow-up can be made and adherence to recommendations impacted.

**PICO Question**

The PICO format is a widely recognized standard for formulating clinical research questions. It is a structured approach that helps to clarify and specify the research question, ensuring that the research is relevant to the evidenced-based practice project and subsequently drives the project design (Moran et al., 2023). The format consists of four distinct components: Population, Intervention, Comparison, and Outcome.

The PICO question population pertained to a rural primary care clinic in North Dakota, including its providers and patients. The intervention involved the implementation of an anxiety resource toolkit, which was spearheaded by routine GAD-2 screenings during adult patient appointments. The toolkit intervention was compared against current practices related to anxiety screenings and treatment. The outcome was measured by assessing the quality of care provided to patients identified as having anxiety, as perceived by the providers in the clinic.

The lack of mental health resources and trained professionals in rural areas has left many rural residents without adequate mental health care, leading to a higher prevalence of mental health issues such as anxiety. To respond to the mental health disparities in rural North Dakota, primary care providers in rural clinics need to be equipped with the necessary skills to identify and effectively treat anxiety in rural residents. For this reason, this DNP project aimed to implement routine anxiety screening and provide evidence-based mental health resources to rural primary care providers and their patients.

To approach this problem systematically, a PICO question was developed to guide the research and implementation of the project. The PICO question is designed to help identify the key aspects of the problem and to provide a framework for identifying the most effective solutions (Melnyk & Fineout-Overholt, 2019). This PICO question was used as a focusing point throughout the project, ensuring that all research and implementation efforts were aligned with the project goals. The PICO question reads:

*How does implementing a routine GAD-2 screening tool with an anxiety treatment toolkit at a rural primary care clinic influence the healthcare team’s confidence in the quality of care in adults ages 18-64 compared to current practices?*

**Project Setting, Champion, Stakeholders, and Participants**

A project setting, champion, stakeholders, and participants are necessary components of a successful DNP project. The project focused on the care of anxiety in adults in a rural clinic setting. Therefore, a rural clinic was chosen as the project setting. The project occurred at Langdon Prairie Health in Langdon, North Dakota. Langdon is in northeast North Dakota and, according to the 2022 census, had a population of approximately 1,717 with a median age of 48.8 years (U.S. Census Bureau, 2022). Langdon Prairie Health is a rural health clinic that focuses on primary care. There are three nurse practitioners and one physician on staff to fulfill this service. Various specialists also visit the clinic regularly including obstetrics and gynecology, cardiology, orthopedics, and oncology. Langdon Prairie Health also has a remote Licensed Clinical Social Worker who serves patients through telehealth. The project champion was Megan Overby, DNP, APRN, FNP-C. Dr. Overby agreed to support the project and offered her formal support in a letter found in Appendix A. In her role as project champion, Dr. Overby acted to assist with the gathering of information, discussion of ideas and supported implementation of the project.

Project stakeholders included any individual or group that affects, or could be affected by, the project's outcomes (Moran et al., 2024). Key stakeholders for this project who have invested interest and support include Megan Overby, DNP, APRN, FNP-C as the organizational champion, Jenna Herman, DNP, APRN, FNP-C as project chair, and Joanne Lassiter, EdD, MSN, RN as faculty consultant. Additional stakeholders included the University of Mary, Langdon Prairie Health, and participating clinic nurses and providers. The DNP project focused on quality improvement through an organizational process which means the participants were members of the organization (Moran et al., 2024). Participants for this project included Langdon Prairie Health clinic nurses and providers who were asked to implement this project into their daily workflow by performing the GAD-2 screen during routine physicals on patients aged 18-64 years and utilizing the toolkit according to screening results.

**Organizational Needs Assessment**

An organizational needs assessment is the process of determining how the organization is performing and what areas may benefit from modification. Along with identifying areas for improvement, the organizational assessment can shed light on the receptiveness and readiness to change and to begin to gain support for the project (Moran et al., 2024). The assessment also allows for the identification of an area for improvement that is important to individuals who will be asked to participate and what facilitators and barriers to the change may exist. If the project aligns with the values and goals of the organization and staff, it is more likely to both be meaningful and well supported (Moran et al., 2024). The organizational needs assessment of Langdon Prairie Health occurred from December 2023 to February 2024. The assessment was completed through multiple conversations with staff including project champion Dr. Overby, other staff nurse practitioners, clinic nurses, and patient care coordinator.

Mental health care was identified as an area for optimization. Through discussions with clinic staff, it was noted that there was no systematic way to screen for anxiety in the same way that there was for depression within the clinic setting. Depression screenings take place routinely and are part of the nurse’s rooming workflow. Anxiety screenings are available to nurses and providers but need to be sought out in a separate part of the chart. Because the screening is not readily available, it is often only utilized if the patient has expressed specific anxiety concerns, risk factors are present, or anxiety is suspected by the nurse or provider. Some practitioners have taught their respective nurses how to utilize the screening and specify which patients or complaints they would like it used for, while others have not and only performed the screenings themselves on select patients. The nurse practitioners agreed that there is value in routinely screening for anxiety in a similar manner to the way depression screenings are accomplished. A value identified in addressing this concern is that the screening does not add unnecessary burden by way of excess time to the nurse’s or provider’s already high demand of work. Another issue that was determined was the lack of local resources and awareness of available resources in the surrounding area to offer adults who have anxiety. A resource available within the organization to support this project was first and foremost the willing staff who will be responsible for carrying out the project. The staff willingness was instrumental in the success of ensuring the screening is completed and the toolkit utilized. Another important resource was the capabilities of the existing electronic health record (EHR), EPIC. EPIC had the GAD-7 available, and the Patient Health Questionnaire-2 (PHQ-2) was in the nurse workflow, therefore it would likely able to integrate the GAD-2 in a similar fashion to the PHQ-2 which supported the need of avoiding excess time burden in performing the screening.

**SWOT Analysis**

The DNP project aimed to integrate a GAD-2 anxiety screening in a primary care clinic in rural North Dakota. To ensure the project's success, a SWOT analysis was conducted. SWOT is a strategic planning tool used to evaluate the strengths, weaknesses, opportunities, and threats associated with the project. The SWOT analysis identified the internal and external factors that could positively or negatively impact the project's outcomes and helped identify gaps in the current process or key areas requiring additional support (Moran et al., 2024). By stepping back and analyzing all four SWOT analysis aspects, a general perspective of the project is achieved.

**Strengths**

The project had various strengths that made it a promising initiative. One of the project's major strengths was that the GAD-2 screening could be easily incorporated into the EHR with other screenings at the beginning of appointments. Seamless integration with other mental health screenings, such as the PHQ-2 depression screening, meant that patients could be screened for anxiety in a timely and efficient manner without adding too many extra steps to the appointment process. Additionally, other providers at the primary care clinic, in addition to Dr. Overby, had expressed their enthusiasm for the project, which was a positive sign. Universal clinic provider support suggested the project had the potential for widespread adoption and impact.

Moreover, implementing a routine GAD-2 screening aligned with the United States Preventive Services Task Force (USPSTF) recommendations, which could contribute to better patient health outcomes. The USPSTF has determined that there is a moderate net benefit to screening for anxiety in adults. In a systematic review conducted by the USPSTF, there was limited direct evidence to support the benefit of screening for anxiety disorders in adults under 65 years of age. The screening tools, such as the GAD-2, were found to be accurate in detecting generalized anxiety disorder, and there was evidence supporting treatment for adults with this disorder (Barry, 2023).

**Weaknesses**

Despite its strengths, the project also had some associated weaknesses that had to be addressed. Integrating the screening into the clinic staff workload posed a potential challenge. Integrating the GAD-2 into the nursing workflow could have been challenging because staff members may have needed to be trained in administering the screening, which takes time away from other important tasks. As a result, it was essential to ensure that staff members receive the necessary training and support to carry out the screening effectively and efficiently. Another weakness of integrating an additional screening tool is overburdening or increasing the workload of clinic staff with extra screenings. Adding on to an already heavy workflow could lead to burnout and decreased job satisfaction among staff, impacting the quality of care they provide.

**Opportunities**

There are also several opportunities associated with the project, which could have contributed to its success. One such opportunity was developing a unique anxiety toolkit with resources specific for the region to streamline anxiety care. The anxiety toolkit could ensure that patients receive consistent and high-quality care, regardless of where they go for treatment. The specified toolkit also had the potential to influence the confidence of the primary care clinic providers when providing anxiety treatment.

However, the real power of this project lies in the potential to impact patient awareness and education about anxiety symptoms. By streamlining current screening frequency and follow-up strategies to improve compliance, the primary care clinic's patients could be empowered to take control of their mental health. Empowering patients could have a significant impact, leading to more patients seeking treatment for anxiety and other mental health issues and, ultimately, better health outcomes.

**Threats**

Finally, some potential threats to the project needed to be considered. One of the primary challenges for implementation is historically the lack of access to mental health services in rural areas due to a shortage of mental health professionals. Resource shortages make seeking and receiving necessary mental health care difficult for patients in these areas, and it is, therefore, crucial to find ways to overcome this barrier. Moreover, rural patients are traditionally more resistant to seeking mental health services due to stigma, which could have made some patients more reluctant to participate in screening (Morales et al., 2020). Mental health stigma could have impacted the ability to reach the target population and could have limited the impact of the project.

**Conclusion**

Anxiety is a common mental health condition often not diagnosed or treated appropriately, particularly in rural areas like North Dakota. The lack of screening, awareness of symptoms, and resources for anxiety treatment in rural areas can be addressed through specific efforts. Regular anxiety screening can help patients and providers identify symptoms before they become serious and potentially prevent somatic symptoms, difficulty with work and daily activities, problems with eating and sleeping, and relationship difficulties. Additionally, routine anxiety screening can identify individuals who may not otherwise recognize or seek treatment for their symptoms. Through implementation of routine anxiety screenings and access to a resource toolkit, the project leaders intended to make a lasting impact on mental health care within the rural clinic setting of Langdon Prairie Health. Navigating the challenges and opportunities outlined in the SWOT analysis, the project leaders’ commitment to seamlessly integrating the GAD-2 screening, leveraging provider support, and addressing the unique needs of the rural patient population was unwavering. Through a collaborative effort and with the support of stakeholders, the project leaders aspired to not only bridge gaps in anxiety screening but also contribute to a broader culture of mental health awareness and proactive care. As the project leaders implemented this evidence-based project, their goal was to transform challenges into opportunities, weaknesses into strengths, and, ultimately, to leave a mark on mental healthcare accessibility and efficacy in the rural landscape of Langdon, ND. This project was not just a momentary intervention; it was a catalyst for enduring positive changes in the well-being of the community.

**Chapter 2: Literature Review, Synthesis, and Theoretical Framework**

**Introduction**

Understanding the complexities of anxiety disorders and their impact on individuals requires a rigorous and systematic approach. The project leaders undertook a comprehensive literature review to explore the prevalence, screening methods, and follow-up strategies for anxiety disorders. The literature search was conducted using databases such as CINAHL, PubMed, and MEDLINE, accessed through the University of Mary Welder Library. A keyword strategy was employed, guided by the PICO framework, to identify relevant studies. This method allowed for a thorough investigation into the presence of specific terms across various publication fields, ensuring a robust collection of pertinent literature. The review process was meticulous, employing Boolean operators to refine searches and applying specific limiters to include recent, high-quality studies published in English. Following the literature search, the strength and quality of the gathered evidence were assessed using the Johns Hopkins Evidence-Based Model. This model’s structured approach to grading evidence, from randomized controlled trials to expert opinions, provided a clear framework for evaluating the literature. The synthesis of findings from this review highlighted significant insights into anxiety screening tools, such as the GAD-7 and GAD-2, and identified common barriers to follow-up compliance, suggesting effective strategies to improve patient adherence.

Anxiety disorders, as a prevalent and debilitating mental health issue, impose substantial financial, health-related, and personal burdens globally. The literature underscored the critical need for effective screening and follow-up strategies to mitigate these burdens. This project’s application of the Trajectory Model of Chronic Illness further contextualized the management of anxiety within a comprehensive framework, emphasizing the importance of understanding the patient’s journey through various stages of illness and intervention. Through this approach, the project aimed to enhance the quality of care and outcomes for individuals with anxiety, particularly in rural healthcare settings.

**Literature Search Process**

A comprehensive literature review was conducted utilizing multiple databases that provide reliable evidence of high quality. Databases included in the search were CINAHL, PubMed and MEDLINE. Access to these databases was obtained through the University of Mary Welder Library. Searches were completed using the keyword strategy. Keyword searching is a powerful strategy that utilizes keywords derived from the PICO question (Melnyk & Fineout-Overholt, 2019). This strategy searches for the presence of the keyword(s) in any of a publication’s searchable fields. Keywords included in the search were “anxiety,” “follow-up appointment,” “anxiety screening,” and “anxiety diagnosis rate.” In order to refine the search the Boolean operator AND was applied to combine keywords in various configurations as detailed in Table 1. To further regulate the search the limiters were placed to include literature in English, published within the last 10 years, published in academic journals, and all adults aged 19 and over. An exception existed in the search of CINAHL and MEDLINE for keyword “anxiety” in which subject heading anxiety was chosen and the CINAHL search limited to most recent five years to find the most up to date and relative literature in a vast pool of results. PubMed allowed for the additional specification of the type of study to which clinical study, comparative study, controlled clinical trial, observational study, validation study, systematic review, metanalysis, and randomized control trial were used. Table 1 illustrates the parameters and numerical results of each search performed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 1** |  |  |  |  |  |  |
|  | |  |  |  |  |  |
| *Literature Search Table* | |  |  |  |  |  |
| CINAHL | Subject Heading Search | Search Results | Limits | Total | Total Articles Reviewed | Total Articles Included Excluding Duplicates |
| 1 | Anxiety | 132,780 | English, published last 5 years, academic journals, all adult (19+ years), major subject heading: anxiety | 3,859 | 11 | 2 |
| 2 | Follow up appointment | 1,716 | English, published last 10 years, academic journals, all adult (19+ years) | 495 | 14 | 1 |
| 3 | Anxiety Screening | 1,263 | English, published last 10 years, academic journals, all adult (19+ years) | 364 | 13 | 3 |
| 4 | Anxiety Diagnosis Rate | 44 | English, published last 10 years, academic journals, all adult (19+ years) | 17 | 6 | 0 |
| 5 | 1 and 2 | 76 | English, published last 10 years, academic journals, all adults (19+ years) | 25 | 3 | 1 |
| 6 | 1 and 3 | 1,263 | English, published last 10 years, academic journals, all adult (19+ years) | 364 | 13 | 0 |
| 7 | 1 and 4 | 44 | English, published last 10 years, academic journals, all adult (19+ years) | 17 | 3 | 0 |
| 8 | 2 and 3 | 3 | English, published last 10 years, academic journals, all adults (19+ years) | 2 | 1 | 0 |
| 9 | 2 and 4 | 4, 258 | English, published last 10 years, academic journals, all adults (19+ years) | 1,128 | 18 | 3 |
| 10 | 3 and 4 | 4 | English, published last 10 years, academic journals, all adult (19+ years) | 2 | 0 | 0 |
| PubMed | Subject Heading Search | Search Results | Limits | Total | Total Articles Reviewed | Total Articles Included Excluding Duplicates |
| 1 | Anxiety | 23,403 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 14,868 | 24 | 0 |
| 2 | Follow up appointments | 1,140 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 890 | 14 | 0 |
| 3 | Anxiety Screening | 8,529 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 4,758 | 12 | 1 |
| 4 | Anxiety Diagnosis Rates | 878 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 737 | 7 | 0 |
| 5 | 1 and 2 | 592 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 102 | 2 | 1 |
| 6 | 1 and 3 | 8,529 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 4,758 | 3 | 0 |
| 7 | 1 and 4 | 878 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 737 | 7 | 1 |
| 8 | 2 and 3 | 234 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 33 | 2 | 0 |
| 9 | 2 and 4 | 5 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 11 | 1 | 0 |
| 10 | 3 and 4 | 589 | English, Adult 19+, Human Species, published last 10 years, Clinical Study, Comparative Study, Controlled Clinical Trial, Observational Study, Validation Study, Systematic Review, Metanalysis, Randomized Controlled Trial | 395 | 8 | 1 |
| MEDLINE | Subject Heading Search | Search Results | Limits | Total | Total Articles Reviewed | Total Articles Included Excluding Duplicates |
| 1 | Anxiety | 331,268 | English; Human; Adult 19-64; published in last 10 years; academic journals; major subject heading: anxiety | 2,610 | 26 | 1 |
| 2 | Follow up appointments | 8,712 | English; Human; Adult 19-64; published in last 10 years; academic journals | 505 | 3 | 0 |
| 3 | Anxiety Screening | 15,592 | English; Human; Adult 19-64; published in last 10 years; academic journals | 309 | 11 | 1 |
| 4 | Anxiety Diagnosis Rates | 10,684 | English; Human; Adult 19-64; published in last 10 years; academic journals | 17 | 4 | 0 |
| 5 | 1 and 2 | 404 | English; Human; Adult 19-64; published in last 10 years; academic journals | 61 | 1 | 0 |
| 6 | 1 and 3 | 15,592 | English; Human; Adult 19-64; published in last 10 years; academic journals | 789 | 15 | 0 |
| 7 | 1 and 4 | 10,684 | English; Human; Adult 19-64; published in last 10 years; academic journals | 502 | 10 | 0 |
| 8 | 2 and 3 | 63 | English; Human; Adult 19-64; published in last 10 years; academic journals | 11 | 11 | 0 |
| 9 | 2 and 4 | 34 | English; Human; Adult 19-64; published in last 10 years; academic journals | 8 | 8 | 0 |
| 10 | 3 and 4 | 1,396 | English; Human; Adult 19-64; published in last 10 years; academic journals | 70 | 8 | 0 |
| Totals |  | **580,657** |  | **38,443** | **259** | **15** |

**Literature Appraisal**

The strength of the literature reviewed was assessed using the Johns Hopkins Evidence-Based Model. The Johns Hopkins Model was chosen due to its ease of use and accompanying tools. Alongside the evidence hierarchy are a myriad of evidence-based practice (EBP) tools to assist with question development, literature appraisal and synthesis, and publication. Evidence is graded levels one through five with one being the highest level. Level 1 encompasses randomized controlled trials (RCT), explanatory mixed methods design that includes only level 1 quantitative study, and systematic reviews of RCTs. Level 2 includes quasi-experimental study, explanatory mixed methods design that includes only level 2 quantitative study, and systematic review of combination of RCTs and quasi-experimental studies or quasi-experimental studies alone. Level 3 is comprised of nonexperimental study, systematic review of combination of RCT, quasi-experimental and nonexperimental studies, or non-experimental studies alone, exploratory, convergent, or multiphasic mixed methods studies, explanatory mixed methods design including only level 3 quantitative study, qualitative study, and systematic review of qualitative study. Level 4 encompasses the opinion of respective authorities to include clinical practice guidelines and consensus panels/position statements. Finally, Level 5 includes scoping reviews, integrative reviews, literature reviews, quality improvement, case reports and opinion of recognized experts based on experiential evidence (Johns Hopkins Medicine, n.d.). Table 2 depicts the synthesis of the chosen articles using the Johns Hopkins Evidenced-Based Model.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 2** |  |  |  |  |  |  |  |  |
|  | |  |  |  |  |  |  |  |
| *Literature Matrix Grid* | |  |  |  |  |  |  |  |
| Author/Title/Journal/Year Published | Purpose/Problem/Objective/Aims | Study Design | Sample (Setting) | Data Collection/ Measures | Analysis/Outcomes | Strengths/Limitations | Study Quality | Level of Evidence |
| Bisby, M. A., Karin, E., Scott, A. J., Dudeney, J., Fisher, A., Gandy, M., Hathway, T., Heriseanu, A. I., Staples, L., Titov, N., & Dear, B. F. (2022). Examining the psychometric properties of brief screening measures of depression and anxiety in chronic pain: The patient health questionnaire 2‐item and generalized anxiety disorder 2‐item. *Pain Practice*, *22*(4), 478–486. <https://doi.org/10.1111/papr.13107> | Aimed to evaluate the psychometric properties of the PHQ-2 and GAD-2, as well as the PHQ-9 and GAD-7, including validity, reliability, diagnostic accuracy, and responsiveness to change following treatment. | Randomized control trial | 1333 individuals who had (1) pain for longer than 6 months, (2) pain had been assessed by a medical professional, (3) Australian resident, (4) at least 18 years of age, (5) access to a computer and internet, and (6) not currently experiencing a psychotic illness, severe depression, or suicidal ideation. | Taken from a larger questionnaire battery which participants completed at three time-points: initial assessment, pre-treatment, and post-treatment. There were 2-4 weeks between initial assessment and pre-treatment and 8-12 weeks between pre-treatment to post-treatment. | Findings suggest that brief versions can be used in individuals with chronic pain to screen for anxiety and depressive symptoms and diagnostic status over the internet, and these scales can accurately track changes in symptoms over time. | Limitations: the diagnostic interview data was only available for a sub-group of individuals who were subject to other eligibility criteria. Participants who reported very severe depressive symptoms on the PHQ-9 were excluded from the original study, which restricted the analysis. Did not combine the GAD-2 and PHQ-2 to examine the PHQ-4.  Strengths: First to suggest cutoff scores for screening anxiety and depressive symptoms in a heterogeneous chronic pain sample. | High | 1 |
| Bolgeo, T., di Matteo, R., Simonelli, N., Dal Molin, A., Lusignani, M., Bassola, B., Vellone, E., Maconi, A., & Iovino, P. (2023). Psychometric properties and measurement invariance of the 7-item General Anxiety Disorder scale (GAD-7) in an Italian coronary heart disease population. *Journal of Affective Disorders*, *334*, 213–219. <https://doi.org/10.1016/j.jad.2023.04.140> | This research examined the structural and construct validity, internal consistency reliability, and measurement invariance (across gender and age) of the GAD-7 in many patients with CHD. | Secondary analysis of data from a longitudinal study. | 398 adults over 18 were diagnosed with CHD at five healthcare centers in Italy. Participants had to be clinically stable, understand Italian, and not have severe heart disease or cognitive impairment (Six-Item Screener score > 4). | Baseline data was taken from the HEARTS-IN-DYADS study from an adult inpatient sample across multiple healthcare facilities in Italy. The study used GAD-7 and PHQ-9 to measure anxiety and depression and validated the results by comparing them with other sociodemographic characteristics. Internal consistency reliability was also assessed using Cronbach's alpha and composite reliability index. The study showed that the measurement invariance across gender and age was established through confirmatory multigroup factor analysis. | The GAD-7 is a reliable and valid tool for measuring anxiety in Italian patients with CHD. It has consistent properties across different genders and age groups, making it suitable for significantly comparing anxiety scores. | Limitations: The sample was only from one European country and had a small female sample size.  Strengths: consistent with other research that GAD-7 is reliable and valid | Moderate | 3 |
| Bradley, P., Shiekh, M., Mehra, V., Vrbicky, K., Layle, S., Olson, M. C., Maciel, A., Cullors, A., Garces, J. A., & Lukowiak, A. A. (2018). Improved efficacy with targeted pharmacogenetic-guided treatment of patients with depression and anxiety: A randomized clinical trial demonstrating clinical utility. *Journal of Psychiatric Research*, *96*, 100–107. <https://doi.org/10.1016/j.jpsychires.2017.09.024> | The purpose was to assess the impact of pharmacogenetics-based treatment on patients who have been diagnosed with depression and anxiety across a broad range of clinical settings and compare this approach with the standard of care. | Prospective, double-blinded, randomized trial | 685 adult patients between ages 19-87 with a diagnosis of depression or anxiety using DSM-V criteria. Study participants were patients of providers who specialized in psychiatry, internal medicine, obstetrics and gynecology, and family medicine in 20 different clinical sites. | Both control and experimental groups were subjected to sample procedures, but the experimental group had samples collected to run a NeuroIDgenetix® test report. Test results were released to providers caring for the experimental group while the standard of care treated the control group. Trained raters conducted HAM-A and HAM-D17 interviews to monitor and evaluate depression and anxiety symptoms in both groups at study initiation (baseline) and during the 4, 8, and 12-week follow-up visits. | Pharmacogenetic-guided medication selection significantly improved outcomes for patients diagnosed with moderate to severe depression or anxiety in various healthcare settings, according to the study. | Limitations: Over 100 study participants were lost to follow-up, 3/4 of the participants were female  Strengths: Study participants were sampled over a wide age range and clinical settings, double-blinded decreases bias, large sample | High | 1 |
| D’amico, L. N., Hanania, H., & Lee, L. T. (2023). Enhancing Provider Mental Health Screening in Primary Care: A Quality Improvement Project. *Journal of Doctoral Nursing Practice*, *16*(3), 196–204. <https://doi.org/10.1891/JDNP-2022-0042> | The purpose was to enhance the screening and diagnosis process for anxiety and depression among adult patients in a primary care clinic by implementing a mental health screening interview technique. | Quality improvement project | Three providers in one primary care clinic | A new mental health screening interview technique that included various motivational interviewing methods was implemented during the project. Surveys were conducted to assess providers' perceptions, and ICD-10 code data was collected to evaluate the technique's effectiveness. | After technique implementation, providers felt more at ease and favored the new structured mental health interview screening method. | Limitations: The COVID-19 pandemic and varied ICD-10 documentation were limitations of the project, which was implemented for only three months and limited to the number of providers available at the approved clinic. The short duration of the project may not provide a clear picture of long-term trends in the clinic and surrounding community.  Strengths: survey data collected objectively, ICD 10 information obtained via EHR without bias | Moderate | 5 |
| Daniel, M., Maulik, P. K., Kallakuri, S., Kaur, A., Devarapalli, S., Mukherjee, A., Bhattacharya, A., Billot, L., Thornicroft, G., Praveen, D., Raman, U., Sagar, R., Kant, S., Essue, B., Chatterjee, S., Saxena, S., Patel, A., & Peiris, D. (2021). An integrated community and primary healthcare worker intervention to reduce stigma and improve management of common mental disorders in rural India: protocol for the SMART Mental Health programme. *Trials*, *22*(1). <https://doi.org/10.1186/s13063-021-05136-5> | The objective of this research is to assess the practicality, clinical efficacy, and cost-effectiveness of a comprehensive primary healthcare worker intervention that aims to detect and treat common mental disorders by implementing an anti-stigma campaign along with an electronic decision support system that uses mobile technology called the Systematic Medical Appraisal Referral and Treatment (SMART) Mental Health Programme. | Cluster randomized controlled trial with parallel groups. | Adults over 18 from 133 rural villages in Andhra Pradesh and Haryana, India. Up to 165,000 will be screened at participating public health clinics. | The proposed data collection measures are to screen participants to determine study inclusion, to re-screen at the beginning of the study to reaffirm participants' appropriateness for the study, and then on five separate occasions over 12 months after interventions have been implemented. Independent field investigators will be blinded to the intervention allocation of participants. | Expected outcomes: the study proposes that the intervention will result in a higher proportion of adults at a high risk of common mental disorders achieving remission for depression, anxiety, and suicide risk. | Limitations: A limitation is that the study will be conducted across two regions and may not provide data that can be generalized over all of India or beyond  Strengths: The proposed interventions align with the World Health Organization's Mental Health Action Plan and India's National Mental Health Policy recommendations, blinded randomization, required sample size for statistical significance is defined | Low: Study protocol | 5 |
| Fisher, K., Rice, S. M., Oliffe, J. L., King, K., & Seidler, Z. E. (2023). Young men and anxiety: Resisting, reckoning and responding. *Sociology of Health and Illness*, *45*(7), 1462–1482. <https://doi.org/10.1111/1467-9566.13641> | This study aims to investigate the anxiety experience of young men and provide an overview of how their anxiety progresses over time. | Qualitative Interviews | Twenty-five young men aged 15 to 25 who scored >6 on the Overall Anxiety Severity and Impairment Scale, indicating moderate anxiety. | Semi-structured and guided interviews by one of the authors were later transcribed and then analyzed with a grounded theory approach. | The interviews showed that initially, young men experienced physical symptoms without linking them to anxiety, but later gained insight into the life-limiting bounds of their anxiety. Some chose to accept their anxiety, seek help, and use adaptive coping strategies, leading to improved mental health outcomes. | Limitations: The study had a small sample size and comprised generally heterosexual Caucasian men.  Strengths: defined inclusion and exclusion criteria, random sampling of community and clinic patients, interviews conducted by same researcher and recorded | Moderate | 3 |
| Goldberg, D. P., Reed, G. M., Robles, R., Minhas, F., Razzaque, B., Fortes, S., Mari, J., Lam, T., Garcia, J., Gask, L., Dowell, A. C., Rosendal, M., Mbatia, J. K., & Saxena, S. (2017). Screening for anxiety, depression, and anxious depression in primary care: A field study for icd-11 phc. *Journal of Affective Disorders*, *213*, 199–206. <https://doi.org/10.1016/j.jad.2017.02.025> | Tested very brief assessments of depression and anxiety consisting of only a minimal number of additional questions designed to be asked by the PCP, minimizing the additional time required in the patient encounter and obviating the need for paper and pencil tests and instrument testing | Cross-sectional descriptive design | Patients being seen for primary care visits as a part of usual care in one of the participating centers, who were at least 18 years of age and whose PCP suspected they might be psychologically distressed. (1488 participants) | PCPs completed a patient encounter form which included the two five-item screening scales for depression and anxiety. PCPs were asked to administer the two preliminary screening questions for each scale and only if they obtained a positive answer to either screening question to ask the remaining three questions. | The two five-item screening scales for anxiety and depression provide a practical way for PCPs to evaluate the likelihood of mood and anxiety disorders without paper and pencil measures. These scales provide substantially improved case detection as compared to current primary care practice and a realistic alternative to complex diagnostic algorithms used by specialist mental health professionals. | Limitations: study was confined to individuals in whom the PCP suspected psychological distress, so the study does not provide information about the prevalence of mental disorders in primary care.  Strengths: sample encompasses multiple cultures, languages and SES across several countries enhancing generalizability, wide inclusion criteria, large sample size (n=1488), statistical analysis defined, | Moderate | 3 |
| Habit, N. F., Johnson, E., & Edlund, B. J. (2018). Appointment reminders to decrease 30-day readmission rates to impatient psychiatric hospitals. *Professional Case Management, 23*(2), 70-74. <https://doi-org.ezproxy.umary.edu/10.1097/NCM.0000000000000248> | Reduce 30-day readmission rates to inpatient psychiatric hospitals by standardizing discharge process to include scheduling outpatient appointments and postal mail reminders. | Quasi-experimental | 50 bed inpatient psychiatric hospital, adult patients, all patients discharged for 3 months pre and 3 months post intervention | Standardized postal reminder letter that included patient name, appointment date and time, provider name and contact information, social worker contact information. Measures included 30-day readmission rates in the 3 months before and after the intervention. | Decrease in readmission rates from 10% to 9% after intervention. December is an outlier month of historically high readmission rates and when removed revealed record low 30-day readmission rates for the remaining months. | Limitations: not given any information on whether appointments were kept, no information on statistical tests or results, difficult to show causality with no control group  Strengths: large sample, no bias as all patients were included | Moderate | 2 |
| Hughes, A. J., Dunn, K. M., Chaffee, T., Bhattarai, J., & Beier, M. (2018). Diagnostic and clinical utility of the gad-2 for screening anxiety symptoms in individuals with multiple sclerosis. *Archives of Physical Medicine and Rehabilitation*, *99*(10), 2045–2049. <https://doi.org/10.1016/j.apmr.2018.05.029> | To assess the diagnostic and clinical utility of the 2-item GAD-2 for screening anxiety symptoms in individuals with multiple sclerosis | Cross sectional | Adults ages 19-72 with a physician-confirmed MS diagnosis who were receiving care in a university-affiliated MS center. | Participants completed the GAD-7 and GAD-2. Internal consistency was calculated for both measures. | The GAD-2 is a clinically useful and psychometrically valid tool for screening anxiety symptoms in MS rehabilitation and neurology care settings. | Limitations: It is possible the recommended cutoff may change over the course of an individual’s disease and lifetime and currently research is too limited to speculate on how those changes may affect the understanding of anxiety in MS. The study did not employ a criterion standard for diagnosing anxiety disorders as it was beyond the scope of the current study. Disability severity ratings were not collected, limiting the potential to examine associations between disability severity and anxiety. Finally, compared to similar studies, a smaller number of the sample met criteria for clinically significant anxiety on the GAD-7.  Strengths: results supported the hypothesis that the GAD-2 cutoff score would yield adequate sensitivity and specificity for detecting clinically significant anxiety symptoms. The sample comprised of a range of individuals with MS (severity, age, disease duration, and subtype) | High | 3 |
| Mavandadi, S., Wright, E., & Oslin, D. (2018). Message framing and engagement in specialty mental health care: A follow-up analysis. *Psychiatric Services, 69*(10), 1109-1112. | Examine extent to which varying the message frame of appointment reminder letters was associated with attendance rates in specialty mental health appointments. | Randomized Control Trial | Patients receiving care at a VA medical center who met criteria for major depression, had not seen specialty mental health provider in previous 6 months, accepted an appointment scheduled at end of appointment. Excluded if cognitive, hearing or other impairments that made initial assessment difficult. 360 patients were included. They were primarily male, non-Hispanic black with mean PHQ-9 of 13+3.8. | Patients were randomly assigned and divided equally to receive a routine reminder letter, gain-framed letter or loss-framed letter for their appointment within the next 6 months. Letters were delivered 1-3 days before the scheduled appointment. Appointment information was tracked within the EHR and entered into a database. Socioeconomic information was collected during the clinical interview. Appointment attendance was recorded dichotomously as a 0 for did not attend and a 1 for did attend. | No significant difference was found across any of the socioeconomic variables. Patients who received the gain-framed letter were significantly more likely to attend the scheduled appointment (p=0.01, CI 95%). No significant difference was found among patients who received loss-framed letters versus gain-framed or neutral. A brief, gain-framed message is associated with increased appointment attendance. | Limitations: specific population may not be generalizable, no adjustment for confounding variables that may affect engagement and ability to attend appointment, no way to know whether patients received or read the reminder  Strengths: random sample minimizes bias and enhances validity, statistically significant results, consistent with other studies, clear inclusion and exclusion criteria, long study period (March 2015 – Sept 2016) | High | 1 |
| Nelson, H. D., Cantor, A., Pappas, M., & Weeks, C. (2020). Screening for anxiety in adolescent and adult women a systematic review for the women’s preventive services initiative. In *Annals of Internal Medicine* (Vol. 173, Issue 1, pp. 29–41). American College of Physicians. <https://doi.org/10.7326/M20-0579> | To assess the effectiveness of screening for anxiety disorders in primary care in improving symptoms, function, and quality of life, as well as the accuracy of screening instruments, and effectiveness and harms of treatments. | Systematic Review of controlled trials | Adolescent girls and women not diagnosed with anxiety disorders. | Analysis of individual studies | The available evidence regarding the overall effectiveness and potential harms of screening for anxiety is not sufficient. However, it has been found that most screening tools have a moderate to high level of accuracy. Furthermore, therapies focusing on behavior and anti-anxiety medications have proven to improve the symptoms of anxiety. | Limitations: There is insufficient information available on the potential long-term negative effects of treatment and the lack of clinical trials for both treated and untreated pregnant or postpartum women  Strengths: large group of studies reviewed, review process described | High | 1 |
| Santomauro, D. F., Mantilla Herrera, A. M., Shadid, J., Zheng, P., Ashbaugh, C., Pigott, D. M., Abbafati, C., Adolph, C., Amlag, J. O., Aravkin, A. Y., Bang-Jensen, B. L., Bertolacci, G. J., Bloom, S. S., Castellano, R., Castro, E., Chakrabarti, S., Chattopadhyay, J., Cogen, R. M., Collins, J. K., … Ferrari, A. J. (2021). Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *The Lancet*, *398*(10312), 1700–1712. <https://doi.org/10.1016/S0140-6736(21)02143-7> | The objective of this study was to measure the effect of the COVID-19 pandemic on the worldwide prevalence and burden of major depressive disorder and anxiety disorders in the year 2020. | A systematic review of a combination of different studies | Forty-eight studies met the criteria for major depressive disorder and anxiety disorders. | The authors performed a meta-regression analysis on studies from Pubmed, Google Scholar, grey literature sources, and experts. | The COVID-19 pandemic has highlighted the need to strengthen mental health systems across many countries. Strategies could be developed to improve mental well-being, target factors that contribute to poor mental health, and treat patients with mental disorders. Ignoring the burden of major depressive disorder and anxiety disorders should not be an option. | Limitations: the available data limited the authors' ability to measure the effect of COVID-10 effectively.  Strengths:  The authors state that this is the first study to quantify the prevalence and burden of depression and anxiety globally after COVID-19, search parameters defined, large amount of data reviewed, statistically significant results showing relationship between Covid-19 and depression and anxiety | High | 2 |
| Smith, D. W., Vess, J., & Johnson, E. (2019). Increasing follow-up rates at a free clinic. *Journal of Community Health Nursing, 36*(2), 86-90, <https://doi-org.ezproxy.umary.edu/10.1097/NCM.0000000000000248> | Increase follow-up visit rates at a free clinic and evaluate effectiveness on SMS messaging on follow-up adherence | Quasi-experimental | Free medical clinic in southeastern US that serves adults of low SES. Age ranged 18-74, included male and female as well as Hispanic and non-Hispanic participants. Inclusion criteria was patients seen on Tuesdays from March to May 2018 compared to March-May 2017. A total of 348 were included. | The clinic’s EHR was used to gather information regarding patient demographics and follow-up appointment status. An Excel spreadsheet was used to track appointment date and time. Patients were assigned a number to deidentify them within the spreadsheet. CareMessage was used to send SMS reminder messages to patients who scheduled their appointments before leaving the clinic at 7, 3 and 1 day before their follow-up. If an appointment was not scheduled the patient received a reminder card and a CareMessage 1 month prior to the 6 month limit to call and schedule if they had not already been seen. | Percentage of patients who scheduled follow-up before leaving the clinic increased from 47% to 76%. Of these patients, follow-up adherence increased by 7%. SMS reminders were successful in increasing follow-up rate. | Limitations: no discussion of statistical tests or results, on-site champion left during the study, ensuring correct phone numbers in chart, short project timeframe that did not capture all recommended follow-up timeframes, short staffing to complete all steps  Strengths: no bias as all patients on a given time frame were included, sample 348 people, increased generalizability as the entire population was included | Moderate | 2 |
| Talarico, I. (2021). The use of telehealth to increase mental health services access and promote medication adherence in rural locations. *Journal of the American Association of Nurse Practitioners*, *33*(11), 1074–1079. <https://doi.org/10.1097/JXX.0000000000000495> | This project aimed to determine if telemedicine could improve access to healthcare providers and medication adherence for patients diagnosed with mental health disorders in a specialized treatment center in northeast Florida. The study also aimed to assess patient satisfaction with telemedicine. | Pilot Project | 40 adult participants located in northeast Florida who were diagnosed with various mental disorders and received care at a specialty mental health facility | Self-reported medication adherence surveys were given before the telehealth interactions, and a patient satisfaction survey was given after their first telehealth visit. | The study found that telehealth services provided by psychiatric-mental health nurse practitioners (PMHNPs) were effective in catering to mental health and dual diagnosis patients residing in rural areas. As a result of this project, the facility expanded its telehealth services and now employs three remote PMHNPs to provide care to patients in need. | Limitations included a small sample size and limited subjective feedback from participants.  Strengths: analyzing a new way to provide access to mental health in a rural area. | Moderate | 3 |
| Zhong, X., Liang, M., Sanchez, R., Yu, M., Budd, P. R., Sprague, J. L., & Dewar, M. A. (2018). On the effect of electronic patient portal on primary care utilization and appointment adherence. *BMC Medical Informatics and Decision Making, 18*(84). <https://doi.org/10.1186/s12911-018-0669-8/> | Investigate impact of patient portal adoption on patients’ primary care utilization and appointment adherence. | Observational study | University of Florida Health which includes multiple hospitals and clinics. The study period was July 1, 2013 – June 30, 2016. EHR information was obtained from 46,544 patients. Who had at least one appointment in the study timeframe. Users were defined as patients who enrolled in the portal during the study period and maintained enrollment throughout. Temporary and consistent users excluded. Nonusers never adopted portal use. 15,659 non-users and 5494 users were identified. | Patients were divided into categories of users and non-users based on utilization of the patient portal. EHR was used to obtain demographic data to include age, gender, race, marital status. Monthly portal usage and clinic usage were consolidated by quarter. | Portal adoption increased throughout the study period. Patients with higher care needs were more likely to adopt portal use. No-show rate was significantly lower in users compared to nonusers. Cancellation rates were not affected significantly. Overall adherence rates were improved. | Limitations: usage of specific portal features not identified, cannot establish relationship between health concern and care utilization, cannot address whether portal access affects health outcomes  Strengths: large sample size, no bias as patients were categorized based solely on portal use, IRB approval noted, study length of 3 years, thorough statistical evaluation, statistically significant results, | High | 3 |

**Literature Synthesis**

Anxiety disorders are one of the leading mental health conditions worldwide, with symptoms that can be acutely devastating to a person's daily life. Anxiety is related to significant financial, health-related, and personal burdens, impacting global economies (Santomauro et al., 2021). A review of the literature showed evidence of the validity of two potential options for anxiety screening: the GAD-7 and the GAD-2. The review also identified barriers to follow up compliance and suggested various strategies that could be utilized to improve compliance, such as communication-based reminders and involving the patient in their care.

**Anxiety Prevalence and Burden**

Anxiety disorders refers to a range of related conditions, such as panic disorder, agoraphobia, social anxiety disorder, and generalized anxiety disorder (Nelson et al., 2020). The symptoms of these disorders range from mildly disruptive to completely life-debilitating. Symptoms can include intrusive and uncontrollable distressing thoughts, difficulties concentrating, irritability, as well as somatic symptoms such as sleep disturbances, headaches, gastrointestinal disruption, and tension (Bolgeo et al., 2023; Nelson et al., 2020). It is essential for researchers to determine the prevalence and impact of anxiety disorders to be able to develop appropriate health services and plan healthcare resources to aid the population effectively.

Anxiety disorders are a common and debilitating mental health issue both in the United States and around the world, ranking in the top 25 leading burden causes worldwide with 44.5 million disability-adjusted life years lost globally due to related morbidity or mortality (Santomauro et al., 2021). According to studies by Daniel et al. (2021), Fisher et al. (2022), and Nelson et al. (2020) anxiety disorders are among the leading mental health disorders globally. Kessler et al. (2005) found in their research that 18.1% of Americans reported an anxiety disorder within their 12-month study. Even before the COVID-19 pandemic, many mental healthcare systems globally were overburdened due to underfunding and lack of resources, an upward trend noted since 1990. It was estimated that the global incidence rate of anxiety disorders prior to the COVID-19 pandemic was 3824.9 per 100,000 population. The pandemic understandably increased the global economic and social burden of anxiety disorders, increasing incidence to 4802.4 per 100,000 population after the pandemic (Santomauro et al., 2021). Despite the high prevalence of anxiety disorders, approximately half of the patients with these disorders who visit primary care providers remain undiagnosed (D'Amico et al., 2023).

Anxiety can be a heavy burden both financially and personally. In the United States, the economic burden of anxiety is estimated at $42 billion per year, considering missed workdays and healthcare costs such as treatment and provider visits (Bradley et al., 2018). The financial burden of anxiety is also significant in other large economies like India and China, where it is estimated to cause a reduction in economic growth of over $9 trillion US dollars over 15 years (Daniel et al., 2021).  According to Bolger et al. (2023) anxiety increases the risk of disability, poor quality of life, and individual mental distress. Moreover, there is a growing body of evidence linking anxiety to cardiac events, such as cerebral vascular accidents and heart failure, and increasing the risk of poor cardiac outcomes in adults with coronary heart disease (Bolger et al., 2023). Additionally, Fisher et al. (2022) also stated anxiety places a person at further risk of socially withdrawing, increased risk-taking behaviors, and substance abuse disorder.

While anxiety is present across all demographics, some groups are more at risk than others. Anxiety is more prevalent in women, with 40% of women predicted to have an anxiety disorder in their lifetime, and 23% of them reportedly having an anxiety disorder within the previous year (Nelson et al., 2020). In comparison, 11% of the male population have been diagnosed with an anxiety disorder, however, men are chronically underdiagnosed (Fisher et al., 2022; Nelson et al., 2020). A second identified population at risk is individuals living in rural areas. Fifteen million Americans are considered part of the rural population, a vulnerable demographic characterized by lower income, an aging population, and increased difficulties with accessing healthcare. Of the 15 million rural Americans, an estimated 20% have been diagnosed with a mental disorder. Because of these disadvantages, rural Americans have significant mental health disparities compared to their urban counterparts (Talarico, 2021).

**Screening and Diagnosis**

A theme found within the literature search consisted of ways to improve the screening and diagnosis of anxiety. The GAD-7 is a questionnaire designed to assess the severity of anxiety symptoms (Bisby et al., 2022; Hughes et al., 2018). This tool can be used to screen for and diagnose generalized anxiety disorder. When completing the literature analysis, several barriers for completing the GAD-7 were identified. One of the barriers identified for the lack of screening for anxiety included the lack of time for providers (Goldberg et al., 2017). A way to combat the lack of time includes utilizing a shortened version of the GAD-7. One shortened version is structured to include two screening questions and an additional set of three questions to be asked if either of the screening items was positive. It was found that the five-item screening scale for anxiety provided a practical way for providers to evaluate for anxiety (Goldberg et al., 2017). Another shortened version was identified by Bisby et al. (2022) known as the GAD-2. The GAD-2, like the GAD-7, has each item rated on a 4-point Likert scale based on how frequently the patient has experienced symptoms in the last two weeks (Hughes et al., 2018). The GAD-2 is well suited for routine care due to the ease of administration (Bisby et al., 2022).

Bisby et al. (2022) also evaluated the psychometric properties of the GAD-2 and PHQ-2. While this study evaluated the use of these two screening tools for individuals dealing with chronic pain, the GAD-2 has demonstrated acceptable reliability and validity in treatment-seeking populations. It has been suggested that the brief versions can be used to screen for anxiety as well as to track changes over time (Bisby et al., 2022). It should be noted that the GAD-2 has the potential to identify individuals at risk for anxiety disorders who may benefit from psychological interventions to improve the quality of the individual’s life (Hughes et al., 2018). A score of greater than 3 in the GAD-2 is indicative of an acceptable cutoff for identifying clinically significant anxiety symptoms in the general population (Hughes et al., 2018). The shortened versions of the GAD-7 described above are just some of the ways a rural health clinic can improve their overall screening rates.

**Follow-up/Compliance**

Compliance with follow-up appointment recommendations is not a topic unique to anxiety or mental health. Therefore, strategies to improve follow-up compliance can be sought from various clinical settings. Strategies utilized were reviewed from psychiatric inpatient, mental health specialty, free clinic, and primary care. Common barriers to adherence included forgetfulness, confusion over appointment date/time, lack of transportation, and lack of understanding of importance of appointment (Habit et al., 2018; Smith et al., 2019). All the barriers, aside from lack of transportation, could be addressed by clinic staff in an effort to improve adherence and attendance of recommended follow-up appointments. The implementation of an effective appointment reminder system has the potential to combat forgetfulness, eliminate confusion about appointment details and to convey the importance of attending the visit.

Follow-up appointment reminders occurred via several communication modalities. Reminder methods included telephone, postal mail, SMS messages and patient portal utilization. All methods have been shown to improve appointment adherence (Habit et al., 2018; Mayandadi et al., Smith et al., 2019; 2018; Zhong et al., 2018). Appointment adherence was guided by a cognitive process and was impacted by type of reminder, language used in reminders as well as patient involvement (Mayandadi et al., 2018; Zhong et al., 2018). Text based modalities were shown to be more effective than telephone calls with SMS text message reminders increasing follow-up rates by 7% (Habit et al., 2018; Smith et al., 2019). Mayandadi et al. (2018) compared the effectiveness of gain-framed language, loss-framed language and neutral language reminder letters. Gain-framed language focused on the benefits of appointment attendance while loss-framed language highlighted the consequences of missing the appointment. Results showed gain-framed language resulted in more appointments attended and was more effective in encouraging preventative or recuperative visits as compared to diagnostic visits (Mayandadi et al., 2018). Further, the degree of which a patient is involved in their care impacted their overall engagement with their provider but also, when accomplished through a patient portal, decreased appointment no-show rates (Zhong et al., 2018). The evidence considered cumulatively favors a text-based reminder through a platform the patient can engage with using gain-framed language delivered 24-36 hours prior to the appointment to address all recognized barriers.

**Theory Overview and Clinical Fit**

The Theory of Chronic Illness Management is also known as the Trajectory Model or Corbin-Strauss Model after the creators, medical sociologist Anselm Straus and nurse theorist Juliet Corbin (Current Nursing, 2020). The Trajectory Model is intended as a tool in the management of chronic illness to better understand the patient's perspective by aligning the nursing model with the phase of illness that the patient is in. This alignment allows for the formation of appropriate goals. Trajectory refers to the course an illness takes over time through different stages. Chronic illnesses can span several years or the entirety of a person’s life and can affect their physical and mental well-being.

Chronic illness trajectory can be explained in the eight stages of pre-trajectory, trajectory onset, crisis, acute, stable, unstable, downward, and dying. Pre-trajectory and trajectory onset are the first phases in which there are no signs and symptoms and then signs and symptoms develop. Crisis, acute, stable and unstable phases may recur. The crisis phase is life-threatening whereas the acute phase follows the crisis, and the symptoms are able to be managed. The stable phase includes that of symptom control and the unstable phase occurs when a previously effective management plan is no longer working. The cycle ends with the downward phase of progressive deterioration and finally the dying phase in the person’s final weeks of life. Depending on the disease process, these stages may or may not occur in a linear fashion. To respond to these stages, the Trajectory Model employs the six steps of identifying the trajectory phase, identifying problems and establishing goals, establishing plans to meet goals, identifying factors that facilitate or hinder goal attainment, implementing interventions, and evaluating effectiveness (Current Nursing, 2020).

The Trajectory Model was chosen for this project as it relates well to the chronicity and lability of anxiety. This project seeks to affect the care of anxiety at a rural clinic and the confidence of the professionals providing the care. Anxiety can wax and wane throughout a person’s life. In comparison to the stages of chronicity, a person can have anxiety symptoms ranging from well-managed to critical. The key to managing patients with anxiety is to understand what stage they are currently in and work with them to make management goals. The Trajectory Model allows for the analysis of the patient’s current state and gives logical steps for the clinician to progress through during the patient encounter to promote success in appropriate goal formation and achievement.

**Theory Evaluation**

To initiate change and effectively integrate the GAD-2 screening tool into an already established healthcare system, it is important to evaluate the appropriateness of the Trajectory Model. The Trajectory Model views chronic disease as a multidimensional experience with biomedical, psychosocial, and environmental components that constitute the illness experience. To fully explore the evaluation of the Trajectory Model, various factors will be discussed such as its operationalization, application, performance, relationship, congruence, and tools.

**Theory Application**

The Trajectory of Chronic Illness theory, developed by Corbin and Strauss, is a comprehensive approach to understanding the complex and often challenging work involved in managing chronic illnesses in everyday life. To gain valuable insights into the practical application of this theory, the researchers conducted empirical research by interviewing 60 couples dealing with chronic diseases or disabilities. The duo used open-ended, unstructured interviews to investigate the largely invisible activities required to manage an illness at home over an extended period (Klimmek & Wenzel, 2012).

Through their research, Corbin and Strauss sought to examine how these tasks were performed or disregarded, by whom, under what circumstances, and the outcomes that ensued (Klimmek & Wenzel, 2012). They found that managing chronic illnesses was often performed by family members and caregivers, who were responsible for administering medication, providing emotional support, and coordinating with healthcare providers.

By publishing their work, Corbin and Strauss enabled clinicians and other healthcare professionals to understand better the invisible work their patients with chronic illnesses and family members grapple with daily. The knowledge provided by the new framework allowed healthcare professionals to apply the resulting illness trajectory theory to better tailor solutions to their patients (Klimmek & Wenzel, 2012). The Trajectory of Chronic Illness Theory provided a comprehensive framework for understanding the various stages of chronic illness, the tasks involved at each stage, and the outcomes that could be expected. This theory has been used in previous research to study the care of long-term physical illnesses, such as metastatic breast cancer, stroke, primary glioma, colon cancer, and leukemia (Tang et al., 2023). By adapting their treatment plans to this framework, healthcare professionals could provide more effective and efficient patient care, improving their quality of life and overall outcomes for patients experiencing not only physical chronic illness but mental chronic illnesses, too.

**Theory Performance**

The Trajectory of Chronic Illness theory, a versatile framework, considers various aspects of a person with a chronic condition. It encompasses the different events that occur during the illness, influenced by the individual's reaction to the disease, interactions with people around them, and interventions (Reed & Corner, 2013). While the theory has primarily been applied to physical chronic illnesses, it also provides a comprehensive understanding of chronic mental health disorders like depression or anxiety, broadening its relevance to a wider range of healthcare professionals.

In the Trajectory of Chronic Illness theory, the phases of a chronic illness are described in detail. The first phases, pre-trajectory and trajectory onset, are before and after the onset of symptoms, which can be gradual or sudden and may include physical or psychological symptoms. The next phases, stable/unstable, acute, and crisis, involve adaptation and assimilation of life with symptoms, including coping with acute exacerbations and stable periods with the illness and its impact on daily life. Within these phases are patients navigating and enduring treatments, coordinating care, and finding an acceptable way of life within the limits of the chronic illness, which can be challenging and may involve side effects that affect the quality of life (Reed & Corner, 2013). Clinicians should be aware of the cumulation of symptom burden, which can be overwhelming and can lead to a decline in physical and mental health. The final phases are the downward and dying phases, which may occur rapidly or gradually if the disease is not adequately managed or disease progression has advanced too far for adequate management (Reed & Corner, 2013).

It is important to note that the progression of chronic illness is not usually linear and can be unpredictable. The Trajectory of Chronic Illness theory encompasses those experiences and acknowledges that individuals may move back and forth between phases. The theory also highlights the importance of a holistic approach to managing chronic illness, considering the physical, psychological, and social aspects of the illness and its impact on the individual's life (Reed & Corner, 2013).

**Theory Relationship**

A significant portion of current research on chronic illness management focuses on the work that is essential to manage or treat chronic diseases and their consequences. This work involves various tasks such as managing symptoms, preventing and handling crises, following a regimen, and undergoing regular treatment. To understand illness management, clinicians must consider it within the broader context of a patient's life, its burdens, and the barriers that patients and families may face (Klimmek & Wenzel, 2012). In this regard, the theory of chronic illness trajectory is a model of care that involves the whole process from the onset of symptoms, diagnosis, long-term management, health education, quality monitoring, referrals, therapies, and appointments. By combining the understanding of the physical aspects of chronic illness and the mental load that it also encompasses, this model assists healthcare professionals in helping their patients adjust to their daily lives and enhancing their quality of life (Tang et al., 2023).

Within the scope of the project, the theoretical framework aimed to conceptualize the phase in which individuals with generalized anxiety disorder symptoms initially experience the condition and the various obstacles and challenges that may prevent them from seeking appropriate medical attention. The overarching objective of increasing anxiety screening was to detect these individuals earlier in the trajectory of the disorder. Additionally, improving accessibility to education and tools for treatment and management can help alleviate the barriers and burdens that exacerbate the difficulties of managing the illness effectively. By promoting awareness and facilitating early intervention, the project's goal was to improve outcomes for individuals living with generalized anxiety disorder and contribute to the overall improvement of mental health care in the rural health clinic.

**Theory Congruence**

The Trajectory Model provided a valuable framework for guiding the leaders of this project throughout its various stages. Integrating the GAD-2 screening tool within this framework aligned with the Trajectory Model. The Trajectory Model assumes that chronic diseases occur along a pathway that involves preclinical time, onset of symptoms, periods of symptom exacerbation, stability and instability of disease, and eventually deterioration and death (Current Nursing, 2020). The Model is traditionally used to describe the course of physiologic chronic conditions that have a well-understood trajectory. The mental health condition of anxiety has also shown properties of chronicity and remitting and recurring symptoms that allow the Trajectory Model to apply.

Schopman et al. (2021) defined three courses of anxiety to be remitting, intermittent, and chronic. Remitting courses are considered to no longer meet DSM-5 diagnostic criteria however many still have residual symptoms. The study found that while anxiety often has a favorable prognosis, the clinic course can be convoluted. The nonlinear course of anxiety aligns well with the stages of the trajectory model. The pre-trajectory and trajectory stages encompass the time when a patient does not have symptoms to when they begin to notice anxiety symptoms. Patients with anxiety can experience times of stability and instability. Stable phases are those in which symptoms are well managed. Unstable phases occur when a treatment plan is no longer effective which can occur in relation to tolerance of a medication, excessive stress, or other extenuating circumstances. Crisis phases of anxiety are life-threatening and could encompass suicidal ideations or attempts. The acute phase that follows the crisis is that in which the patient has not returned to baseline status but is no longer in crisis. The final stages of deterioration and death are less directly related to mental health conditions but can result from prolonged undermanagement which could lead to exacerbation of other conditions, suicidality, or progressively declining quality of life. The implementation of routine GAD-2 screenings was intended to allow clinicians the opportunity to identify new anxiety in the pre-trajectory or trajectory stage before it has become an acute or crisis situation. Routine screening was also intended to allow clinicians to consistently monitor patients with anxiety for symptom stability, remission, residual symptoms, and chronicity. Finally, utilization of the resource toolkit was intended to equip clinicians with tools to prevent or intervene during acute, unstable, or crisis encounters.

**Theory Tools**

The trajectory model plays a crucial role in evaluating chronic illnesses by encompassing various phases that help healthcare professionals assess patients' perceptions regarding the disease. The theoretical framework combines insights into the expected trajectory of the disease, the physiological and mental aspects, and the various activities that need to be undertaken to manage the illness (Reed & Corner, 2013). All these aspects work together to evaluate the chronic illness's overall impact on the patient's life.

Reed and Corner (2013) asserted that the trajectory model is essential in providing insights into the inner workings of a patient's perception of their chronic illness, enabling healthcare professionals to develop better treatment plans that thoroughly address the patient's needs. Without a comprehensive understanding of the patient's perception of their illness, healthcare professionals may struggle to address the patient's various needs, ranging from treatment to therapy to overall well-being. As stated previously, the project was expected to identify individuals in the pretrajectory or trajectory phases of the model. The perspectives of the clinicians and nurses who utilize the GAD-2 screening were used to evaluate the project outcome. By using identified themes that are common in the pre-trajectory and trajectory phases, such as reflecting on probable risk factors, helping patients who are having difficulties in navigating the healthcare system, and assisting with readjustment to life after diagnosis, the theory will be instrumental in evaluating the success of the project from the healthcare professionals' perspective (Reed & Corner, 2013).  With the advancements in medical treatments, the number of individuals suffering from chronic illnesses is anticipated to rise in the coming years (Bonsaksen et al., 2015). Hence, the trajectory model continues to be a pertinent tool for assessing patients' perspectives on their chronic illnesses and devising effective treatment strategies to enhance their overall well-being.

**Conclusion**

In summary, this project undertook a thorough examination of the literature to address the prevalence, screening, and follow-up of anxiety disorders. By utilizing reliable databases such as CINAHL, PubMed, and MEDLINE, and employing a meticulous keyword strategy guided by the PICO framework, the review gathered high-quality evidence to inform best practices. The application of the Johns Hopkins Evidence-Based Model has ensured a structured assessment of the literature, providing a clear hierarchy of evidence to support the findings. The review highlighted the significant impact of anxiety disorders on individuals and societies, emphasizing the need for effective screening tools like the GAD-7 and GAD-2. The literature review also identified barriers to follow-up compliance and proposed strategies to enhance adherence, such as communication-based reminders and patient involvement in care. The integration of the Trajectory Model of Chronic Illness into this project provided a valuable framework for understanding and managing anxiety disorders. This model aligned with the chronic and variable nature of anxiety, offering a comprehensive approach to care that considers the patient’s entire illness journey. By adopting this model, the project aimed to improve the detection and management of anxiety, particularly in rural settings where healthcare resources may be limited.

**Chapter 3: Project Recommendations/Determinants of Change/Change Theory/Implementation Planning/Evaluation Planning**

It was imperative to establish a strong foundation for the DNP project through comprehensive planning. Project planning played a pivotal role in achieving success, as it allowed leaders to outline the scope, foresee potential challenges, allocate resources efficiently, and set clear objectives. In this overview, the critical elements of project proposals are explored, specifically focusing on implementing the GAD-2 screening tool, evaluating staff responses to patients displaying anxiety symptoms, and conducting an after-implementation survey to assess staff satisfaction. With meticulous planning and strategic execution, the project leaders aimed to effectively accomplish the project goals and generate a positive impact within the healthcare community.

**Project Recommendations**

Project planning was a critical element of the DNP project that allowed the project to progress promptly and efficiently. Planning allowed for the determination of project scope, determinants of change, costs, necessary tasks, timeline, evaluation plan, and early recognition of potential barriers (Reavy, 2016). Four project recommendations were formulated to define what this project aimed to accomplish. The recommendations included staff education, GAD-2 implementation, evaluation of staff actions for patients with anxiety symptoms, and an after-implementation survey of staff satisfaction with the project, detailed further in the subsequent sections. To efficiently achieve the recommendations, determinants of change needed to be considered as they could have hindered or hastened the project and were essential to address during the planning process. This chapter discusses this project's implementation plan regarding determinants of change, the application of Lewin's change theory, the work breakdown structure, budgetary considerations, and finally, outcome evaluation.

**Recommendation One: Educate Staff on GAD-2 Screening Tool**

It was recommended that specific training material be developed to educate Langdon Prairie Health clinic staff on using the GAD-2 and subsequent GAD-7 anxiety screening tools. The training material included information on the GAD-2 screening tool's purpose, how to administer it, how to interpret the results, and when to appropriately utilize the GAD-7. The training material was developed using evidence-based data that showed the GAD-2 and subsequent GAD-7 are efficient screening tools with excellent sensitivity and specificity for generalized anxiety disorder (Sapra et al., 2020). Materials were also designed to meet the specific needs of primary care clinic staff, considering their clinic workload, level of education, experience, and familiarity with screening tools. A sample of the training material can be found in Appendix B. The educational material and subsequent integration into the electronic medical record flowsheet were coordinated to occur in a timely manner, allowing staff to implement their new knowledge and skills as soon as possible. Finally, the training module was evaluated for effectiveness, using measures such as self-reported staff confidence in using the GAD-2 tool in practice. Measuring staff confidence ensured that the training module met its intended goals, and that primary care clinic staff were equipped with the necessary skills to identify patient anxiety.

**Recommendation Two: Implement the GAD-2 Screening Tool**

The GAD-2 screening was implemented and integrated into the electronic medical record clinic ''rooming'' flowsheets following staff training. The electronic medical record software company EPIC was contacted for assistance in adding the GAD-2 screening tool to the clinic nurses' workspace (Solomond, 2021). Once EPIC completed the GAD-2 flowsheet integration build, clinic nurses were assisted as needed in locating the GAD-2 within the charting system in the rooming flowsheet. Tracking GAD-2 responses within the system allowed for improved documentation and surveillance of patient responses to the tool over time, informing treatment decisions and improving patient outcomes.

**Recommendation Three: Evaluate Actions Taken by Staff for Patients Found to have Anxiety Symptoms (>3 on GAD-2)**

The GAD-2 is an appropriate screening tool for anxiety, but it is not of diagnostic value in adults ages 18-64 without a prior diagnosis of anxiety. For adults whose GAD-2 score is greater than 3, which suggests further assessment, the current recommendation is to complete the GAD-7 for diagnosis confirmation (Sapra et al., 2020). While the provider's clinical judgment was not imposed upon, GAD-2 scores of 3 and above and the subsequent use of GAD-7 were recorded and analyzed before and after project implementation to assess for project impact. Regardless of GAD-7 results, the GAD-2 results are useful in the plan and education provided to the patient. For this project, all GAD-2 scores were gathered by running a report from Epic. The project leaders created a resource binder for use by clinic staff for patients whose screen indicates anxiety symptoms. The resource binder was intended to have a tracking tool and a contact list for counseling services. Any action taken by staff was documented using a table in the resource binder to track use. An example of the tracking tool is found in Appendix C. The contact list for counseling services contained the name of the counseling service, contact information including website and phone number, insurance accepted by the service, and further instructions about the referral process. An example of the contact list is found in Appendix D. The project champion acted as the local expert in use of the GAD-2 screen and resource binder to answer any urgent questions and encourage use of both. Also, the project leaders created an educational handout that was available for patients, as found in Appendix E. The number of handouts distributed was documented.

**Recommendation Four: Survey staff for level of satisfaction with project implementation**

Continuous quality improvement necessitates regular and continuous feedback from project stakeholders. To pinpoint strengths, weaknesses, and recommend revisions to bolster project sustainability, stakeholders were invited to participate in both a before and after implementation survey. These surveys aimed to gather input on the GAD-2 tool, the project itself, and the project leaders. Additionally, it assessed the stakeholders’ perspectives on whether the GAD-2 was useful in routine visits and compared their confidence in care before and after project implementation. These surveys were completed utilizing a Likert scale with various questions as detailed in Appendix F and Appendix G.

**Determinants of Change**

When planning the project, it was essential to carefully consider the determinants of change to ensure its success. A project's innovation, organizational, and environmental characteristics are crucial factors that must be considered. Merely identifying issues and attempting to implement changes with the best intentions may not be enough to sustain the desired outcomes. One of the most important determinants of change is the nature of the innovation itself. For instance, how novel it is and how much it deviates from current practices can significantly influence the success of the change. Project leaders can make change more readily accepted and adopted if rationale and evidenced-based guidelines are tailored to the specific setting (Wensing et al., 2020).

Furthermore, considering the external environment, including regulatory requirements, resource availability, and community attitudes is critical. These factors can significantly influence the feasibility, practicality, and sustainability of the change (Wensing et al., 2020). It is crucial to address potential barriers and facilitators, including those that may be beyond the project team's control. It is also essential to thoroughly assess the readiness for change at the organizational level. To increase the likelihood of successful change implementation, all stakeholders were included, and leaders thoughtfully engaged in buy-in at both the individual and organizational levels (Peterson & Bredow, 2020). Evaluating the readiness and willingness of the organization to adopt the proposed change and the level of support from its leadership and staff will guide project leaders in choosing suitable strategies to support the change (Wensing et al., 2020). Thorough assessment includes identifying individuals who may either champion or impede the planned change within the organization (Peterson & Bredow, 2020). By considering these factors and addressing potential barriers and facilitators, the project team can ensure the success of the proposed change.

**Change Theory**

Kurt Lewin's theory of change is based on the idea that healthcare is constantly changing and at the mercy of the equilibrium between driving and restraining forces (Peterson & Bredow, 2020). Various change theories exist, but all commonly focus on the three major stages of change. The stages of change are pre-change, change, and post-change. Lewin's theory of change embodies this methodology using three distinct stages of unfreezing, moving, and refreezing (Barrow et al., 2022). Unfreezing involves recognizing that the current practice is no longer the best practice. For this to occur, the change agent must appreciate the driving and restraining forces at play. Driving forces are those that make the change appealing or necessary while restraining forces hinder the change. For change to occur, driving forces must outweigh restraining forces. It is beneficial to identify and overcome as many restraining forces as possible to be successful in the planned change. Identifying these forces also encompasses the identification of the key stakeholders to the project who will be necessary for other staff to buy in to the change. Unfreezing is likely the most difficult step. After a successful unfreezing, moving can begin. Moving is the stage of change implementation. Change agents should be continuously engaged with the process throughout this stage. After the change has been implemented, the refreeze stage begins. Refreezing ensures the implemented change is sustained as the new standard (Barrow et al., 2022; Peterson & Bredow, 2020).

Lewin's theory of change was chosen for this project for its simplicity and appropriate application to the project. The project sought to affect the care of anxiety in a rural clinic and the confidence of the professionals providing the care. The effects were accomplished through organizational change surrounding how anxiety screenings were completed and results subsequently managed. In order to achieve this impact, the current practice required modification. Returning to Lewin's three steps, recognizing a need for change represented the beginning of the unfreezing step. The project leaders and organizational champion acted as the primary agents for change to determine the driving forces to optimize and the restraining forces to overcome to maximize the likelihood of success. The unfreezing stage also represented the project's initial implementation, which required the adoption of nurses and practitioners routinely using the GAD-2 screening tool on adults and utilizing a resource toolkit of management options for adults whose screening indicated anxiety symptoms. During the moving phase, the clinic staff worked to continue carrying out the project through anxiety screenings using the GAD-2 tool and subsequent use of the resource toolkit. Finally, during the refreezing phase, the application of the GAD-2 screening during all adult wellness visits and subsequent use of the provided toolkit became the new standard of practice for this rural clinic. Lewin's theory of change helped to keep the process systematic and in motion with synchronous stages and mutual end goals among stakeholders.

**Implementation Planning**

Planning for project implementation is a critical proactive undertaking for the successful integration of the project into clinical practice. Planning aids in overall efficiency, facilitates coordination, organizes resources, provides direction, assists in decision making, and enhances outcomes (Reavy, 2016). Planning activities include determining the budget, defining the process and tasks, developing a timeline, determining necessary resources, identifying risks, describing communication plans, and establishing evaluation criteria (Reavy, 2016). Forethought into these aspects of the project allows the project team to anticipate barriers and assets to implementation. Having a well-developed plan is necessary to gain support from organizational leadership and key project stakeholders. Support is critical and more likely to be achieved if there is a clear understanding of the project goals and means of attaining them. A thorough plan includes a realistic timeline, well-described activities and milestones, and clear roles and responsibilities (Moran et al., 2024). The following sections detail the implementation plan for this DNP project.

**Project Tasks and Personnel**

This DNP project required the completion of several steps regarding planning, implementation, and evaluation. Tasks were allocated to the appropriate personnel regarding their role and qualifications. The first task of this project was to review the current knowledge base related to anxiety, anxiety screenings, and subsequent care for people with anxiety symptoms. A literature review was completed that emphasized the underdiagnosis and management of anxiety in several populations and the important role primary care providers play in detecting and managing anxiety. Additionally, a needs assessment was completed at Langdon Prairie Health to determine the current practices surrounding anxiety screening, resource availability, and gaps in care. This task was completed by the project leaders and results are discussed in detail in the respective sections.

Following the identification of the problem, a DNP project team of qualified and interested individuals was formed and stakeholders identified. The team for this project included project leaders, organizational project champion, project chair, and faculty consultant. Stakeholders were identified by project leaders whose support will be necessary for project integration and success.

Before proceeding with the project implementation, the project must underwent the exemption process by the University of Mary Institutional Review Board (IRB). LPH agreed to participate in this project with project champion Dr. Megan Overby and the clinic manager in agreeance. LPH does not have an IRB process of its own. The University of Mary IRB process was completed through formal application to ensure the project meet ethical and legal guidelines and to determine any risk to human subjects (Moran et al., 2024). The project leaders completed the IRB application under the guidance of the project chair.

Following completing the IRB process, the implementation process began. The next task of the project was to implement the GAD-2 screening into the existing electronic health record (EHR) in a meaningful and useful way. This involved working with EPIC to integrate the correct tool in the appropriate part of the EHR for efficiency. Along with this step was the consideration of workflow. The GAD-2 was implemented in a way that did not hinder the staff's work completing the screening. This task was completed by the project leaders in collaboration with the clinic manager as needed for approval through EPIC.

The next task of the project was to create a resource toolkit to be used by clinic staff for patients who present with anxiety symptoms as evidenced by the GAD-2 screening results. The toolkit encompassed information regarding area mental healthcare professionals that the patient can be referred to in addition to the referral method and accepted insurances. The toolkit also included other options to educate patients about how to ease anxiety symptoms. In addition to provider resources a handout was made available for patient distribution with general anxiety information. This task was completed by the project leaders.

After the necessary components were developed, staff needed to be educated on the inclusion of the GAD-2 into their workflow. Education included information on why this is important, the goal of the project, how the screening fits into the workflow, and how to complete the screening. This task was completed by the project leaders in collaboration with LPH clinic manager and project champion. At the completion of this task, implementation of the project was considered complete, and staff were able to begin using the GAD-2 as part of their usual workflow. Throughout the project timeframe a project leader checked in with the organizational champion every two weeks to assess for questions or concerns regarding the project and report back to the remaining project leaders.

Subsequent to implementation is evaluation of the project. Project leaders collected and analyzed data to determine whether incidence of anxiety screenings was affected and what effect screening and toolkit availability had on the care provided at LPH. Data was compared before and after intervention. Results were analyzed against the project’s primary objectives. This task determined whether the project goals were met and whether any adverse outcomes were noted. Finally, project leaders disseminated information related to the project and identified outcomes. A meeting was held with the project team and stakeholders to discuss project findings and considerations for long-term sustainability. As a final step in dissemination, project leaders presented the project at the University of Mary Research Colloquium.

**Milestone, Critical Events, and Work Breakdown**

Planning is a crucial step in the success of the DNP project. Utilization of project tools can streamline and simplify the planning process. One such tool is the work breakdown structure (WBS). A WBS is a tool that clearly describes tasks necessary for project completion and who is responsible for each task (Peterson & Bredow, 2020). Development of a WBS begins with the process of decomposition. Decomposition involves breaking large project aspects into smaller activities and then further distilling the activities into specific tasks. Tasks within the WBS should be arranged efficiently to move the project forward. Often tasks can be completed in a parallel fashion, or during the same time frame, which is noted during the planning stage. However, certain tasks may need to be completed in a sequential order. Critical events are tasks that must be completed before the next task can begin. The completion of critical events leads to reaching a milestone. Critical events are necessary for the project to move forward, while milestones are required to be met before the next activity can begin and thus have the potential to halt progress until completed (Peterson & Bredow, 2020). The WBS for this project is below:

Work Breakdown Structure

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Tasks** | **Subtask** | **Milestone or Critical Event** | **Responsible Party** | **Target**  **Date** | **Actual Date** |
| Literature Review |  |  |  |  |  |
|  | Analyze data from available literature on topics of anxiety, anxiety screening, anxiety diagnosis, and follow-up | Critical Event | Project Leaders | 2/4/24 | 2/4/24 |
| Organizational Needs Assessment |  |  |  |  |  |
|  | Assess current practice for screening and management of anxiety in adults at LPH | Critical Event | Project Leaders | 3/3/24 | 2/28/24 |
|  | Determine gaps in usual care and organizational goals | Critical Event | Project Leaders | 3/3/24 | 2/28/24 |
| Project Team Development |  |  |  |  |  |
|  | Assign Project Chair/Faculty Advisor | Critical Event | University of Mary Faculty | 1/9/24 | 1/9/24 |
|  | Designate Project Champion | Critical Event | Project Leaders | 3/3/24 | 1/23/24 |
|  | Identify Key Stakeholders | Critical Event | Project Leaders/Project Champion | 3/3/24 | 2/28/24 |
| IRB Application/ Process |  | Milestone |  |  | 7/22/24 |
|  | Complete required IRB application | Critical Event | Project Leaders | 7/28/24 | 7/18/24 |
|  | Submit to project chair/faculty advisor for review prior to submission. | Critical Event | Project Leaders | 7/14/24 | 7/19/24 |
| Implementation |  |  |  |  |  |
|  | Implement GAD-2 into Epic | Critical Event | Project Leaders/LPH clinic manager | 9/13/24 | 5/10/24 |
|  | Finish toolkit | Critical Event | Project Leaders | 7/14/24 | 9/1/24 |
|  | Educate LPH clinic staff | Critical Event | Project Leaders/LPH clinic manager/Project champion | 9/13/24 | 9/10/24 |
| Evaluation of data and outcomes |  |  |  |  |  |
|  | Analyze data regarding GAD-2 screening and project effectiveness before and after intervention | Critical Event | Project Leaders | 3/15/25 | 3/10/25 |
| Dissemination |  |  |  |  |  |
|  | Disseminate to stakeholders | Critical Event | Project Leaders | 4/1/25 | 3/23/25 |
|  | Research Colloquium | Critical Event | Project Leaders | 4/25/25 | 4/25/25 |

**Budget**

The project team considered and outlined the budget for implementing the screening tool training. One key consideration was the wages for staff training, which were minimized by integrating it into routine clinic nurse and medical staff meetings. Another cost consideration was the consultation fees that may arise when consulting EPIC to integrate the screening tool into the workflow flowsheet electronically. Building the GAD-2 screening tool into the clinic nursing rooming flowsheet was quoted by EPIC for $1200. After consulting with key stakeholders at LPH, costs associated with the EPIC build were covered by the facility.

The estimated cost for supplies included the cost of a binder for clinic staff resources, as well as paper and ink for printing handouts. The handout expenses depended on the estimated number of handouts needed and whether they could be printed at cost at the project site or through a third-party printing site for an estimated $0.86 per flyer. Combined costs for supplies were estimated to be no more than $135 when accounting for 150 flyers printed by a third-part company along with the cost of the binder.

Finally, travel costs included expenses incurred by project leaders traveling from their homes to the Langdon Prairie Health clinic site. The travel costs depended on the distance traveled and mode of transportation. With the current average gas price per gallon in North Dakota being $3.359, combined travel costs for round trips from student project leaders’ homes to LPH would cost $94.82 for each trip. The objective was to identify the costs and resources required to implement the screening tool, aligning it with Langdon Prairie Health's mission to provide cost-efficient, high-quality patient care. The implementation of a GAD-2 anxiety screening tool project aligned with the project setting's mission and vision, as well as their commitment to providing holistic and comprehensive healthcare services to patients.

**Evaluation Planning**

Project evaluation is a structured process that systematically collects information about activities, processes, attributes, and outcomes for the purpose of learning, decision making, and improvement related to a specific factor (Reavy, 2016). Having an evaluation plan allowed for assessment of the process, actions, context, outcomes, and impact of integrating the specified evidence-based project recommendations into the practice setting. There is a great deal of complexity when completing this task. Having a written evaluation plan is the best approach to untangle the complexity. A written evaluation plan served to inform the academic committee and stakeholders by offering clarity on priorities, resources, timeframes, and necessary skills (Reavy, 2016).

**Outcome Measures**

The project leaders set several recommendations, including educating the staff at Langdon Prairie Health on the GAD-2 tool, implementing the GAD-2 at the health facility, evaluating the actions taken by staff for patients with anxiety symptoms, and surveying project stakeholders and the project champion for their overall feelings regarding project implementation. The primary outcome measurement tool was a post-implementation survey to gather data on how the project influenced the perspectives of clinic healthcare professionals and the perceived effectiveness of the GAD-2. The effectiveness of the project was evaluated using a mixed methods approach, chosen for its comprehensive approach to project evaluation, which aims to inform decision-making by providing diverse evidence (Reavy, 2016). Quantitative data analysis measured the GAD-2 scoring and review previous GAD-7 scores, while qualitative data analysis assessed whether GAD-2 scores influenced the staff’s confidence in quality of care compared to current practices following project implementation.

**Outcome Measurement Sources and Collection Process**

The main objective of this practice change was to impact awareness around anxiety and create an effective way to screen for anxiety at routine visits. The capacity and number of individuals seen at Langdon Prairie Health, along with number of individuals diagnosed with anxiety at routine visits are essential baseline data collected in the organizational needs assessment. This project's outcomes were measured from comparing baseline data to after implementation data. Outcomes measured include the following:

1. The number of individuals aged 18-64 seen for routine visits during project implementation.
2. The number of individuals seen for routine visits with positive screening results on the GAD-2.
3. The comparison between baseline data from previous GAD-7 use and the number of individuals screened for anxiety using the GAD-2.
4. The number of times the resource binder was used compared to the number of positive screenings when using the GAD-2.
5. Evaluation of project stakeholders and champion regarding their overall feelings concerning project planning, development, and project implementation along with their feelings regarding the GAD-2 screening tool itself.
6. Evaluation of participants’ level confidence in the care of anxiety at the project site.

**Outcome Measurement Analysis Plan**

Throughout the evaluation process, the data gathered concentrated on using the GAD-2, assessing the current frequency of anxiety screening, and evaluating resource utilization in patients with a positive GAD-2 score. The measurements gathered were analyzed using the quantitative method of comparative studies. Comparative studies aimed to evaluate differences or similarities between two variables, with the goal of enhancing comprehension or showcasing efficacy (Reavy, 2016). This project analyzed the use of the GAD-2 screening tool for each individual ages 18-64 at Langdon Prairie Health and evaluated the perception of staff after implementation.

**Conclusion**

In rural areas, the lack of access to care exacerbates the difficulties in identifying and treating anxiety, as well as the limited availability of resources. Acknowledging and addressing the challenges associated with anxiety screening and treatment in rural areas is crucial for improving overall mental health care delivery. By implementing routine anxiety screening using the GAD-2 scale and providing access to a resource toolkit, the project aimed to bridge the existing knowledge gaps and enhance the quality of care for individuals living in rural North Dakota. Through stakeholder engagement and a collaborative effort, the project aspired to not only affect anxiety screening practices but also contribute to a broader culture of mental health awareness and equitable care delivery. This comprehensive approach was intended to make a lasting impact on mental health services within the Langdon Prairie Health Clinic setting and influence the well-being of individuals in these underserved areas.

**Chapter 4: Project Evaluation**

After completion of the literature synthesis, problem identification, and outcome planning, the following steps of the DNP project are to implement the project, collect data, and evaluate the results of the data. Understanding and learning from the challenges or barriers encountered during project implementation requires adaptability and creative thinking to ensure the project's success. Once the project has been implemented, the evaluation phase becomes crucial. Project leaders must assess whether the evidence-based intervention and the implementation strategies have led to the successful adoption of the intervention. Additionally, it is important to determine if the intervention has had a positive impact on the health outcomes of the target population or on the overall health system (Moran et al., 2020). Other factors, such as economic, cultural, or professional influences, are also essential to consider when evaluating and interpreting the project's findings. In this DNP project, communication was crucial with the project stakeholders and champion to meet the project leaders’ goals. The following sections will discuss the implementation process, monitoring of the implementation phase, and factors that influenced implementation. Subsequent sections will address project findings and interpretation of those findings.

**Implementation Discussion**

The implementation phase of the DNP project is defined as the action phase and is when the plan is operationalized (Moran et al., 2020). Thus far in the project a topic had been identified and an extensive literature review completed to assist in defining the problem. Based on the literature, project outcomes were developed along with a subsequent project plan as described in the above Work Breakdown Structure. Implementation of this DNP project occurred over a 20-week period. The following sections will describe how the project was initiated, monitoring that took place throughout the implementation phase, influencing factors identified and addressed throughout this timeframe, and stakeholder involvement.

**Getting Project Started**

This evidence-based DNP project required several elements of data collected by different means. Each collection modality ensured data was protected. First, surveys were completed by participating staff at Langdon Prairie Health on both the implementation day and conclusion day, as seen in Appendices F and G. Participants were given paper surveys and asked to return them to a manilla envelope in a central clinic location where project leaders would pick them up after one week. Surveys were voluntary, response return was anonymous, and surveys did not ask for identifying information. Secondly, participants were asked to document their use of the provided resource toolkit on a provided tracking sheet. The tracking sheet, as seen in Appendix C, asked only for the age of the patient, the date of the encounter, whether the user was a nurse or provider, and what information was utilized. No identifying information was collected regarding the patient or the participant on the tracking sheet. Finally, data regarding the number of patient visits that fit the defined population and their corresponding GAD scores, if obtained, were collected utilizing the EHR. A report was generated within EPIC to quantify the number of visits based on the selected patient population and presented only the month and number of qualifying visits without identifying information. To obtain the GAD score data a report was generated within the EHR that listed the visit dates and medical record numbers of patients who fit the population and had a GAD score completed. To maintain confidentiality one project leader, who was also an employee at LPH, was given access to this report. This project leader investigated each identified patient chart for the GAD score and compiled a spreadsheet listing only the month of visit and the GAD score. This evidence-based DNP project was implemented on September 10, 2024 and concluded on January 31, 2025 for a total implementation time of 20 weeks. This timeframe allowed for an adequate amount of time for data collection. However, as will be discussed in subsequent sections, participation was limited and additional time may have provided more insight and time for intervention.

**Influencing Factors**

This project was influenced both positively and negatively by several factors. The first threat to the implementation of the project was the unexpected cost of adding the GAD-2 to the existing EHR. The expense was not approved by the administration of Langdon Prairie Health. Through working with the clinic manager and her support of this project, a behavioral health grant that was recently received by LPH was used to fund the EHR change and the project was able to continue as planned. The second barrier involving the EHR was the timing of the integration of the GAD-2 into the EHR with respect to the official project start. Due to prior knowledge of the project leaders about the potential lengthy process of an EHR modification, this endeavor was initiated ahead of the planned project initiation date to ensure it would be completed on time. Surprisingly, after the cost was approved by administration, the GAD-2 was able to be implemented quickly, leading to it being present in the nurses’ workflow in May 2024 when the project was not planned to begin until September 2024. The advantage was that the nursing staff had ample time to become acclimated to the presence and use of the tool. The drawbacks were that they had not yet been educated on use for the project and by the time the project was implemented the novelty of the GAD-2 being present had worn off which potentially contributed to its low use. Unfortunately, once the EHR process was in motion there was no way to postpone it or plan it to coincide with the implementation date.

The second threat to the project was persistent low participation throughout the implementation phase. After one month of implementation no entries had been made on the toolkit binder tracking sheet. At this point project leaders spoke with the clinic manager who agreed to remind nursing staff of the ongoing project and toolkit at the next nursing staff meeting. Within the next three weeks two entries were made to the tracking sheet. These would be the only two entries made for the remainder of the project. Throughout the project various means of reinforcing the project and reminding of the GAD-2 and resource binder were attempted. In addition to the aforementioned nursing meeting, these attempts included project leaders speaking directly with nursing staff, project leaders speaking directly with providers, and collaborating with the organizational champion. Project leaders focused on encouraging aspects of the toolkit early on because project leaders were not able to utilize the EHR reporting which meant the tracking sheet was the only objective means of tracking participation in the beginning. After EHR data was available and also showed low participation in GAD-2 screenings. Therefore, reminder tags were added to exam room computers in an effort to increase GAD-2 usage. Through collaborations with the organizational champion, the project leaders identified institutional barriers to the project that were previously not known. These barriers included the clinic shortening visit times to allow for more visits per day and requiring more intake questions from the nurses than before in these shorter time frames. These factors could have led to underuse of the GAD-2 because of lack of time and adjusting to other organizational requirements of which the GAD-2 and project were not included and therefore not mandatory.

Despite the barriers, this project also had important facilitating factors. The first was the avid interest and involvement of the clinic manager and organizational champion. The clinic manager was paramount in the project through her work to assist with access to funding, assisting with building the EHR innovations, and working to keep her staff involved in the project objectives. The organizational champion assisted with monitoring and encouraging project objectives as well as answering questions between project leader visits. It was also advantageous that two of the project leaders lived in close proximity to and had worked at Langdon Prairie Health. This factor aided in facilitating buy-in built on previous relationships and in the ability of project leaders to be accessible to clinic staff. Finally, an important facilitating factor was the high quality of communication throughout the project. Project leaders communicated project status on a scheduled basis and as needed in between those times. LPH staff were open to the presence of project leaders and received communication and provided feedback openly. Communication between project leaders and project chair was always completed in a timely manner. Lastly, communication with the staff and organizational champion was exceptional. The nurse manager made herself available by email and the organizational champion was available by email or text message in addition to in person as needed. Both the nurse manager and organizational champion were helpful in generating new ideas, interpreting project progress results, and updating project leaders on any questions or concerns. Frequent and meaningful communication is a cornerstone of the success of any effort involving multiple stakeholders such as this DNP project.

**Monitoring the Implementation Phase**

The project was implemented on September 10, 2024, as described previously. Monitoring took place by project leaders every two weeks on a Friday until the project concluded on January 31, 2025. On those selected dates a project leader would present to the site to monitor the resource binder and ensure there were adequate handouts available. The project leader would also dialogue with available nurses and providers regarding how they felt the project was going, answer any questions, or discuss opportunities for improvement. Finally, the project leader would meet with the organizational champion to review project progress, answer questions, and brainstorm initiatives to increase project participation. Following each check-in session the project leader would conference with the remaining project leaders to provide a project update. Discussion would follow to determine if any changes were necessary and plan the next check-in. The details of these check-ins were recorded in a shared document among the project leaders to track progress and refer to throughout the project.

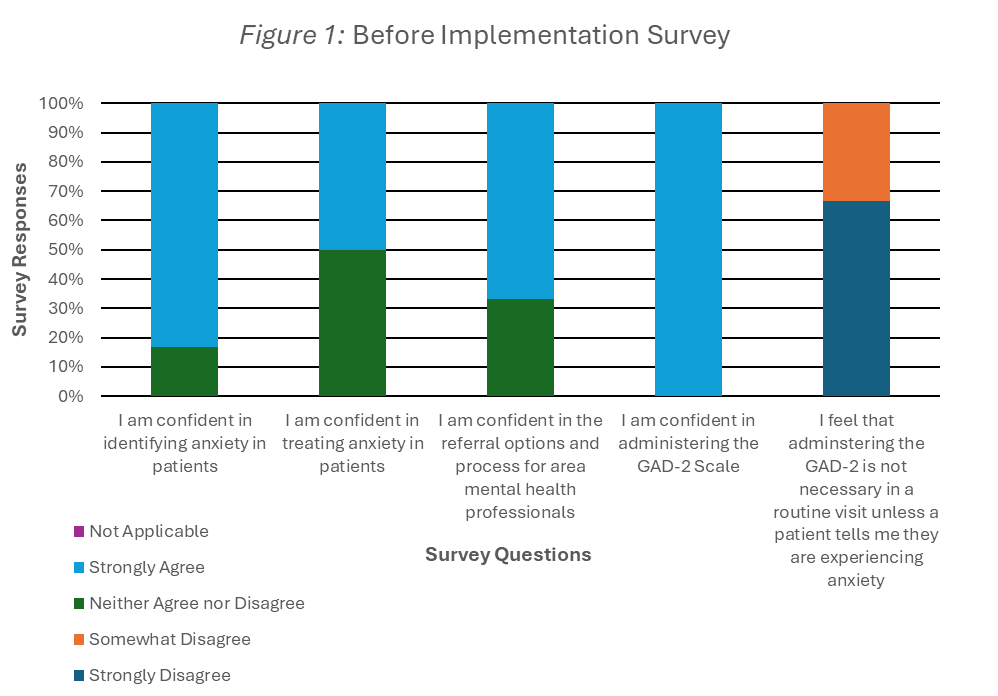
Aside from project leaders, stakeholders that were involved in the implementation phase included organizational champion Dr. Megan Overby, LPH clinic manager Maria Eisenzimmer, project chair Dr. Jenna Herman, and LPH clinic staff. Dr. Megan Overby served as the organizational champion and was a key stakeholder during the implementation phase. She served as the on-site project expert to answer questions and make recommendations to the project leaders. She also participated in regular informal meetings with project leaders regarding project progress. Maria was instrumental in the initiation and implementation of the project. She aided in building the GAD-2 into the workflow in the most efficient way. She also assisted in encouragement of project objectives by reminding nursing staff at nursing meetings in October and December as well as giving permission for project leaders to apply reminders to the exam room computers about the GAD-2 screening. Dr. Herman assisted with new ideas to encourage participation in the project and project oversight. Finally, the LPH clinic staff were willing to participate in the project. They offered objective feedback and asked questions when they arose. Project leaders endeavored to be readily available for any questions or feedback through various means of communication including e-mail, phone, in person, and through Dr. Overby.

**Interpretation of Project Outcome Data**

Data analysis and interpretation are versatile tools that allow for organizing and transforming raw information into meaningful outcomes. They also facilitate an accurate assessment of the necessity and appropriateness of interventions. Each DNP project will employ different approaches based on its unique structure and data collection methods. However, the overarching goal of every DNP project is to inform the understanding of clinical phenomena and draw confident conclusions relevant to the specific clinical questions being addressed (Moran et al., 2024).

**Project Findings**

To assess the project findings and ascertain whether the recommendations were realized, project leaders collected both qualitative and quantitative data throughout the duration of the project. This comprehensive data collection was largely facilitated through EHR reports, which provided objective metrics and trends related to patient care and outcomes related to GAD screenings. Additionally, staff surveys were distributed at the project's beginning and end to capture stakeholders' insights and perceptions regarding the project and project leaders. Moreover, the project was supplemented by different physical materials, including informative handouts and a resource binder compiled with a counseling services list and tracking tool. By leveraging this array of data sources, the project leaders were able to form an understanding of the project's effectiveness and its contribution to practices within the organization.

The initial project recommendation was to provide education to the staff at Langdon Prairie Health Clinic regarding the GAD-2 screening tool, including its sensitivity and specificity for identifying anxiety disorders, as well as its appropriate use alongside the subsequent GAD-7. The effectiveness of this educational initiative was assessed using the "Before Implementation of the GAD-2 Project and Project Leaders Survey," as seen in Appendix F. This survey evaluated the clinic staff's confidence in recognizing and managing anxiety. Key questions included, "I am confident in identifying anxiety," "I am confident in administering the GAD-2 Scale," and "I believe that administering the GAD-2 is unnecessary during routine visits unless a patient reports experiencing anxiety." For further details, refer to Figure 1, which outlines additional survey questions and responses. The anonymous survey results revealed that among the six clinic staff members who participated, 83.3% (n=5) strongly agreed that they felt confident in identifying anxiety following the GAD-2 education provided by the project leaders. In contrast, 16.7% (n=1) of participants felt they could neither agree nor disagree with the sentiment expressed. At the conclusion of the project leaders' education, 100% (n=6) of survey respondents reported that they felt comfortable administering the GAD-2 screening scale. To evaluate initial perspectives on the appropriateness of administering the GAD-2 during every routine visit for adults who do not explicitly indicate they are experiencing anxiety, 33.3% (n=2) of survey participants indicated they somewhat disagreed with the notion that anxiety screening is unnecessary at every visit. In comparison, 66.7% (n=4) strongly disagreed with this sentiment. The quantitative data collected from the 'Before Implementation of the GAD-2 Project and Project Leaders Survey' supported the recommendation to educate staff about the GAD-2 was met. The next recommendation was to integrate the GAD-2 screening tool into the EHR software instead of using a paper copy tool to streamline clinic rooming flowsheets and improve usability. This integration was made possible due to the clinic manager's advocacy for the project and a recent mental health grant awarded to LPH. The implementation of the GAD-2 into the EHR was completed before the project's start date, fulfilling this recommendation.

The third recommendation involved evaluating the actions taken by staff for patients identified as having anxiety symptoms scoring equal to or greater than three on the GAD-2 screening. However, there were limitations in assessing all actions taken by clinic providers and nurses for patients with a GAD-2 score of 3, as medication prescriptions and counseling service referrals for treating anxiety were not tracked. Nonetheless, the use of a resource binder containing a directory of mental health professionals who offered counseling services for anxiety was monitored. Unfortunately, only two entries were recorded in the resource binder tracking tool, and both were for individuals outside the targeted 18-64 age range.

Additionally, project leaders monitored the distribution of informational handouts prepared for patients. An illustrative example of these handouts can be found in Appendix E. At the outset of the project, a total of 100 handouts were printed and made available in examination rooms as well as within the resource binder for patient access. By the end of the project, 48 handouts remained on-site, suggesting that 52 informational handouts were distributed to patients during the project's duration. However, it's important to note the limitations in the data, which cannot be confidently used to determine how many of those handouts were given to patients with a GAD-2 score of at least 3. Therefore, the second recommendation is partially met due to these limitations and the general low participation from clinic staff.

Reports generated from the EHR system provided data on the number of qualifying visits for adults aged 18-64 at LPH from April 2024 to January 2025. This extended time frame was chosen deliberately to facilitate a comprehensive comparison of data before and during the implementation of the project, as well as before the GAD-2 was added to the EHR in May. The EHR reports included key metrics, such as the number of GAD screenings completed and the overall GAD screening scores. Table 3 illustrates the total number of qualifying visits, how many patients were screened for anxiety using either the GAD-2 or GAD-7, the percentage of GAD screenings completed per qualifying visit, and the number of " positive " screenings (scoring three or higher). However, the EHR data reports did not specify whether patients were screened with the GAD-2 or GAD-7, making it challenging to directly compare the pre- and post-project implementation outcomes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 3 | | | |  |
| *Pre- and Post-Project Implementation Patient Data* | | | |  |
| Months (2024-2025) | Qualifying Visits | Number GAD Screening Completed | Number of GAD Screening Scores ≥ 3 | % of GAD Screening Completed per Qualifying Visit |
| April | 33 | 16 | 4 | 48% |
| May | 24 | 14 | 3 | 58% |
| June | 34 | 9 | 2 | 26% |
| July | 34 | 7 | 4 | 21% |
| August | 33 | 12 | 6 | 36% |
| September | 25 | 11 | 3 | 44% |
| October | 31 | 8 | 3 | 26% |
| November | 30 | 2 | 1 | 7% |
| December | 37 | 4 | 1 | 11% |
| January | 26 | 2 | 0 | 8% |
|  | | | |  |
|  | Pre-Implementation  (April 2024-August 2024) | | Project Implementation (September 2024-January 2025) | |
| *M* Qualifying Visits | 31.6 | | 29.8 | |
| *M* # GAD Screening Completed | 11.6 | | 5.4 | |
| *M* # GAD Screenings Completed per Visit | 38% | | 19% | |

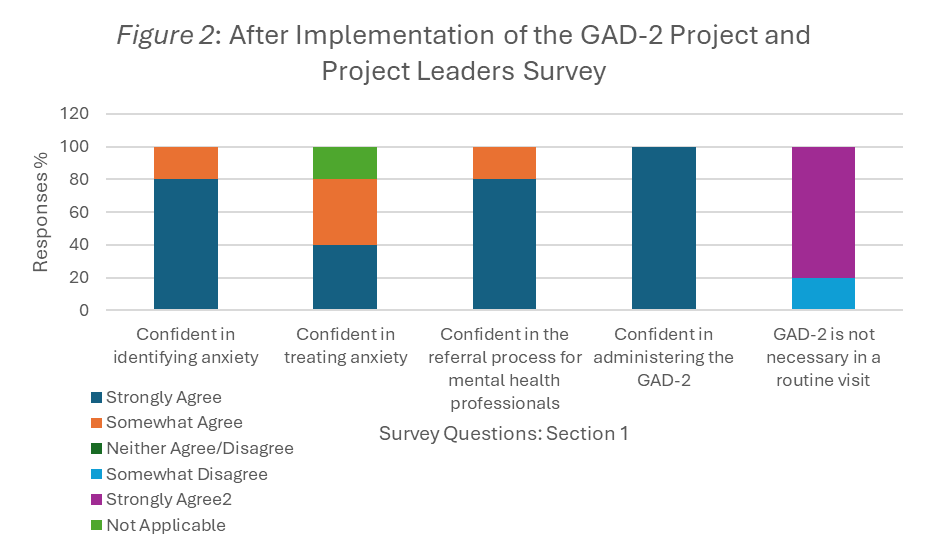
Additionally shown in Table 3 are mean values for total qualifying visits, the mean number of GAD screenings completed, and the mean percentage of GAD screenings completed per qualifying visit were compared between the periods of April 2024 to August 2024 (pre-implementation) and September 2024 to January 2025 (post-implementation). During the pre-implementation period, the average number of monthly qualifying visits was 31.6, while the post-implementation period saw an average of 29.8 visits. Overall, the frequency of qualifying visits remained similar, but the number of GAD screenings completed decreased during the project implementation period. For example, in May 2024, prior to the project's launch, there were 24 qualifying visits at LPH, with 58% resulting in completed GAD screenings. In contrast, by January 2025, at the project's conclusion, there were 26 qualifying visits, but only 8% had a GAD screening completed.

The average number of times a GAD screening was completed per month during the pre-implementation period was 11.6, compared to just 5.4 times during the project implementation period. This change in average screening occurrences indicates a 19% decline in anxiety screenings during the project, regardless of which GAD screening tool was used. These unexpected findings were surprising to project leaders, especially after significant efforts to engage clinic staff and implement visual reminders for completing anxiety screenings. This decline could result from inadequate stakeholder engagement or confusion among clinic nurses regarding the project's focus. Regardless of the underlying cause, it appears that an unintended outcome of the project was a decrease in overall routine anxiety screening rates.

The final outcome measure that project leaders aimed to compare was the usage of the resource binder against the number of positive screenings during the project period. However, no conclusions could be drawn due to a lack of data; the resource binder contained only two entries, neither of which qualified for the designated project age group. However, there is no way to know whether the resource was used and not documented or if it was truly not utilized. Overall, the third project recommendation for evaluating actions taken by staff for patients identified with anxiety was only partially met, as some data was either lacking or incomplete.

The last project recommendation focused on evaluating the clinic staff's satisfaction with the project implementation at the end of the timeline. This evaluation was conducted using a survey that incorporated both quantitative and qualitative data. Unfortunately, low participation hindered this process. At the end of the project, leaders distributed surveys to clinic staff in person. During the monthly nurses' meeting, they also asked the clinic manager to remind the nursing staff about the project's conclusion and the availability of post-implementation surveys in the resource binder. However, no surveys were completed within a week after the project concluded. Project leaders returned to the site to hand out surveys, and by the end of that additional week, only one survey was completed and returned anonymously. In the third week after project completion, project leaders again visited the site, answered any staff questions, and distributed post-implementation surveys. By the fourth week, three surveys had been completed and returned to the project leaders. Leaders also left copies of blank surveys with instructions for returning them to the resource binder once completed. During their final visit in the sixth week, project leaders found two additional surveys, bringing the total to five completed surveys for data analysis.

The post-implementation surveys were structured similarly to the pre-implementation surveys but included four sections of questions instead of one. The first section asked respondents to answer the same questions as in the pre-implementation survey, allowing for a side-by-side comparison, which can be seen in Figure 2. Approximately 80% of participants strongly agreed that they could identify patients with anxiety both before (n=5) and after (n=5) the project. Additionally, 16% (n=1) of survey participants felt neutral about their ability to identify anxiety before the project, while 20% (n=2) agreed somewhat that they could do so after the project. Before the project, 66% (n=4) of respondents strongly agreed that they felt confident in their knowledge of referral options and the process for accessing area mental health professionals; this increased to 80% (n=5) after the project. There was no change in confidence regarding the administration of the GAD-2 scale before or after the project, as all participants expressed strong confidence in administering the screening tool. Finally, 66% (n=5) of participants strongly disagreed that routine anxiety screenings were unnecessary before the project, and this view was similar to the 80% (n=5) following the project.

 Participants shared their opinions about the GAD-2 screening tool in the second section of the post-implementation survey. All respondents (n=5) strongly agreed that the GAD-2 tool was clear, logical, easy to administer, and suitable for adults aged 18-64. Respondents also recommended the GAD-2 for screening anxiety. The third section of the survey evaluated respondents' feelings about the overall project. All respondents (n=5) strongly agreed that the project was well organized, beneficial to the LPH participants, and were satisfied with its implementation. The fourth section focused on the project leaders. All survey responders (n=5) strongly agreed that the project leaders effectively explained the project and its implementation, communicated professionally with stakeholders, and were accessible for questions and feedback. Additionally, 80% (n=4) of respondents strongly agreed that the project leaders shared outcomes with project stakeholders, while 20% (n=1) did not respond to this question. It is worth noting that when the surveys were completed, formal dissemination of project outcomes had not yet occurred; only informal dissemination took place while project leaders were present on-site.

The final part of the post-implementation survey consisted of open-ended questions. Respondents were asked to identify any strengths and weaknesses of the project or its leaders, factors influencing whether the GAD-2 should or should not be used for routine patient screening, and any additional comments they might have had. Two respondents noted the strengths of the project or its leaders, stating that they had been "organized" and "used visual prompts on the exam computer," and that they "were available and willing to answer questions." Notably, none of the survey participants identified any weaknesses or areas for improvement related to the project or its leaders. Regarding the usage of the GAD-2, two respondents mentioned that it should be implemented because "patients may not feel comfortable bringing up anxiety concerns" and that it "should be used in routine visits as not all patients are willing to openly discuss it." These responses demonstrated a theme of stakeholders acknowledging that the GAD-2 screening was helpful when patients might not have naturally addressed their anxiety symptoms. Finally, when asked for additional comments, three respondents provided feedback. One simply stated, "Anxiety is very common, so it is appropriate to assess and diagnose." Another remarked, "The GAD-2 is a good way for patients to feel comfortable talking about anxiety," while the last survey expressed, "This was a great idea to incorporate into routine visits for selected populations."

Overall, the post-implementation survey indicated that the project was well received by stakeholders. Both qualitative and quantitative data collected from the surveys suggested that stakeholders had been highly satisfied with the project implementation and the efforts of the project leaders. The surveys showed that clinic staff, who worked directly with patients in the targeted age range and were responsible for screening and diagnosing anxiety, felt that the GAD-2 was a suitable addition to the screening tools used in routine visits. However, despite this positive feedback on the project, the data extracted from the EHR did not reflect the same level of utilization in recorded anxiety screenings.

**Interpretation of Project Findings**

Another important aspect of assessing project findings was interpreting the impact of the project, not just through quantitative and qualitative data but also by examining how the project affected stakeholders and facility practices. Committing to unbiased analysis and interpretation of project data was essential as collected data influenced decision-making and subsequent actions and recommendations (Reavy, 2016). Survey respondents indicated they had a positive view of the project and the integration of the GAD-2 screenings. The overwhelmingly positive feedback from stakeholders was a testament to the potential to bring about positive change. This initiative positively influenced stakeholders' perceptions regarding the importance of routine anxiety screening, which could lead to earlier identification and treatment of anxiety. Some respondents mentioned that routine anxiety screenings were appropriate, as patients might otherwise feel uncomfortable expressing their anxiety symptoms. Increased awareness and screening for anxiety during routine visits could prompt more conversations with patients about mental health and reduce the stigma associated with mental health issues in the community served by LPH, too. The project highlighted the importance of incorporating anxiety screenings alongside routine depression screenings, which the facility had placed high importance on in the past, and impacted the facility's cultural views regarding mental health screenings. While the project may not have led to an increase in routine screenings, it did raise awareness about the necessity of anxiety screening. Given the overwhelmingly positive attitudes toward the project, there was hope that its impact would be long-lasting.

The project stakeholders did not comment on potential weaknesses or improvements regarding the GAD-2 screening tool. However, project leaders identified several areas for enhancement and revision. One suggested improvement was expanding the project to other facilities to include a broader population. Initially, when requesting integration of the GAD-2 into the nurses' flowsheets, EPIC indicated that the new build would be costly since similar critical access hospitals in the area lacked a GAD-2 build to serve as a template. Now that the GAD-2 has been integrated into LPH, surrounding critical access hospitals could also benefit from requesting the GAD-2 screening. Including a wider patient population would have allowed for more comprehensive data collection and better data analysis. Similarly, project leaders recommended broadening the definition of a qualifying visit to encompass all episodic or follow-up visits, allowing for a larger data sample and improved data analysis.

Lastly, project leaders identified improving stakeholder engagement as a key area for enhancement. Project leaders employed various engagement techniques, such as asking the clinic manager to include reminders in monthly nurses' meetings, conducting frequent on-site and electronic check-ins, and placing visual reminders on all exam computers. While the project benefited from a nurse practitioner project champion who was passionate about increasing routine anxiety screenings, stakeholder engagement could have been enhanced by adding a designated clinic nurse project champion.

**Project Succession**

The transition of the project to the stakeholders was notably smooth and efficient. Clinic staff did not need to make any behavioral changes at the conclusion of the project. The GAD-2 that was integrated into the nurses’ documentation workflows, ensuring its ongoing availability for regular use during patient assessments, remained in the EHR for continued use. Furthermore, the organization maintained ownership of the resource binder, which included an up-to-date contact list for local counseling services and their accepted insurances, allowing staff to continue to refer patients easily. This binder served as a valuable asset, with the clinic having the autonomy to reproduce copies of the relevant materials as needed. In addition to these resources, the facility also retained the additional educational handouts developed for the project, which could be distributed to patients to improve their understanding of anxiety management and available support options. Importantly, the continuation of the GAD-2 screenings required no extra financial investment, ensuring sustainability and ongoing integration of mental health assessments into standard patient care practices.

**Conclusion**

The project was carried out over a period of 20 weeks at the Langdon Prairie Health Clinic, which is dedicated to providing comprehensive healthcare services to the surrounding rural community. Although stakeholders generally had a positive attitude towards the project, the implementation phase encountered several challenges. One significant issue was the financial burden of integrating the GAD-2 tool, which was partly addressed by a coincidentally awarded mental health grant and the advocacy of the clinic manager. However, the clinic faced ongoing low participation and engagement from key stakeholders, which proved to be a more complex obstacle to overcome. This lack of engagement was evident in the notably low rates of GAD-2 screenings conducted during the implementation phase, highlighting a gap between awareness and action among staff members. Despite these setbacks, the project ultimately fostered a more favorable mindset among stakeholders regarding the importance and relevance of routine anxiety screenings.

**Chapter 5: Dissemination**

It is a prerequisite that the target group is aware of their existence in a project by taking notice of the project, understands its goals, and is prepared to adopt new insights or new processes into their existing routines. Therefore, it is necessary to present individuals with information on any innovation project (Wensing et al., 2020). Communicating and circulating information to an audience is the act of dissemination. Dissemination is to be used to clarify the purpose of the project, identify helpful information, generate positive attention to initiate change or improve practice, and spark interest in the project to obtain necessary funds, expansion, and research (Reavy, 2016). The significance of systematic and well-planned dissemination is often underestimated (Wensing et al., 2020). While planning for project dissemination, project leaders must consider the time, materials, intended audience, and overall goals of the dissemination (Reavy, 2016).

**Dissemination of the Results**

The venue for dissemination of the DNP project includes an oral presentation provided at the Saint Gianna School of Health Sciences Micheal G. Parker Research & Scholarship Colloquium on April 25th, 2025. The project stakeholders and participants were invited to attend the Research Colloquium at the University of Mary in Bismarck, North Dakota on April 25th, 2025. The project chair, project champion, and stakeholders were invited via email. Additionally, an electronic summary of the project results was emailed to the project champion, clinic manager, and stakeholders to be circulated at LPH.

Although there have been various studies that have investigated the prevalence, lack of recognition, and undertreatment of anxiety in adults ages 18-64, the inability of staff to recognizes and assess anxiety, and the need for an easy to use and quick anxiety screening tool, the lack of available literature regarding the implementation of the GAD-2 in screening for anxiety during routine visits in adults ages 18-64 in rural clinics is one argument for why the project leaders felt this DNP project was necessary. It was evident through the literature review that there were limited studies conducted in rural clinics, especially when screening for anxiety using the GAD-2 screening tool. Through ongoing research, evidence-based practice, and national recommendations and guidelines, rural clinics can best decide which screening scale for anxiety will meet the needs and goals of individuals presenting to the rural clinic. The literature synthesis allowed the project leaders to determine the need for the DNP project and the findings of the project reaffirmed the need for ongoing research regarding anxiety in adults ages 18-64 living in rural areas.

The project was implemented at a rural health clinic in Langdon, North Dakota. Prior to this project, there were no standards in place to screen for anxiety routinely unless the patient discusses a concern for anxiety. As previously expressed, this project stakeholders have obtained the results of this project and if compelled could present this information to other rural health clinics with similar gaps in care. While process changes do not necessarily need to take place for changes to occur, the project leaders feel confident this project will help highlight the issue of anxiety in adults ages 18-64 and lead to more prompt recognition, diagnosis, and treatment of anxiety in adults on at least a local level. However, continued efforts regarding anxiety recognition and treatment in adults ages 18-64 remain necessary on a regional and national level.

**Future Directions**

The project’s findings demonstrated that utilizing the GAD-2 tool allowed for early detection of anxiety for participants. The stakeholders provided feedback following this project stating it should be used as patients may not feel comfortable bringing up anxiety concerns. Of the stakeholders that completed a post implementation survey, 100% (n=5) would recommend the GAD-2 tool for screening anxiety in the selected population. Therefore, it is determined that the implementation of this intervention was helpful in potentially inspiring a change in current practices; specifically, implementing the GAD-2 for all routine visits for adults ages 18-64 in rural health clinics.

When considering recommendations for future projects regarding anxiety screening in adults ages 18-64, the project leaders acknowledged the need to build upon the findings of this research project and address its limitations. For example, the project leaders suggest expanding this project to multiple organizations to expand the population and assess if new or similar evidence is found. Another process improvement for future clinical studies is that the screening should be implemented for all visits rather than just routine visits due to the low numbers of routine visits in rural clinics. Finally, the project leaders recommend including other patient factors such as comorbidities, number of current medications, and other potential factors that may increase the likelihood of positive screening results.

The DNP project has positively impacted the recognition of anxiety in adults ages 18-64 in this rural health clinic by providing awareness of the importance of utilizing an appropriate anxiety screening tool for this specific population. Although there are limitations that do need to be addressed, the project leaders feel that this project is transferable and can continue to be viable both at this project setting and to other patient settings and situations if given the opportunity.

**Conclusion**

As outlined throughout this paper, anxiety is the most prevalent mental health condition within the adult population, affecting 6.8 million adults in the United States (ADAA, 2022). Despite this, anxiety remains underdiagnosed and undertreated. Undiagnosed and undertreated anxiety is higher in rural areas when compared to their urban counterparts. According to current US Preventative Services Task Force, recommendations are to screen adults for anxiety, however, the appropriate timing or frequency of screening is not addressed (Barry, 2023). The project leaders aimed to address the problem of underdiagnosed and undertreated anxiety by implementing routine anxiety screening of adults ages 18-64 in a rural primary care clinic. The tool chosen by project leaders was the GAD-2 due to the literature review and synthesis proving its reliability and effectiveness in identifying anxiety. This project was conducted in a rural health clinic in Langdon, North Dakota. According to the post-survey results, the use of the GAD-2 screening tool was well received by stakeholders. Qualitative and quantitative data collected from the surveys suggested that stakeholders had been highly satisfied with the project implementation. More importantly, the clinic staff who worked directly with patients in the targeted age range felt the GAD-2 was a suitable addition to the screening tools utilized in a routine visit. Overall, despite limitations to the project, the use of the GAD-2 screening tool has the potential to bring positive change to rural clinics. Only through ongoing evidence-based research and prompt screening of anxiety with appropriate screening tools can anxiety be successfully managed in adults ages 18-64 to help these individuals achieve the highest quality outcomes and satisfaction within their circumstances.

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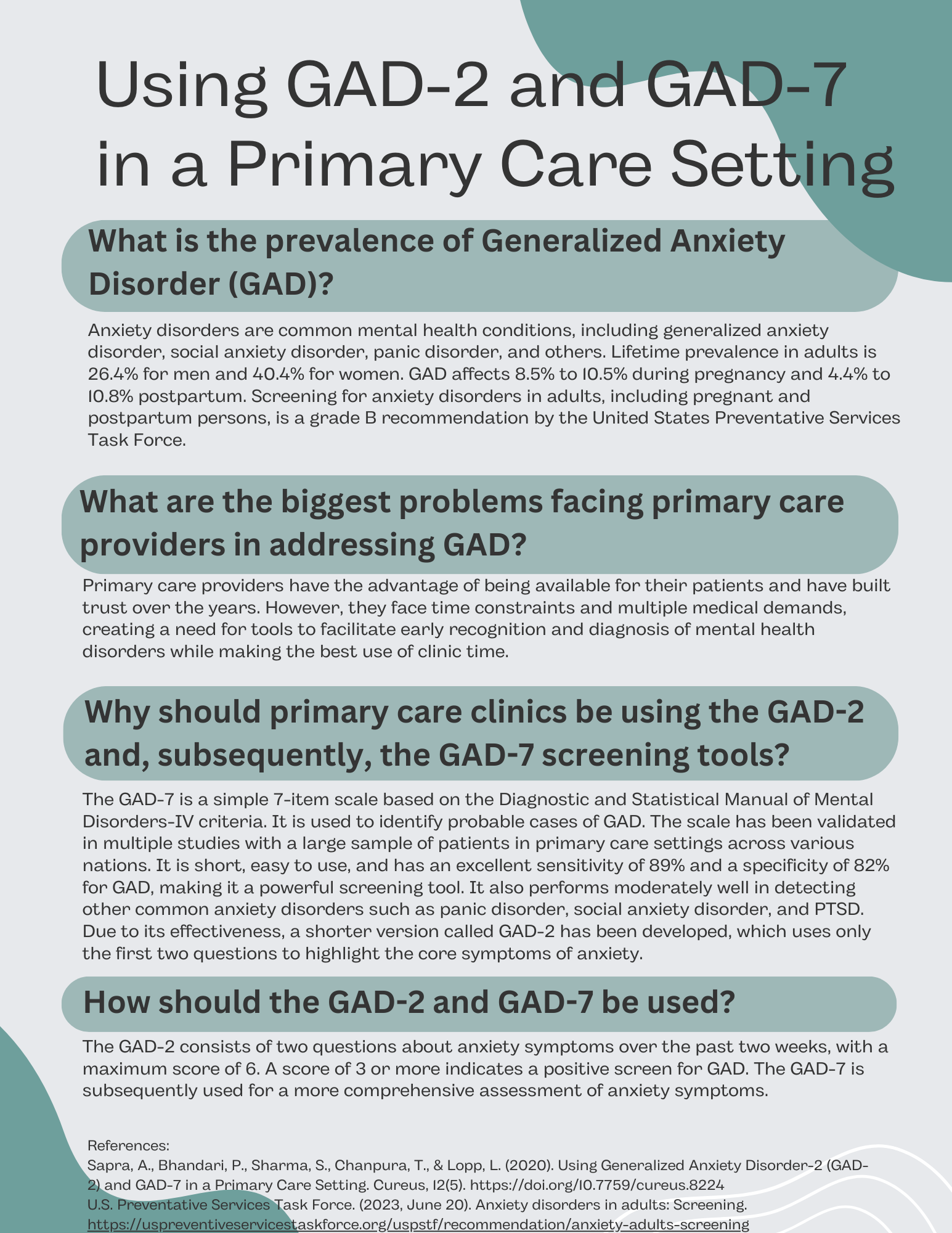
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**Appendix A**

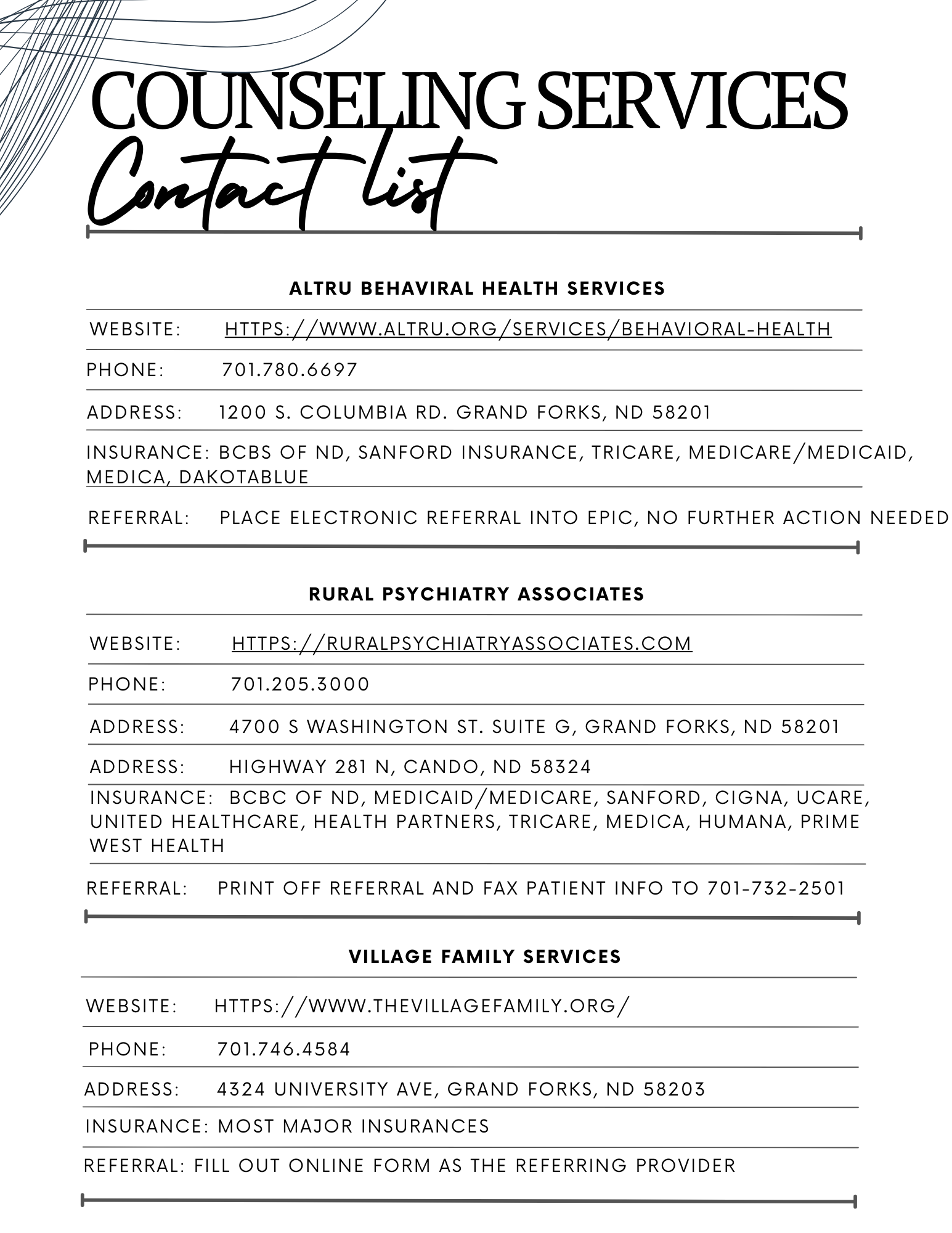


**Appendix B**

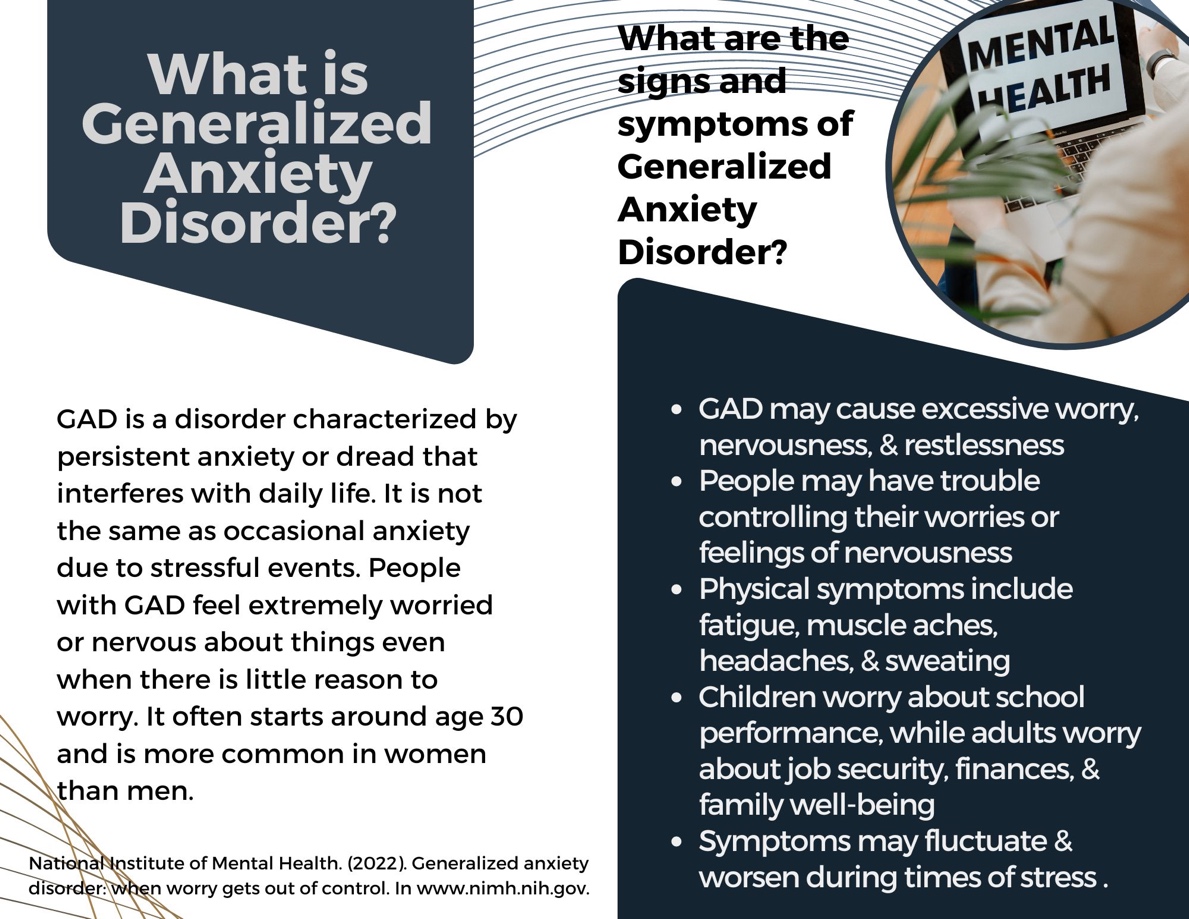
**Appendix C**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Patient age | Binder Used By:   1. Nurse 2. Provider | Binder Used For: (list all that apply)   1. Contact Information 2. Referral Process information 3. Insurance information 4. Patient handout |
| EX: 5/14/24 | 42 | 1 | 1, 3 |
| 10/1/2024 | 79 | 1 | 1, 2 |
| 11/1/24 | 7 | 1 | 1, 2 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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**Appendix D**



**Appendix E**



**Appendix F**

*Before Implementation of the GAD-2 Project and Project Leaders Survey*

Please circle the most appropriate response on the following statements regarding anxiety and the GAD-2 tool:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Strongly Disagree** | **Somewhat Disagree** | **Neither Agree nor Disagree** | **Somewhat Agree** | **Strongly Agree** | **Not Applicable** |
| I am confident in identifying anxiety in patients | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in treating anxiety in patients | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in the referral options and process for area mental health professionals | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in administering the GAD-2 scale. | 1 | 2 | 3 | 4 | 5 | 0 |
| I feel that administering the GAD-2 is not necessary in a routine visit unless a patient tells me they are experiencing anxiety. | 1 | 2 | 3 | 4 | 5 | 0 |

**Please provide your feedback on the following question (optional):**

1. What do you hope to learn over the course of this project?

**Appendix G**

*After Implementation of the GAD-2 Project and Project Leaders Survey*

Please circle the most appropriate response on the following statements regarding anxiety and the GAD-2 tool:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Strongly Disagree** | **Somewhat Disagree** | **Neither Agree nor Disagree** | **Somewhat Agree** | **Strongly Agree** | **Not Applicable** |
| I am confident in identifying anxiety in patients | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in treating anxiety in patients | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in the referral options and process for area mental health professionals | 1 | 2 | 3 | 4 | 5 | 0 |
| I am confident in administering the GAD-2 scale. | 1 | 2 | 3 | 4 | 5 | 0 |
| I feel that administering the GAD-2 is not necessary in a routine visit unless a patient tells me they are experiencing anxiety. | 1 | 2 | 3 | 4 | 5 | 0 |

Please circle your response on the following questions regarding the GAD-2 tool:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strongly Disagree** | **Somewhat Disagree** | **Neither Agree nor Disagree** | **Somewhat Agree** | **Strongly Agree** |
| The GAD-2 tool is clear and logically organized | 1 | 2 | 3 | 4 | 5 |
| The GAD-2 tool is easily administered to the selected population | 1 | 2 | 3 | 4 | 5 |
| The questions of the GAD-2 tool is appropriate to the selected population | 1 | 2 | 3 | 4 | 5 |
| I would recommend the GAD-2 tool for screening anxiety in the selected population | 1 | 2 | 3 | 4 | 5 |

Please circle your response on the following questions regarding the GAD-2 Project:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strongly Disagree** | **Somewhat Disagree** | **Neither Agree nor Disagree** | **Somewhat Agree** | **Strongly Agree** |
| The GAD-2 project was well organized | 1 | 2 | 3 | 4 | 5 |
| I feel the GAD-2 project was beneficial to the residents at Langdon Prairie Health | 1 | 2 | 3 | 4 | 5 |
| I am satisfied with the implementation of the GAD-2 project | 1 | 2 | 3 | 4 | 5 |

Please circle your response on the following questions regarding the GAD-2 Project Leaders:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strongly Disagree** | **Somewhat Disagree** | **Neither Agree nor Disagree** | **Somewhat Agree** | **Strongly Agree** |
| The project leaders effectively explained their implementation plan for the project | 1 | 2 | 3 | 4 | 5 |
| The project leaders shared the outcomes of the project with the project stakeholders | 1 | 2 | 3 | 4 | 5 |
| The project leaders communicated professionally with the project stakeholders | 1 | 2 | 3 | 4 | 5 |
| The project leaders made themselves available for questions and feedback | 1 | 2 | 3 | 4 | 5 |

**Please provide your feedback on the following questions (optional):**

1. List any strengths of the project or project leaders:
2. List any weaknesses or areas of improvement of the project or project leaders:
3. List any factors as to why the GAD-2 should or should not be used to screen for anxiety in patients coming in for a routine visit.
4. Additional comments: