IMPLEMENTATION OF THE GENERALIZED ANXIETY DISORDER 7-ITEM (GAD-7) SCREENING TOOL IN A MENTAL HEALTH OUTPATIENT CLINIC

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

Ella Bosunglan Gang

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Scholarly Project Chair Approval:

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Sheri Walker Ph.D., PMHNP-BC

ABSTRACT

Purpose: The prevalent disorder known as generalized anxiety disorder (GAD) can have various negative consequences. GAD harms individuals, families, communities, and society as a whole. People with GAD frequently experience a crippling decrease in their physical and mental health. When generalized anxiety disorders are combined with the pressures of pre-existing medical conditions, the quality of life can be significantly impacted. GAD severely impairs social and functional functioning, resulting in frequent clinic appointments, doctor shopping, emergency room visits, high costs from family and employer treatment, and increased costs for global healthcare spending. Proper diagnosis is essential to effective treatment, and a lack of proper diagnosis can cause issues not only for the patients but for the MNC Wellness center as well. These include low productivity, increased costs, and poor cost management to the patient, affecting customer focus and satisfaction and decreasing customer loyalty and retention. A quality improvement project was designed to educate Psychiatric nurse practitioners at an outpatient mental health clinic to increase their knowledge and the frequency of use of the GAD-7 screening tool.

Background: To fill in the gaps in anxiety evaluation and outpatient mental care procedures, the clinic adopted the frequency of use of the GAD-7 screening tool as a standard of care after the educational intervention. The GAD-7 screening tool is a reliable, validated screening tool for generalized anxiety disorder that enables prompt identification, the start of therapy, and referral to behavioral health services. When used regularly in outpatient mental health settings, the GAD-7 can reduce tertiary care interventions, cut costs, and improve patient outcomes by lowering anxiety-related dysfunction. The GAD-7 screening tool promotes measurement-based care, which improves diagnostic efficacy and timeliness while promoting high-quality care.

Methods: Sixteen psychiatric nurse practitioners voluntarily agreed to participate in an in-service PowerPoint presentation to gain knowledge on the frequency of use of the GAD-7 screening tool. The principal investigator collects pre- and post-chart review data from the EHR. The pre-and post-chart review assessed existing and subsequent GAD-7 knowledge and frequency of use. Descriptive statistics were used to analyze and interpret the pre-and post-chart review scores.

Results: The chart review shows improved knowledge and frequency of use of the GAD-7 screening tool. This enhanced their ability to assess patients for generalized anxiety disorder and proper diagnosis to uphold the standard of care.

Conclusions: The education presentation effectively improved GAD-7 knowledge and the frequency of use of the GAD-7 screening tool among the psychiatric nurse practitioners at the MNC Wellness outpatient clinic. Increased provider knowledge enables successful GAD-7 implementation as part of routine, measurement-based care at the outpatient mental health clinic. Continued GAD-7 tool use will improve results for the clinic, reducing a significant gap in outpatient care delivery.

Keywords: GAD-7 screening tool measurement-based care, generalized anxiety disorder, GAD-7 screening tool and guidelines, GAD prevalence, the use of GAD-7 tool across the life span, uphold the standard of care.

Copyright

Dedication

I want to thank God first and foremost for leading me on this road. While the cause for everything may not always be apparent, this includes my struggles. It is because of my trust and confidence in God that I have been able to overcome significant obstacles and find meaning and appreciation for them and my whole life.

I dedicate this doctoral work to the people who have had the most significant positive influences on my life. To my grandmother Na Tu, whose impact on my life is too profound to express adequately. To my spouse, Sigala Gang Sr., and my two children, Sigala Jr., and Kenna Gang, you are my entire universe, and everything I have accomplished is for and because of you. To my mother and family members, your prayers meant a lot during this period.

Love,

Your wife and mother

Acknowledgments

This acknowledgment is a gratitude to the countless people who have helped with my doctoral study and this DNP effort. All of these parties kindly offered their assistance throughout this project. I owe a debt of gratitude and appreciation to all of them for their time, effort, generosity, and patience.

I am writing to express my profound gratitude to Dr. Sherri Walker, the chair of my committee, for her kind and patient encouragement, help, and understanding in bringing this project to a successful conclusion. It has been a great blessing for me to have her advice, knowledge, and support in finishing this DNP research. I would also like to take this opportunity to thank Dr. Michael Nwandu, who owns the MNC Wellness Center, for his crucial time and advice on this undertaking. Drs. Adedoyin Adeniyi and Cindy Goodrich assisted with this project and my professional development. These people's counsel and direction have been crucial to my doctoral education, final project, and professional growth as a practitioner.

I appreciate the help from my family and friends. First and foremost, I want to thank my husband for his love and assistance with the endeavor. I'm grateful to my kids Sigala and Kenna for seeing the value of school and how hard their mother worked. Thank you to Mr. and Mrs. Galega Ralph for igniting the fire they saw inside me. I want to express my gratitude to my in-laws for supporting and taking care of our family while I was away. To my siblings for their love, prayers, and moral support. Finally, I want to express my gratitude to my late father, Victor Forkom, for bringing me out of this planet earth. I thank my mother, Dorothy Forkom, for her support, love, and prayers.

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List of Abbreviations

American Association of College of Nursing (AACN)

American Psychology Association (APA)

Doctor of Nursing Practice (DNP)

Electronic Health Record (EHR)

Evidence Based Practice (EBP)

Generalized Anxiety Disorder (GAD)

Generalized Anxiety Disorder-7 item screening tool (GAD-7)

Institutional Review Board (IRB)

Measurement Based Care (MBC)

Psychiatric Mental Nurse Practitioner (PMHNP)

Quality Improvement (QI)

SECTION ONE: INTRODUCTION

Generalized anxiety disorder (GAD) is one of the most common ailments that affect many people daily. Due to frequent lifetime recurrence and symptom persistence, GAD can be categorized as a chronic disorder. With prompt diagnosis and adequate treatment within the integrated healthcare system, the significant expenses of GAD might be decreased. A reliable screening tool designed to improve the knowledge of the psychiatric mental health practitioner (PMHNP) in an outpatient mental health clinic is essential in strengthening proper diagnosis and upholding standards of care. The generalized anxiety disorder 7-item screening tool (GAD-7) is a validated tool that may detect improve the knowledge of the psychiatric mental health practitioner (PMHNP) in an outpatient mental health clinic is essential a damaging effect on patients, families, communities, and society at large (Sapra et al., 2020). GAD often brings a debilitating physical and mental decline in those affected with the disorder. Combined with the stressors of preexisting medical problems, generalized anxiety disorders can negatively influence the quality of life across the lifespan. GAD causes severe interference and damage in social and functional settings, which leads to frequent clinic visits, doctor shopping, emergency visits, high costs due to family treatment, employers, and global healthcare spending. In MNC Wellness Center where the research was conducted, the GAD-7 screening tool was used inconsistently, according to the initial EHR data from their quality improvement report. Although the GAD-7 screening instrument was integrated into the electronic health records (EHR) for documentation, the MNC Center uses it inconsistently to diagnose anxiety, affecting patient satisfaction and decreasing customer loyalty and retention. In the mental health outpatient clinic, mental health nurse practitioners' lack of knowledge and frequency of use of the GAD-7 screening tool when diagnosing or treating their patients was viewed as a gap.

Background Knowledge

GAD is characterized by extreme anxiety with difficulties controlling emotions, and it is complemented by observable symptoms such as irritability, difficulty concentrating, restlessness, tiredness, and sleep disturbance (American Psychiatric Association [APA], 2013; Nyongesa et al., 2020). GAD is one of the most prevalent mental health conditions in the United States, with an annual prevalence rate of 6.8% or 3.1 million adults. Still, only about 43.2% are receiving care (Anxiety and Depression Association of America, 2022). According to the National Institutes of Mental Health (2022), approximately 5.7% of U.S. adults experience GAD at some point in their lives, 32.2% have serious, 44.6% have moderate, and 23.1% have mild impairment. Statistics show the lifetime prevalence of the generalized disorder among U.S. adolescents aged 13-18, which was 3.0% high in females than 1.5% in males. Research revealed that women were more likely than men to develop an anxiety-type disorder showing 30.5-33% of women to 19-22% of men being diagnosed (Jalnapurkar et al., 2018). GAD can occur at any given time in life, with differing symptoms which co-occur with depression and other mixed anxiety disorders (APA, 2013). The co-manifestation of the ailments often leads to multiple substance use, comorbidities, and complicated deaths (Nyongesa et al., 2020). The disease is characterized by excessive, uncontrolled worries about events that are difficult to control (Aljurbua et al., 2021; Moreno et al., 2019; Ren et al., 2021). Bandelow and Michaelis (2022) revealed that according to extensive population-based surveys, 33.7% of the population is affected by anxiety during their lifetime. The prevalence of GAD in the general population ranges from 0.4 to 5.7% (Nyongesa et al., 2020). In outpatient practices, most GAD symptoms range from 3.7 to 14.8%, accounting for about half of the disorder in these settings. Research shows that 23% is reported in high-income settings, while 30% is seen in low and middle-income countries. The presence of the disorder can elevate the mortality rate among different age groups (Chang et al., 2017). Patients with anxiety disorders may

have a poor quality of life as evidenced by deteriorating psychological discomfort, physical health decline, living disability, and poor ability to follow or adhere to the treatment regimen (Chang et al., 2017). GAD related to comorbidity can be particularly daunting and impede the patients' functionality leading to high direct medical services and indirect cost of living (Sinnema et al., 2018). Due to the high occurrence of these mental disorders, many countries suffer from the high cost of treatment. Research shows that the United States is estimated to spend $42.3 billion on people suffering from the disorder annually (Łoś & Waszkiewicz, 2021).

GAD can be considered a chronic condition as evidenced by the disease symptom recurrence throughout the patient's lifetime (Ahn et al., 2019). Some patients with GAD suffer considerable dissatisfaction throughout their lives, low-income family relationships, and low work productivity (Nyongesa et al., 2020). Many people with GAD receive either no mental health treatment or inappropriate treatment. If GAD is undermanaged or untreated, the symptoms can influence self-care, help-seeking behavior, and interpersonal functioning (Calear et al., 2021). The review found that the treatment gap for GAD is a global problem. A sample result from 51,547 participants in 21 nations reveals that 9.8% had an anxiety illness the year before and that 27.6% had gotten therapy (Moreno et al., 2019). A cross-sectional study revealed that people who experienced at least a 12-month period of GAD conveyed an inability to execute their typical role on an average of 41.2 days per year, and 50.6% of respondents described severe malfunction due to GAD (Ruscio et al., 2017). Due to the high incidence of these mental disorders, many countries suffer from the high cost of treatment. The United States is anticipated to spend $42.3 billion annually, which highlights the burden on the healthcare system caused by the rising usage of resources to treat anxiety disorders. (Łoś & Waszkiewicz, 2021).

At the MNC Wellness center, despite the presence of the GAD-7 screening tool embedded in the EHR, the use of it was limited due to a lack of knowledge of the tool's benefits, resulting in

declining patient loyalty, poor patient satisfaction, and patient retention, as reported by the MNC Wellness center director. The undesirable effect of GAD on illness from co-occurring conditions mount healthcare costs, as evidenced by the annual median medical bill estimated at $2375 compared to $1448 for those without GAD (Kehoe, 2017). People with untreated or undiagnosed GAD misuse healthcare resources, resulting in costly emergency department visits. In addition to the organization's infrequent use of the GAD-7 screening tool, the underuse affects the clinic's higher productivity, increased costs, and poor cost management to the patient, affecting customer focus and satisfaction and decreasing customer loyalty and retention.

A GAD-7 screening tool is a standardized tool that can effectively screen all patients for GAD, allowing for proper, timely diagnosis, treatment commencement, and therapist referral, not only in primary care institutions but in all mental health settings (Ahn et al., 2019; Bischoff et al., 2020; Johnson et al., 2019). The high spending on GAD can be decreased with timely diagnosis and appropriate management of conditions within the outpatient mental health system. Due to the GAD-7 tool's diagnostic reliability, factorial, construct, and criterion validity are today known as the most widely used anxiety measure in clinical practice and research (Toussaint et al., 2020). The American Psychiatric Association recommends it as a useful screening tool for measuring the severity of GAD (APA, 2013). The ability of the GAD-7 screening tool to detect a significant change in health status after an assessment is essential to the outcome measure. Research revealed that measures such as the difference in GAD-7 scores before and after an intervention underpin its practical and valid use in assessing anxiety outcomes in an outpatient mental health clinic (Toussaint et al., 2020). According to Toussaint et al. (2020), the sensitivity to change of the GAD-7 tool demonstrates its utility as an efficient and economic severity measure for anxiety.

As documented by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) criteria, the GAD-7 is a seven-item questionnaire that clinicians can use to

identify people with GAD efficiently. Their reliability and validity report a best-fitting for a one-factor structure with a strong level of sensitivity (89%) and specificity (82%), whereas others said a two-factor model (Moreno et al., 2019; Seritan et al., 2018). Coexisting mental health disorders such as GAD led to deteriorated medical issues, impaired physical function, increased utilization of healthcare resources, and patient and family suffering (Veisy et al., 2021). Continuous use of the GAD-7 screening tool during each visit, new visits, and yearly visits will alleviate or prevent GAD-induced malfunctioning, decrease specialized interventions, and improve patient outcomes (Veisy et al., 2021). The outpatient mental health clinic will be the primary place to encounter the signs and symptoms of the disease, which, if not adequately diagnosed, can lead to increased morbidity and mortality (Moreno et al., 2019).

Additionally, the GAD-7 is one of the most extensively used anxiety measures in research and clinical practice. It can be used for anxiety disorder screening, diagnosis, and severity evaluation, including social phobia, post-traumatic stress disorder, panic disorder, and GAD (where scores of 10 or higher indicate GAD). The American Psychiatric Association has recently suggested the GAD-7 as a suitable tool for assessing the severity of GAD in accordance with the updated DSM-V criteria (APA, 2013). Routine implementation of the GAD-7 screening tool during those visits can allay other prevalent problems of GAD (Budikayanti et al., 2019). The role of assessment in using the GAD-7 screening tool is deviated to the practitioners and away from those consulting who, in one way or the other, cannot speak regarding their symptoms. The stigma associated with mental health ailments and patients' lack of knowledge about their symptoms may hinder seeking proper treatment (Maunder & White, 2019; Mughal et al., 2020). Practitioners tackling anxiety disorder by routinely screening using a standardized tool before initiating treatment take away the burden from patients and decrease stigma-related vulnerability (Nyongesa et al., 2020; Toussaint et al., 2020). Utilizing educational awareness to increase practitioners'

knowledge and frequency of use of the GAD-7 tool to assess mental health-related conditions such as GAD can reduce the rate of under-diagnosed and under-treatment in a mental health outpatient clinic (Bischoff et al., 2020; Mughal et al., 2020). Research revealed that GAD-7 questionnaires are quick to administer, enhance time efficiency, and maintain good sensitivity and specificity for diagnosing the most common anxiety disorders encountered in psychiatric outpatient mental health clinics (Sapra et al., 2020). However, due to a lack of knowledge and the vacillation to follow protocol by practitioners, educational interventions are an efficient way to increase practitioners' knowledge and frequency of use of the GAD-7 screening tool to support proper diagnosing and uphold standards of care. According to Cullen et al. (2020), training and mentoring healthcare practitioners positively impact evidence-based practice adoption.

Problem Statement

The DNP project was developed to fill in the gap that accounts for a significant decrease in the quality of evidence-based practice use at the outpatient mental health clinic. The project occurred in a mental health outpatient clinic in Maryland, the Mid-Atlantic region of the United States East Coast. The GAD-7 screening tool was used to maintain good sensitivity and specificity of the diagnosis and enhance the time efficiency of the most common anxiety disorders encountered in outpatient mental health clinics (Sapra et al., 2020). The GAD-7 screening tool, integrated into the electronic health records (EHR) for documentation, was inconsistently used in the mental health outpatient clinic to identify anxiety completely. The initial EHR data from their quality improvement report showed inconsistent utilization of the GAD-7 tool. The mental health outpatient clinic's gap was illuminated by mental health nurse practitioners' lack of knowledge and frequency of use of the GAD-7 screening tool when diagnosing or providing care to their patients. The recommended standard for screening using the GAD-7 tool in population and trials focusing on anxiety-specific treatment is highly recommended for all psychiatric mental health nurse

practitioners to support proper diagnosing and uphold the standards of care (Toussaint et al., 2020; Johnson et al., 2019).

The significance of education to psychiatric nurse practitioners (PMHNP) toward attaining competency in anxiety screening tools could not be overemphasized. The magnitude of this educational project was that it would improve practitioners' knowledge and frequency of use in the implementation of the GAD-7 screening tool, making it easier to identify, diagnose, and treat anxiety (Hinz et al., 2017). Research revealed that the frequency of use of the GAD-7 tool supports proper diagnosis and upholds standards of care (Toussaint et al., 2020). An outcome measure must meet the necessary condition of sensitivity to identify significant changes in health status over time. This would support its practical and reliable application for evaluating anxiety outcomes in studies and clinical work. Despite the pervasiveness of anxiety in the United States and the clear-cut standards regarding the utilization of the GAD-7 tool, practitioners continue to battle to implement the GAD-7 screening tool in practice (Hinz et al., 2017; Łoś & Waszkiewicz, 2021; Shevlin et al., 2022).

The GAD-7 is essential for psychiatric care settings because it is effective as a screening tool and measures the intensity of symptoms for the four most prevalent anxiety disorders—GAD, panic disorder, social phobia, and post-traumatic stress disorder. The importance of the GAD-7 tool to the mental health outpatient clinic and the profession was proven by the fact that education to the psychiatric nurse practitioners not only supported their understanding of the tool but increased their knowledge and frequency of use of the tool to practice autonomously when prescribing treatment for anxiety. The GAD-7 knowledge supports proper diagnosis and upheld standards of care (Toussaint et al., 2022). According to Johnson et al. (2019), the GAD-7 showed strong internal consistency and convergent validity. The associations discovered in this study, which range from $r = 0.62$ for related constructs to $r = 0.70$ for anxiety disorders, are comparable

to those identified in earlier investigations. Furthermore, the study intake and post-treatment alphas were all over 0.82, and there were strong associations with other measures of anxiety and well-being, indicating excellent reliability and validity. The GAD-7 thus proved to have convergent validity.

Additionally, the discriminant validity of GAD-7 shows a good separation between an anxious and a broader psychiatric group. This study's clinical implications include the ability to use the GAD-7 to gauge anxiety intensity. Scores of eight and higher may suggest the presence of an anxiety condition and call for additional follow -up. The measurements' versatility is another benefit, as patients' diagnoses in psychiatric mental health outpatient clinics are frequently complicated and comorbid. The GAD-7 offers several benefits to clinicians in an outpatient psychiatric mental health clinic, including being simple to use, having distinct psychometric features, and having seven items. Clinicians can adopt it without risk, and the practitioners' education on the use of GAD-7 screening tools increases the wellness of their patients and prevent impartiality. In addition, the GAD-7 tool knowledge improvement by the practitioners invariably would improve customer loyalty and retention, customer focus and satisfaction, increase profitability, improve practitioners' morale, and greater efficiency and outcomes for the clinic.

Purpose of the Project

The gap in the mental health outpatient clinic was a lack of knowledge and frequency of use of the GAD-7 screening tool amongst PMHNP which affected effective standards of care. Therefore, the DNP project's proposed goal was to minimize the gap through a quality improvement educational program to increase PMHNPs' knowledge and frequency of tool use. Implementing the frequency of use of the GAD-7 tool by PMHNP practitioners would establish a standardized practice that would strengthen PMHNP practitioners' ability to evaluate anxiety and begin appropriate services. Standardizing care and making sensible use of the clinic's current

resources would form a more effective and efficient system for providing patient care. This will also boost organizational profitability owing to patient retention and the clinic's efficiency and results. A screening tool that easily connects to the EHR will significantly enhance the outpatient clinic. It hypothesized that the DNP project's purpose statement answered the following practice-focused clinical question (PFQ):

PFQ: For psychiatric nurse practitioners in a mental health outpatient clinic, will an educational intervention improve knowledge and frequency of use of the GAD-7 screening tool, which would strengthen proper diagnosis and uphold standards of care?

The DNP project focused on the gap in practice by advocating for GAD-7 screening tools and better outcomes through early detection, diagnosis, and appropriate medication management of anxiety. The project taught the PMHNP the importance of the use of GAD-7 in the management of anxiety disorder. Completing the DNP project also increases practitioners' frequency of use of the tool when assessing and treating those affected with anxiety. The goal was for practitioners to understand the benefits of using the GAD-7 screening tool during an assessment to enhance the clinic's standards of care and profitability to the clinic owing to patient retention and satisfaction.

Clinical Question

For Psychiatric nurse practitioners in a mental health outpatient clinic, will an educational intervention improve knowledge and frequency of use of the GAD-7 screening tool, which will strengthen proper diagnosis and uphold standards of care?

DNP Essentials Addressed

The strength of this scholarly project was its strong link to the Doctor of Nursing Practice (DNP) Essentials fundamental to the DNP practice and interwoven throughout the DNP program. The *DNP Essential I: Scientific Underpinnings* for Practice asserts that nursing practice at the doctorate level is immersed in scientific expertise (American Association of Colleges of Nursing

[AACN], 2006). This scholarly project meets DNP essential I through the improvement of an EBP-based quality improvement education program that directly impacts a mental health outpatient clinical practice site.

The scholarly project provided a quality EBP educational intervention program on a tool that improved an organization's outcome that operates as a mental healthcare outpatient clinic. It aligns with the DNP Essential II as an evidence-based quality improvement project implemented in a mental health outpatient clinic system. *Essential II states that the Organizational and System Leadership for Quality Improvement and System Thinking* must know how to work and collaborate with others within an organization. The DNP project supports the organization and the practitioners and upholds the standards of care (AACN, 2006).

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice utilize various scholarly pursuits and investigate evidence to promote EBP (AACN, 2006). Using a quality researched screening tool such as GAD-7, it sought to support the education of mental health practitioners on the frequency of use to create a practice based on EBP.

The DNP Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care involves the understanding and using healthcare technology within any healthcare system (AACN, 2006). The scholarly project used technology to search the frequency of use of the GAD-7 by all mental health practitioners before and after chart use. The project included how the PMHNP mental health nurse practitioners used the current electronic health record system to obtain the GAD-7 data from each patient electronically. The project required the use of technology to deliver academic knowledge.

The *DNP Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes* allows providers to work with the interdisciplinary team to deliver and improve patient healthcare outcomes (AACN, 2006). The scholarly project is geared in

collaboration with the PMHNP mental healthcare practitioners and other stakeholders (Director and the information Technology staff) via an educational program about the screening tool used in an outpatient mental health clinic.

The *DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health* assists in preventing disease and promoting patient health. The quality improvement project embedded within these essentials focused on a population affected by specific mental health problems. Education was provided on a screening tool that strengthened proper diagnosis and upheld the standard of care. Other measures included evaluating care delivery models using concepts related to community and social-economic proportions of health. This essential entwined with population health was crucial to advancing organizational healthcare processes (AACN, 2006).

The *DNP Essential VIII: Advanced Nursing Practice* prepares DNP practitioners to utilize their advanced nursing skills and apply them across various settings or systems (AACN, 2006). Essential VIII employed an advanced practitioner to provide an educational program to the PMHNP mental healthcare practitioners in an outpatient mental health clinic. This improved knowledge and frequency of use of the GAD-7 screening tool offered an advanced level of evidence-based practice to all patients.

SECTION TWO: LITERATURE REVIEW

Search Strategy

A literature search was conducted to pinpoint evidence of GAD prevalence, GAD-7 guidelines for accurately diagnosing, and the use of GAD-7 screening tool across the lifespan in mental health outpatient settings associated with practitioners' education. The evidence searched employs the database of CINAHL, MEDLINE w/Full text (EBSCO), PsychInfo, and PyschArticles. For all data, the criteria included were limited to publication within five years, academic journals, peer-review articles, GAD-7 assessment screening tool, the standard of care for mental health practitioners, quality improvement for outpatient mental health, educational interventions with staff, as well as all age inclusion in the study of the project. The article search included the use of "GAD-7," "generalized anxiety disorder," "GAD-7 screening tool for a proper diagnosis," and "GAD-7 screening tool." The Boolean/phrase and keywords common during the search included “a measurement-based tool in mental health office/clinics", “standard of care” and "GAD-7 in mental health outpatient practice.” The literature search provided an overview of standardized evidence showing that practitioner's education modules can increase knowledge and frequency of use of the GAD-7 screening tool to correctly identify, diagnose, and treat anxiety in a mental health outpatient setting.

The initial CINAHL search on generalized anxiety disorders returned 2.875 studies, but after typing GAD-7, it produced 325 results. Adding "screening tool" to the Boolean/phrase yielded 14 results which were then reviewed carefully. Many of the documents were rejected because of duplications or reviews of studies, while four were eliminated. Ultimately, eight studies were found vital for the DNP project.

MEDLINE w/Full-text (EBSCO) was similarly searched with a keyword initial "GAD-7" and returned 6,074 documents. The years of publication were changed to 2017 and later with no

age specifications. Additional Boolean/phrases "GAD-7 and outpatient practice" were added to narrow the search documents that yielded 11 studies for scrutiny. These results were then individually examined for excellence.

The PsychInfo and PyschArticles databases were investigated by applying the same methodology. These searches generated 26 articles, respectively. Search phrases such as "GAD-7 screening tool and guidelines, GAD prevalence, the use of GAD-7 tool across the life span in mental health outpatient settings and associated patient outcomes" came up faster, defeating the purpose of making multiple inquiries for peer review articles. The majority of the articles were published within five years. The retaining searches centered on validity and reliability within an outpatient setting.

Critical Appraisal

All studies retained for this critical appraisal prove the prevalence of GAD worldwide and the authenticity of the GAD-7 use in different practice settings. Some of the research studies' main findings and outcomes concluded that the GAD-7 screening tool was extensively validated in assessing and treating anxiety symptoms across different settings (Johnson et al., 2019). Research using the GAD-7 screening tool showed 68% sensitivity and 88% specificity of any anxiety disorder (Sapra et al., 2020). Research showed that the frequency of use of the GAD-7 in screening patients with anxiety promotes prompt quality treatment methodology (Spitzer et al., 2006). The effectiveness of health care screenings is significantly constrained in the absence of coordination, consistency, and standardization. The gaps between the annual and lifetime prevalence rates with treatment rates suggest that millions of people with GAD are undiagnosed and suffering, making accurate and prompt GAD screening critical for all adults (Ruscio et al., 2017). The gap in the mental health outpatient clinic was a lack of knowledge and infrequent use of the GAD-7 screening instrument by PMHNP, which had an impact on efficient standards of service.

To close this gap in care, psychiatric mental health practitioners utilized a GAD-7 screening tool to help them evaluate GAD symptoms. Measurement-based care (MBC) aims to accelerate and improve diagnostic accuracy, enabling high-quality care with the least amount of financial and patient stress (Martin- Cook et al., 2021). MBC can be used in routine care regardless of the patient demographic, treatment type, philosophy, or practitioners' educational background because it is both transdiagnostic and transtheoretical. MBC can improve functioning and quality of life when incorporated into routine care, promoting patients' active participation in the healing process.

Healthcare organizations can enhance patient care delivery, have a favorable influence on patients, and spend less on tertiary care by using an MBC tool like the GAD-7. Healthcare companies cannot readily assess the performance of the quality improvement project or prove to payers that their therapies are beneficial without MBC procedures (Martin-Cook et al., 2021). Integrating MBC with precise benchmarks and measurements into clinical practice will enhance service reimbursement in the psychiatric mental health clinic (Martin-Cook et al., 2021).

Synthesis

The literature reviews provided a direction for the educational module that taught the PMHNP nurse practitioners about the frequency of use of the GAD-7 screening tool. Research supports that the GAD-7 was suggested for use in clinical research and routines and to detect improvement in care delivery in an outpatient mental health clinic (Sapra et al., 2020; Toussaint et al., 2020). Johnson and colleagues (2019) suggested that accurately screening for anxiety leads to effective early diagnosis and upholding the standard of care. The goal of the quality improvement (QI) initiative was to improve the understanding of psychiatric mental health practitioners working in outpatient psychiatric clinics to utilize the validated, evidence-based GAD-7 in assessing their patients. The MBC standard of care ensures that all patients receive

proper anxiety assessment using the GAD-7 to screen patients who visit the clinic (Martin-Cook et al., 2021). The clinic's psychiatric mental health practitioners received their initial training after the principal investigator’s pre-chart review (see table 1 findings) during a brief presentation in the conference room, which encouraged frequent use of the GAD-7 screening tool to uphold standards of care. Hence, one could not underestimate the importance of educating PMHNP nurse practitioners to accomplish competency levels using the GAD-7 screening tool to strengthen the proper diagnosis.

A thorough review of current scholarly articles on the reduced usage of and poor devotion to the GAD-7 standardized tool indicated the level of the problem surrounding the screening methodology, the significance of the issue, the evidence-based practice used to manage the problem, and the evidence-based practice needed to address the problem (Hinz et al., 2017). Mughal and colleagues (2020) researched the validity of GAD-7 screening tools for anxiety and post-traumatic stress disorder, thereby contributing significantly to disability-adjusted life years in low-to-middle-income countries. To further bolsters the reliability of GAD-7, the research was conducted via a systematic review where accurate results were organized based on the screening tool, cut-off, and specific disorder. In the study, only two validations with identical cut-off scores for the GAD-7 tool could be mixed via meta- analysis. No other validations of similar cut-off values provided enough information to conduct a meta-analysis. Therefore, practitioners were required to identify the exact version used when running the validity of the screening tool. The literature review unveils records used to build the educational program and answer the practice-focused question (Bischoff et al., 2020; Hinz et al., 2017; Moreno et al., 2019; Nyongesa et al., 2020). The results of the GAD-7 questionnaire show the existence of the DSM-V-listed GAD symptoms. The criteria for GAD did not change significantly compared to DSM-IV even though the anxiety disorder spectrum was reorganized in the DSM-V into separate groupings for the

classical anxiety disorders, trauma- and stressor-related disorders, obsessive-compulsive and related disorders, and dissociative disorders. To determine the level of burden experienced by both individuals and patient groups, a questionnaire's normative values are crucial (Hinz et al., 2017). Research proved that GAD-7 allowed for a classified assessment of the symptoms of anxiety and treatment modalities. The GAD-7 has been validated in outpatient settings and used successfully in mental health clinics. The GAD-7 anxiety screening tool was user-friendly for all practitioners or clinicians. The practitioners used GAD-7 during the initial visit, which assists in the identification of both objective and subjective signs and symptoms, proper diagnosis, and follow-up visits to roll out unresponsive symptoms. The GAD-7 screening tool developed by Spitzer, Kroenke, Williams, and Lowe in 2006 is free and accessed online (Spitzer et al., 2006). GAD-7 had seven items that measured the severity of different presenting signs and symptoms of GAD following the reported response categories with allocated points. Additionally, research affirms that educational intervention will foster professional growth and interprofessional teams, assist point-of-care practitioners in functioning as change agents applying EBP in daily practice, and promote retention (Cullen et al., 2022).

Conceptual Framework/Model

A conceptual framework was essential in developing a quality improvement (QI) project. The Iowa model was used to guide the GAD-7 project. The Iowa model of evidence-based practice is a system of approach that clarifies how an organization's practice changes to maintain QI and has been used in plenty of settings to promote the implementation of evidence-based practice (Cullen et al., 2022; White et al., 2019). The phases of the Iowa model, which consists of seven processes, encourage the establishment of interprofessional teams, the review, critique, and synthesis of the available evidence, the implementation of change through pilot projects, ongoing evaluation, and distribution of the results. The reason for using the Iowa model stands as an

evaluation model that supports projects designed to teach practitioners and improve the frequency of use of the GAD-7 screening tool. The model operates ideally within an organizational standpoint, as evidenced by providing directions to practitioners in everyday decision-making. The model provides opportunities for the practitioners to pay close attention to the knowledge and question existing healthcare practices to see if they could make a change by introducing current research practices (Cullen et al., 2020; Cullen et al., 2022). The Iowa modal focused on an interdisciplinary approach rather than an individual perspective to guide evidence-based decision-making. Using this Iowa model to implement the GAD-7 screening tool assisted the practitioners in questioning their existing knowledge and frequency of use to improve current evidence-based research findings (Cullen et al., 2022).

The model's first step was identifying a problem that needs change by identifying the clinical practice question triggered by a problem in the outpatient clinical setting. In the MNC Wellness center, does an educational program for psychiatric nurse practitioners in an outpatient mental health clinic increase their knowledge of and frequency of use of the GAD-7 screening instrument, to enhance accurate diagnosis and uphold standards of care? It was vital to understand that some problems were knowledge-triggered while others were problem-triggered. Problem-focused generate original clinical problems, while knowledge -focused triggers originate when new practice recommendations were needed (Cullen et al., 2022). With insufficient evidence to support the project, a literature search was required. Another step was to test the recent practice change; if effective, the difference could be applied to organizational practice. Continuous evaluation of the change was needed weeks to months after the implementation. PMHNP at the outpatient mental health clinic managed patients with anxiety. However, increasing practitioners' knowledge and frequency of use of the GAD-7 screening tool strengthens proper diagnosis and upholds standards of care.

Theoretical Framework

A theoretical framework is vital in guiding a principal investigator in analyzing scholarly research. Varpio and colleagues (2020) posit that theoretical foundations stem from one or more theories created to support a study. A theoretical framework was necessary to improve awareness of the proposed solution to the identified clinical problem for PMHNP nurse practitioners to effectively merge research evidence into clinical practice. Bandura's social cognitive theory provides the capacity to exercise control over this project (Bandura, 1977). The primary concept of this theory is self-efficacy which refers to an individual belief system to succeed in certain situations or realize set goals. Self-efficacy refers to asserted capabilities to learn or execute actions at specified levels (Schunk & DiBenedetto, 2021). Self-efficacy inspires the way individuals feel, think, and enthuse themselves to achieve set goals (Bandura, 1994). Li (2020) states that self-efficacy is central to goal setting, enactment, attainment, self-efficacy theory, and reliable treatment targets.

A robust sense of self-efficacy improves individual or group achievements in numerous ways. Individuals with a high-ranking common sense of assurance in their skills were likely to view complex tasks as a challenge to overcome rather than threats that should be avoided. According to Schunk and DiBenedetto (2021), the most trustworthy information comes from performance successes since they show what a person is capable of. The self-efficacy of witnesses can increase after seeing a successful performance. In contrast, individuals with a high sagacity of self-efficacy established their goals and endured firm promises even when confronted with a fiasco. They ascribe failure to the absence of skills and knowledge which can be acquired and quickly recover their sense of self-efficacy after experiencing setbacks. At MNC Wellness Center, seven of the sixteen participants have less than two years of experience using the GAD-7 screening tool, while the remaining nine have five years of experience. Even with those years of experience,

the participants need to gain the knowledge of proper completion and benefits of the frequency of use of the GAD-7 tool. People are less skillful in the beginning phases of learning; thus, they must persevere to succeed. Before experiencing setbacks. At MNC Wellness Center, seven of the sixteen participants have less than two years of experience using the research have significantly advanced our knowledge of human motivation. Researchers have found that a significant internal motivational process called self-efficacy influences the motivational outcomes of decisions, effort, persistence, and performance. Personal and contextual factors can control self-efficacy. Applying self-efficacy principles to various circumstances indicates that the basic idea needs certain modifications. Furthermore, such positivity improves personal success, decreases stress, and reduces the vulnerability of practitioners' lack of knowledge and frequency of use of the GAD-7 screening tool.

On the contrary, individuals who question their capabilities to perform tasks coy away from complex tasks, regarding them as personal risks to be avoided. When faced with trials, individuals may tend to focus on their deficiencies. They may slowly regain their sense of self-efficacy and be subject to minimal interest in using the GAD-7 screening tool properly or frequently as deemed. According to Eun (2019), behaviors, external events, and internal personal characteristics like cognitive, affective, and biological occurrences all function as interdependent determinants that affect one another in both directions. An individual's unique characteristics, such as their particular cognitive abilities and affective tendencies, all influence the kinds of environments and activities they will choose to engage in within those environments. In a continuous process of reciprocal effect, these decisions also impact how cognitive and affective processes evolve in the future. One may argue that individuals with a high feeling of self-efficacy are more likely to participate in educational training that enhances psychiatric nurse practitioners' understanding and frequency of use of the GAD-7 screening tool. The practitioners are likely to attend GAD-7 screening training

sessions and participate in scholarly projects to support proper diagnosis and uphold standards of care. The social cognitive theory points out that self-efficacy can be spawned from diverse sources such as verbal persuasion, vicarious experiences, physiological state, and performance achievement (Bandura, 1977). As the principal investigator, I used verbal persuasion and modeled acceptable behavior to improve practitioners' capability to participate in the quality improvement project.

Summary

The practitioners have a crucial role in addressing the diagnosis and management of patients affected with anxiety in an outpatient mental health clinic. The section below discusses the project outlines and the doctoral proposal plan for introducing the plan, collecting, and analyzing the data. The area will document a well-defined evidence-based source to prove how it can ethically use current evidence to improve the frequency of use of the GAD-7 screening tool in an outpatient mental health clinic to support proper diagnosis and uphold standards of care.

SECTION THREE: METHODOLOGY

Design

The quality improvement project was designed to improve practitioners' knowledge at an outpatient mental health clinic before implementing the GAD-7 screening tool that supports proper diagnosing and upholds standards of care (Antony et al., 2019; Wackerbarth et al., 2021). Implanted in the electronic health record, the GAD-7 tool was integrated into the practitioners' daily workflow to ensure that screening was completed with each patient at the initial consultation, during clinic visits, and annually. Having the GAD-7 software embedded in the clinic system for easy use and reliability aligns with the lean-startup management model for the clinic (Antony et al., 2019; Sapra et al., 2020; Wackerbarth et al., 2021). The key stakeholders of the outpatient mental health clinic agreed to the introduction of the GAD-7 tool frequency of use. They supported the idea of the project bringing quality improvement aimed at improving the practitioners' knowledge of the frequency of use of the tool and the importance of each patient's diagnosis and treatment. The principal investigator identified the underuse of the GAD-7 in GAD care as the existing gap and petitioned that the clinic administration should position the GAD-7 screening tool in the patients' dashboard for daily assessment and easy access. This broad quality improvement project was developed following the principal investigator’s role as a Doctor of Nursing Practice student. The Information Technology (IT) department used its expertise to assist graduates in implementing the scholarly project. The principal investigator's role was to provide the opportunity to create and deliver educational interventions.

The design for this project was a quasi-experimental quantitative analysis. The principal investigator started with a lunch and learned session discussing the project with about eighteen PMHNP nurse practitioners at the outpatient mental health clinic. Before introducing the QI project and eliminating bias, the principal investigator randomly, with the help of an information technology department staff, picked charts diagnosed with GAD or anxiety three months before to evaluate practitioners' daily diagnosing and treatment routine. On the scheduled date of the presentation, it was strongly advised that all practitioners be present. A week later, the principal investigator initiated a 45-minutes PowerPoint educational presentation to PMHNP nurse practitioners on the Knowledge and frequency of use of the GAD-7 screening tool. The pre-chart review results were used for this project to ascertain practitioners' knowledge and frequency of use of the GAD-7 screening tool to diagnose and uphold the standard of care in an outpatient mental health clinic. A post-chart review was initiated at various times; week one, week three, week five, and week seven to evaluate progress toward their improved knowledge level and frequency of use of the GAD-7 screening tool. The outcome of the scholarly project was measured using the post-chart review, which included the frequency of use of the GAD-7 screening tool.

Measurable Outcomes

The scholarly project sought to improve the practitioners' knowledge and frequency of use of the GAD-7 screening tool to support proper diagnosis and uphold standards of care. The paired *t-test* was used for the pre-and post-chart review analysis. The pre-and post-chart review compares knowledge and frequency of use of the GAD-7 screening tool by the PMHNP nurse practitioners before and after the PowerPoint educational presentation. The review of the results from the charts enhances the application of the daily screening tool at the outpatient mental health clinic by the PMHNP nurse practitioners.

The first measure during this EBP scholarly project was considered the practitioners' baseline frequency of use of the GAD-7 screening tool. The frequency was measured in weeks using the *t-test*. The principal investigator determined the outcome using the paired sample *t-test* analysis following the educational intervention. A post-chart review was started at different weeks—weeks one, three, five, and seven to assess progress made toward PMHNPs' increased knowledge level and frequency of use of the GAD-7 screening tool (see table 3-final analysis).

Setting

The scholarly project occurred in a mental health outpatient clinic in Maryland, on the East Coast's Mid-Atlantic region. MNC Wellness center hosts approximately forty clinical and non-clinical staff of males and females ages 20 to 50. MNC Wellness center is operated by a clinical director, head of finance, IT, and the human resources department. MNC Wellness center sees patients affected by various mental illnesses, and all documentation is completed via EHR. MNC Wellness center's mission is to provide the best care to every patient through integrated clinical practice and education. Also, the organization value commitment to integrity and ethical practice, compassion, commitment to excellence, respect for persons, and justice in healthcare. The goal of the scholarly project was to close the gap in the frequency of use of the GAD-7 tool, which supports the mission and values of the organization.

The principal investigator completed a background assessment of the treatment population across the lifespan at the MNC Wellness outpatient clinic's approach to using the GAD-7 screening tool and a signed site agreement for permission to conduct the project. The principal investigator receives an IRB approval letter from Liberty University to conduct the scholarly project. The principal investigator informed the participants that project participation was voluntary and that each member could withdraw at any time.

The current method of using the GAD-7 screening tool at the outpatient mental health clinic was examined. Previous data was screened for gaps anonymously as approved by the medical director. The principal investigator collaborated with the medical director to agree on the content of the educational presentation, and I led the development project. The principal investigator reviews and examines the literature while identifying the areas that need support. The Iowa EBP model was used to guide the project's goal. Before bringing it to the team, I reviewed the PowerPoint presentation based on pre-chart review data (see table 1 findings) for clarity, simplicity, content appropriateness, formatting, and style. A 45-minute PowerPoint Presentation addresses the gap identified at the pre-chart review.

The principal investigator's pre-chart review that covers three months (May to July 2022) worth of documentation of the use of the GAD-7 tool by the participants was done from August 22nd to the 29th after the approval of the IRB. The pre-chart review needed one week to gather all the necessary information regarding the gap in the GAD-7 screening tool before an educational session. The eighteen PMHNP nurse practitioners verbally agreed to sign a consent form to participate in the educational project. However, only sixteen psychiatric nurse practitioners participated, and the clinic did not explain why the two did not show up. I clarified the nature of the project to those who agreed to participate before the chart review.

The anticipated outcome of this project was for the practitioners to gain knowledge that would increase the use of GAD-7 screening tool. The data were analyzed for seven weeks using Microsoft Excel to build a statistical record showing the validity and reliability of new evidence-based knowledge for the outpatient mental health clinic. After the quality improvement intervention, I presented the team's pre- and post-chart review results.

Population

The approach for this project supported the psychiatric nurse practitioners in using the GAD-7 tool in the organization for properly diagnosing and upholding standards of care. As the principal investigator, I have four years of experience as a family practitioner and a 15-year work history in an inpatient mental health facility. All sixteen practitioners in the educational program were psychiatric mental health (PMHNP) nurse practitioners at the MNC Wellness center outpatient mental health clinic where the project took place. The average age was 30 with clinical experience ranging from two to five years. The participants were six males and ten females. The PMHNP received an in-service PowerPoint presentation about the QI project at the clinic on the first day of week one. Participation was voluntary, and the criteria for inclusion of staff members included a certified PMHNP nurse practitioner. Participants were made aware that no one would be allocated by name or any form during this educational project. All participants were notified of confidentiality with any given information, as none were required to write their names on the chart review.

Ethical Considerations & Christian Worldview Integration

The quality improvement project focused on educating the practitioners about the knowledge and frequency of use of the GAD-7 screening tool. Therefore, no patient intervention was included at this time. I secured participants' confidentiality and privacy throughout the data collection of the educational project. Permission to use the Iowa Model received from University of the Iowa Hospitals. Permission was granted by the IRB at Liberty University to start the project. Project participation was voluntary, and the participants could withdraw at any time from the program. I ensured all the data identified remained anonymous. The computer for presentations and the project was password protected. Before participating in this project, each participant participated in a voluntary disclosure consent whose aim was to provide more information about the quality improvement effort. I collected a signed site agreement and IRB approval from the

university before starting the educational project. The CITI training was completed. The GAD-7 screening tool was accessible and free online and did not require permission from anyone before use.

Dealing with people as God's creation required an understanding of the Christian perspective. A worldview supports the necessary structure through which the world perceives the uniqueness of an individual. The role of a PMHNP is to be truthful. Amer (2019) pointed out that being sincere is crucial for building trust and demonstrating respect for individuals. Patients have a great deal of faith in their providers, and they may feel that faith has been misplaced if they learn of or suspect a lack of honesty and sincerity on the practitioner's part. It was a fundamental conviction that the PMHNP should seek truth, see, understand, and experience learned knowledge when assessing each patient. A human-centered worldview was essential during this EBP scholarly project as God's considerations of first-order points of doctrine are non-negotiable in preserving human subjects' authenticity. The Christian worldview considered humanity as the bearer of God's divine image, being created in his image (Genesis 1:26).

Tools

The Microsoft Excel spreadsheet and GAD-7 screening tool were some of the tools needed for this scholarly project. In addition, one of the most widely used anxiety measures in both research and clinical practice is the GAD-7. The GAD-7 is a seven-item questionnaire that doctors can use to quickly identify persons with GAD, as per the criteria listed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) manual. They indicate a good level of sensitivity (89%) and specificity (82%) for a one-factor structure as the best fit, whereas others claimed a two-factor model (Moreno et al., 2019; Seritan et al., 2018). It can be used for social anxiety, post-traumatic stress disorder, panic disorder, and generalized anxiety disorder (GAD) screening, diagnosis, and severity evaluation (where scores of 10 or higher indicate GAD). The

American Psychiatric Association recommended the GAD-7 as a valid measure for determining the severity of GAD in accordance with the revised DSM-5 criteria (APA, 2013). According to research, GAD-7 tests can accurately diagnose the most prevalent anxiety disorders seen in psychiatric outpatient mental health clinics while performing rapidly and improving time efficiency (Sapra et al., 2020).

The principal investigator reviews the GAD-7 tool embedded in the EHR to gather information regarding the deficiencies in the frequency of use of the screening tool at the outpatient mental health clinic. The pre-chart review results determined PMHNPs' level of knowledge and frequency of use of the GAD-7. The GAD-7 screening tool was a free questionnaire to assess general anxiety (Hinz et al., 2017; Johnson et al., 2019). The GAD-7 tool is a seven-item Generalized Disorder scale (GAD-7) used to screen for the severity of anxiety disorders in inpatient and outpatient settings. It is based on the Diagnostic and Statistical Manual of Mental Disorders- IV (DSM-IV) (Sapra et al., 2020). It is an attractive option used by many psychiatrists and the general population due to its brief format, simple scoring, and public availability (Beard & Björgvinsson, 2014). The GAD-7 screening tool was used during the scholarly project to support proper diagnosis and uphold the standard of care.

Intervention

The necessity for long-term EBP improvement is evident, given the changing requirements of the value-driven healthcare system. The GAD-7 is the primary evaluation tool used in this study, which aligns with the early-engagement care delivery tenets. Early engagement is becoming a reality of healthcare delivery as developing technology improves our ability to detect and act before symptoms emerge or cause distress. The point of intervention can be much sooner for many health conditions. By indicating when and where assistance is required more rapidly than is

possible with current practice, the frequency of use of the GAD-7 screening tool to evaluate patients is in line with the growing early-engagement care approach.

A thorough grasp of EBP is necessary for PMHNPs to participate actively, which drives the practice transformation's effectiveness. This practice opportunity laid the groundwork for this project, which was accepted once it was described for the university IRB and project site. This project aimed to promote PMHNP involvement in the frequency of use of the GAD-7 screening tool. During an on-site education session, the clinic's PMHNPs received EBP training on the indication, usage, and interpretation of the GAD-7 screening tool. The presentation was developed by the principal investigator with four years of experience as a family practitioner and a 15-year work history in an inpatient mental health facility; thus, the materials utilized both clinical and practical expertise, as the content was tailored to the clinic system and existing workflow. The PMHNPs reviewed and signed a consent form to participate in the educational project during the session, which took around five minutes (Appendix I). For 10 minutes, a pre-survey was conducted verbally to determine the participant's familiarity with the GAD-7 screening tool. The GAD-7 education session was held in a conference room throughout the regularly scheduled PMHNP meeting. Participants were informed that participation was optional and that no personal data would be collected during the project. The educational event began with a roughly 45-minute PowerPoint lecture-based APA criteria (2013), continued with a 10- to a 15-minute demonstration of the GAD-7 tool in the EHR, and ended with a discussion session (Appendix G & H). The clinical schedule, designed to minimize workflow concerns, continued after another ten minutes for all participants. The post-verbal survey was carried out after the educational intervention. The meeting was concluded after the PMHNPs were thanked for attending.

Timeline

After the IRB's permission, the principal investigator conducted a pre-chart review from August 22 through August 29 that covers three months (May to July 2022) worth of documentation of the participants' use of the GAD-7 tool. The project was eight weeks, and the eighth week was used for data analysis and the final writing of the paper. The principal investigator monitored the PMHNPs via EHR chart review during the scholarly project on weeks one, three, five, and seven. The chart was reviewed, and data were collected every other week for analysis. The principal investigator used the pre-chart and week seven's post-chart review only to compare the means from the same staff participants. The progress of the GAD-7 screening tool, as illustrated in figures 1 and 2 and tables 1 to 3, reveals significant improvement in the frequency of use of the tool.

Data Collection

After signed site approval by the medical director, the principal investigator explained the inclusion criteria, the nature of the project, and the project's duration. The data were reviewed using the MNC Wellness Center outpatient clinic system. The principal investigator gave each PMHNP the chance to ask questions and address all their concerns in a user-friendly fashion. The practitioners were made aware of a voluntary disclosure consent form to be completed. The data did not include identified participants' information and was stored in a password-locked box in the medical director's locked cabinet. The principal investigator reviews the post-chart data in the EHR. The principal investigator took charge of the project activities by tracking all participants. Data collected were imported into Microsoft Excel. The computer system was password protected and shared no information with anyone.

Feasibility Analysis

The PMHNPs at an outpatient clinic's awareness and understanding of patient safety were meaningfully revealed by this project. The site's computer and electronic medical record system were the primary investigator's only data-gathering tools for the chart review. There were no

associated costs for the chart reviews that were done at the site for the project. The MNC Wellness center's educational intervention was provided without any further charge. The organization's computers were open to the PMHNPs, who may use them to access the GAD-7 tool resources as needed.

Data Analysis

Data gathered from the pre-and post-chart review was analyzed and interpreted using descriptive statistics. The effectiveness of the education presentation and any potential changes in the practitioners' frequency of use of the GAD -7 screening tool were assessed by contrasting the pre-and post-chart reviews. To evaluate the effect of the educational intervention on the practitioners' frequency of use of the GAD-7 tool, the responses from all the participants were compared. The scholarly project was accomplished using paired sample *t*-test analysis from the pre-and post-chart data. Bar graphs and breakdown bars were used to display data results to make them easier to understand and disseminate visually while highlighting the value of the GAD-7 screening tool.

SECTION FOUR: RESULTS

The paired sample *t*-tests determined the differences between the pre-charts and post-charts review of practitioners' improved knowledge and frequency of use of the GAD-7 screening tool to support proper diagnosis and uphold the standard of care. The data from all reviewed charts were anonymous, and no personal information was attached. All the data were analyzed using the Microsoft Excel spreadsheet (see tables 1, 2, & 3 findings). Descriptive statistics using a Microsoft Excel spreadsheet were used to compute the means and frequency of use (see figure 2). The principal investigator inspected all data for errors by evaluating the pre-and post-chart review.

Descriptive Statistics

Eighteen PMHNP registered for the GAD-7 screening tool education training but only 16 practitioners attended, and no reasons were given for those absent. Using Microsoft Excel, I performed a paired sample *t*-test to analyze the data and identify if there was any significant difference between the pre-and the post-chart review. Further analysis of the post-chart review showed significant improvement in staff knowledge and frequency of use of the GAD-7 screening tool. The participants were labeled alphabetically from A to P and the scores as indicated in Figures 1 and 2, showed improvement across the board from the pre-chart review to the post-chart review. In this participant sample (N = 16), the mean pre-chart review was 6. The pre-chart review scores in Figure 1 showed the practitioners had some pre-knowledge of the use of the GAD-7 tool; however, the knowledge was limited in the proper and frequency of use of the tool. The post-chart review score of 23.6875 in Figure 1 showed significant improvement in the knowledge and frequency of use of the GAD-7 screening tool. There were no noted unanticipated outcomes. See below for details.

Measurable Outcome 1

The first measurable outcome is the baseline frequency of use of the GAD-7 screening tool. Before week one, the charts of 96 patients were reviewed for the use of the GAD-7 tool. Frequency was measured in every other week data review.

Measurable Outcome 2

The second measurable outcome is the post-educational training on the frequency of use of the GAD-7 tool of week one. All the post-week one GAD-7 screening tools used were reviewed via EHR. All sixteen participants were present. The number of post-chart reviews for week one was 144.

Measurable Outcome 3

The third measurable outcome of post-education training showed the frequency of use of the GAD-7 tool for week three. The number of post-chart reviews for week three was 201.

Measurable Outcome 4

The fourth measurable outcome of post-education training showed the frequency of use of the GAD-7 tool for week five. The number of post-chart reviews for week five was 322.

Measurable Outcome 5

The fifth measurable outcome of post-education training showed the frequency of use of the GAD-7 tool for week seven. The number of post-chart reviews for week seven was 379. The frequency was measured every other week for a total of seven weeks. The frequency was measured in weeks using the *t-test*. The principal investigator determined the outcome using the paired sample *t-test* analysis following the educational intervention. The post-chart review, including the frequency of use of the GAD-7 screening tool, finalized the measurement of practitioners' improved knowledge and frequency of use of the GAD-7 screening tool.

Figure 1

Pre-and Post-Chart Review Scores

Participant	Pre-chart review score	Post-chart review score
A	8	24
B	10	25
C	8	26
D	6	28
E	4	24
F	4	20
G	5	22
H	8	24
I	7	24
J	5	20
K	9	25
L	2	23
M	4	22
N	3	26
O	6	21
P	7	25
Total	144	379
Mean Score	**6**	**23.6875**

A paired sample *t*-test was used to compare the means of the pre-and post-chart review from the same staff participants (see Figure 2). The null hypothesis H_0 was that there would be no difference between the means of the pre- and post-chart review scores. The alternative hypothesis H_1 was that there would be a difference (increase) between the means of the pre- and post-chart review scores. The p-value ranging from 0 to 1 was obtained from the *t*-test. The p-value of 0.05 is the probability of the observed data given that the null hypothesis is true; the smaller the p-value, the greater the discrepancy (Sullivan, 2017; Tanha et al., 2017). The statistical analysis t-test paired two samples for means as shown below revealed that the

educational intervention significantly improved chart review scores of the staff knowledge and frequency of use of the GAD-7 (t = 1.753050356, df = 15, p = 0.00000000000000261). The *p*-value of 0.00000000000000261 was less than 0.05, which allowed the rejection of the null hypothesis and implied the data results did not occur by chance. These results provide sufficient evidence to conclude that the education was effective in improving PMHNP nurse practitioners' knowledge and frequency of use of the GAD-7 screening tool.

Figure 2

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	6	23.6875
Variance	5.2	5.029166667
Observations	16	16
Pearson Correlation	0.365020358	
Hypothesized Mean Difference	0	
df	15	
t Stat	-27.75933177	
P(T<=t) one-tail	1.3064E-14	
t Critical one-tail	1.753050356	
P(T<=t) two-tail	2.6128E-14	
t Critical two-tail	2.131449546	

Definition of Terms

The following words and phrases from the DNP project are outlined to support the project outcomes.

Mean: The average or the most common value in a collection of numbers.

P-value: A measure of the probability that an observed difference could have occurred just by random chance (Tanha et al., 2017; Sullivan, 2017). The lower the p-value, the greater the

statistical significance of the observed difference. If a p-value is under .01, results are considered statistically significant and if it's below .005 they are considered highly statistically significant (McLeod, 2019; Sullivan, 2017).

Paired sample t-test: a type of inferential statistics used to determine if there is a significant difference between the means of two groups and to see if the differences (measured in means) could have happened by chance (Liang et al., 2019)

Table 1

Findings: Pre-Chart Review

Table 1 findings: Pre-chart review

PARTICIPANTS		PRE-CHAR
A		8
B		10
C		8
D		6
E		4
F		4
G		5
H		8
I		7
J		5
K		9
L		2
M		4
N		3
O		6
P		7

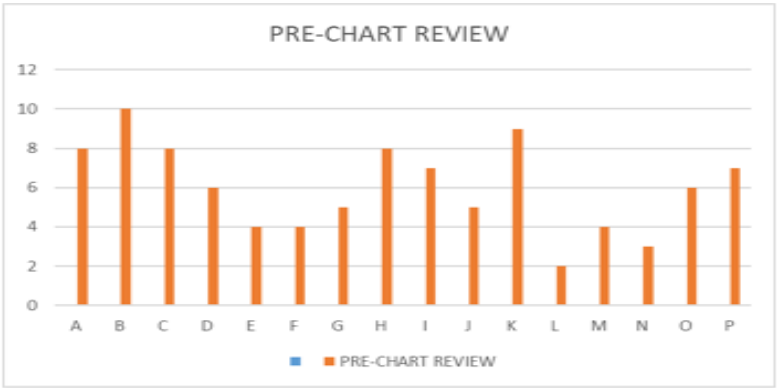


Table 2 findings: During the project

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	PARTICIPANTS		PRE-CHAR	POST C-wk	post c-wk	post c-wk	post c-wk 7								
2	A		8	12	18	22	24								
3	B		10	14	20	24	25								
4	C		8	10	12	22	26								
5	D		6	10	14	28	28								
6	E		4	6	8	16	24								
7	F		4	5	10	18	20								
8	G		5	8	10	20	22								
9	H		8	10	12	16	24								
10	I		7	14	16	22	24								
11	J		5	12	13	18	20								
12	K		9	11	17	24	25								
13	L		2	4	6	16	23								
14	M		4	6	12	18	22								
15	N		3	5	8	20	26								
16	O		6	8	11	17	21								
17	P		7	9	14	21	25								
18															
19															
20															
21															

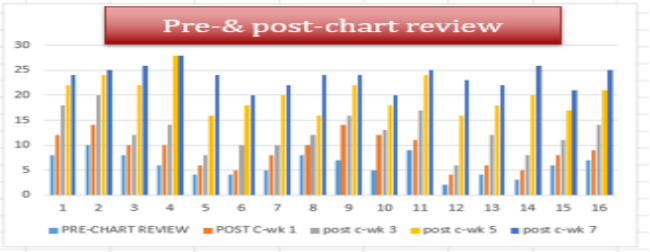
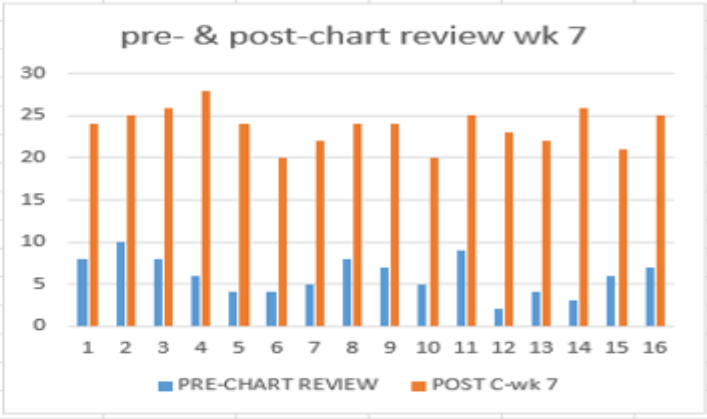


Table 3 Final analysis

	A	B	C	D	E	F	G	H	I	J
1	PARTICIPANTS		PRE-CHAR	POST C-wk 7						
2	A		8	24						
3	B		10	25						
4	C		8	26						
5	D		6	28						
6	E		4	24						
7	F		4	20						
8	G		5	22						
9	H		8	24						
10	I		7	24						
11	J		5	20						
12	K		9	25						
13	L		2	23						
14	M		4	22						
15	N		3	26						
16	O		6	21						
17	P		7	25						
18										



SECTION FIVE

Implication for Practice

The positive impact on the practitioners of the educational intervention demonstrated improved knowledge, proper diagnosis, and upholding the standard of care (Cullen et al., 2020; Mughal et al., 2020). The outcome plan showed that the clinic needed to continue using the GAD-7 screening tool daily to deliver EBP and support planned practice changes. Increased practitioners' knowledge improved the rate of acceptance of and devotion to practice changes, created shared goals, and promoted common ascendancy (Cullen et al., 2020). The education session for the mental health outpatient clinic fostered knowledge exchange amongst practitioners, supporting proper diagnosis and upholding the standard of care. By enabling all practitioners to participate, the clinic empowered its members to continue shared governance after the scholarly project to keep the EBP spirit moving. This improved collective understanding of the proper daily application of the tool, strengthening organizational culture and advancing the quality of healthcare delivery to the needed population. Furthermore, the GAD-7 tool promotes efficient and accurate diagnosis and supports standards of care mandated by the ANCC and Maryland board of nursing.

Sustainability

The Healthcare industry is evolving and, therefore, under intense competition to maintain quality and improved EBP. The psychiatric mental health clinic adopted strategic planning of excellence such as promotion and prevention, service, people, and governance (Sritoomma, 2018). The sustainability of this QI project was a key factor. The intervention uses the clinic's current EHR and doesn't need any additional maintenance funds. The information acquired was quickly disseminated and encouraged future educational reinforcement or training by analyzing the pre- and post-chart. The clinic was well-positioned to readily capture, evaluate, and use data that could influence decision-making at the individual and organizational level by applying MBC concepts

to a crucial area of clinical practice and employing the GAD-7 tool with unambiguous outcome measurements inside its EHR. The usefulness of using the GAD-7 screening tool inside the system was clearly understood utilizing such data, which supports the GAD-7's continued usage as a component of regular healthcare delivery.

Dissemination Plan

Every DNP project needs dissemination to ensure the study impacts people's social, political, or economic lives. The results and conclusions of the research are brought to the attention of stakeholders through dissemination, which improves understanding of how to use the research (Marín-González et al., 2017). The scholarly project and its results will be shared at the end of project completion at the MNC Wellness Center clinic with the providers on a date suitable for all to meet. The clinic director will shelter a poster presentation in the training room that outlines the project and its findings. I would like to submit and present the scholarly project to conferences such as the Nurse Practitioner Association of Maryland and other mental health associations nationwide. Ultimately, I will submit a manuscript of the educational project for potential publication.

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APPENDICES

APPENDIX A: Literature Grid

ARTICLE CRITIQUE AND LEVELING MATRIX TEMPLATE

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Example, A. (2015) Title, etc. per Current APA	To identify the need for technology to prevent falls	A convenience sample of forty-four nurses in an acute care hospital	A non-experimental, descriptive survey	Findings indicate that fall rates decreased by 2% with the introduction of technology into the care setting	Level 6: descriptive design	Conducted in only one setting, small sample size	Does provide some good foundational information even though the level is a six.
Article 1 Alharthy et al., (2017)	Assessment of anxiety level of Emergency Healthcare	A total of 135 participants	Cross-sectional study design	The result indicated that 48% of the were detected	Level IV	The study includes one setting and a small number of	The research shows that the GAD-7 screening tool

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	Workers by Generalized Anxiety Disorder-7 screening tool [GAD-7]			without an anxiety disorder. However, moderate to mild degrees of anxiety disorder was identified among 20.7% and 23.7% of the participants, respectively. Severe anxiety disorder was found among 7.6% of the respondents. Gender and		staff members. Only the emergency healthcare worker in one center was included which limited the study's generalizability.	is appropriate to use in screening patients affected with anxiety disorder

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				older age group among health professionals were statistically significant compared with higher GAD-7 scores *P*=0.028 and 0.048. respectively.			
Article 2 Bauer et al., (2019)	To determine the effectiveness of implementation facilitation in establishing the collaborative chronic care	A total of 5596 Veterans.	Quasi-experimental, randomized stepped wedge	The interview sample was similar but was oversampled for women- (n-210 [20.0%	Level II	Lack of an independent control group owing to healthcare system policy priorities and	Yes. Working solely at the clinician level with minimal study-funded support.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
	model in mental health teams and the impact on health outcomes of team-related individuals.					trial practicalities	Implementing the collaborative chronic care model can improve health status.
Article 3 Budikayanti et al., (2019)	Screening of Generalized Anxiety Disorder in patients with Epilepsy: Using a Valid and Reliable Indonesian Version of Generalized Anxiety	146 total subjects were screened	Cross-sectional study	The GAD-7 was found to be a valid anxiety screening tool for individuals affected with epilepsy	Level IV	The approach of association between sociodemographic and clinical characteristics with the presence of GAD-7 was done using the validated Indonesian	

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
	Disorder-7 (GAD-7)					version of the GAD-7 questionnaire to see certain characteristics	
Article 4 Byrd-Bredbenner et al., (2020)	Psychometric properties of the Generalized Anxiety Disorder-7 and Generalized Anxiety Disorder-Mini in United States University Students.	Individuals were recruited through a verbal and electronic announcement to participate in an online survey of the health practices of young adults at a large university.	Cross-sectional studies conducted in 2009-2010, 2015, and 2018-2019	The exploratory and confirmatory principal components analysis indicated the GAD-7 has a single-factor structure with strong loadings, reliability, and stability across	Level I	The study was limited to young adults enrolled at a large United States university but the sample in all data sets was large and racially diverse. Another limitation is the fact that the study relied on the GAD-7 to	Yes. The ease with which GAD-7 can be used give an excellent psychometric property for identifying GAD.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				data collected in three studies.		serve as the gold standard but interviews by a psychologist or psychiatrist would have been the true gold standard.	
Article 5 Chang et al., (2017)	Coexisting geriatric anxiety and depressive disorders may increase the risk of ischemic heart disease mortality-a nationwide	One thousand and eight-six subjects with anxiety disorders and 50554 control subjects without anxiety	Longitudinal Cohort Study	Co-occurrence of anxiety and depressive symptoms can raise the death risk of geriatric patients	Level III	The selected criteria of anxiety disorders were diagnosed only by the psychiatrists and the longitudinal follow-up after two thousand	It is crucial to assess anxiety symptoms because if not diagnosed and treated appropriately can impact the mortality risk of

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	longitudinal cohort study	disorders were included				led to a smaller sample size. Although all the anxiety and depressive disorders were pooled together in the group, it was not re-analyzed. The researchers were not able to evaluate certain coexisting risk factors such as cardiovascular diseases, obesity, drug adherence, or alcohol use.	geriatric patients

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Article 6 Goodwin et al., (2020)	Investigate the prevalence of anxiety among US adults from 2008 to 2018.	Data were drawn from the National Survey on Drug Use and Health [NSDUH] public-use data files from 2008 to 2018. Sample size per year ranged from 37,349-42,697	A cross-sectional survey on substance use and mental health in the US	Anxiety showed an increase from 5.12% in 2008 to 6.67% in 2018 ($p<0.0001$) among respondents ages 18 and older.	Level I	NSDUH data are repeated cross-sectional samples and longitudinal data would be important for examining changes in anxiety such as the time of changes and the associated variables among individuals. The study was designed to examine sociodemographic differences in	Yes. Finding the precursor to identifying the severity of co-occurring mental health problems. Focusing resources after diagnosing individuals to reduce anxiety is a cost-effective clinical and public health approach to

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
						anxiety over time but there may have been other variables associated with anxiety that could have been useful to identify vulnerable subgroups.	lessening the tide of this problem.
Article 7 Hajebi et al., (2018)	The study sought to assess the prevalence of major anxiety disorders, sociodemographic correlates, and mental health service	A total of 7886 subjects between 15 and 64 years who could understand Persian language	Face--to-face survey using composite International Diagnostic Interview	The overall prevalence of anxiety disorders in the past 12 months as indicated in the national MHS was found to be	Level V	The study team did not include specific phobias in the study with the rationale that the impact was less. The	Yes. The research study can increase the quality of health care services, especially in the outpatient

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	utilization as part of the Iranian Mental Health Survey			15.6% elevated. A higher rate of all types of anxiety was found in females (19.4%) compared to males (12%)		prevalence of specific phobias in this study was underestimated. Also, the Iran MHS implemented the survey in a single step compared to World Mental Health Survey which had been administered in two steps. Language barriers with translating CIDI to local	setting by enhancing early detection and prompt treatment of the condition. Thereby, decreasing the occurrence and risk of the chronicity of the disease.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
						languages led to an exclusion of those who could not understand Persian. The research could not identify the socioeconomic status or unemployment and occurrence of anxiety disorders to analyze the role of influential factors.	
Article 8	The evaluation of an electronic health record [HER] tool for	Implemented the behavioral health e-suite across six	A convergent mixed-	The implementation of behavioral health	Level-III	The sample size of clinics was small, and the generalizability	Yes Implementing the screening

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
Jetelina et al., (2018)	integrated behavioral health in primary care.	Oregon federally qualified community health centers.	methods proof-of-study	screening tools (PHQ-9 & GAD-7) in primary settings improve the process of care for patients.		of the study was limited. The study lacks resources that provide implementation support to clinics and no test was done on how to best implement the BH e-Suite	tool GAD-7 as part of the EHR will improve overall whole-person care.
Article 9 Johnson et al., 2019	To investigate the internal consistency, reliability, and validity in a large of heterogeneous	N=1201 both in and outpatient patients completed	Paper and pencil	The GAD-7 has excellent internal consistency and one-factor structure in a heterogeneous	Level III	Lack of specific diagnostic information for much of the sample. Since the BAI was used to calculate the cutoff for an	Yes. Implementing the GAD-7 as a routine screening tool in the outpatient

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	psychiatric patients			clinical population.		anxiety disorder, they could not investigate if the GAD-7 performed differently with different specific diagnostic groups	clinic will improve the patients'' overall health care.
Article 10 Ren et al., (2021)	The relations between several factors of intolerance of uncertainty and symptoms of generalized anxiety disorder: a	A total of 624 university students from Xijing University participated in the study	Cross-sectional data	The study revealed potential pathways through which intolerance of uncertainty (IU) factors are caused by	Level IV	Recruited Chinese University students and reporting factors of IU and symptoms of GAD that span the full range of	Yes. Recognizing signs and symptoms of anxiety is the first approach to proper diagnosis and

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
	network analysis			symptoms of GAD. Also, the findings highlight how including hypothesized risk factors may enrich symptom networks to gain a precise understanding of processes in mental disorders.		normal to abnormal limit the generalizability of the findings. Also, the cross-sectional data applied to construct the network structure of factors of IU and symptoms of GAD impede claims about causality. The symptoms were single-item, self-reported assessments,	a better treatment plan.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
						which may be limited to capturing clinical occurrences.	
Article 11 Moreno et al., (2018)	Factorial Invariance of a computerized version of the GAD-7 across various demographic groups and over time in primary care patients.	A total of 1255 patients completed the computerized	Cohort study	The GAD-7 screening tool was found to both have reliability and validity for anxiety symptom screening and monitor responses regarding treatment.	Level IV	Unable to generalize all primary care patients' results since the general practitioners only included those suffering from emotional disorders	Yes. The GAD-7 screening tool is an appropriate tool to screen anxiety that could be incorporated into the outpatient

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
Article 12 Shevlin et al., 2022	To test for differential item functioning (DIF) on the PHQ-9 and GAD-7 items based on age, sex (males and females), and country.	N=6,054 from nationally representative surveys in the UK, Ireland, Spain, Ireland, and Italy	Qualtrics survey platform, using stratified quota sampling	The PHQ-9 and GAD-7 scores were found to be unidimensional, reliable, and largely free of DIF in data from the four large nationally represented samples of the general population of the UK, Ireland, Italy, and Spain.	Level I	Surveys were not conducted at the same time, data was collected at one-time point which interferes with the invariance scores reading across time. The analyses only tested for uniform DIF rather than non-uniform DIF	Yes. The research shows that GAD-7 is a reliable tool to assess anxiety in outpatient mental health clinics.

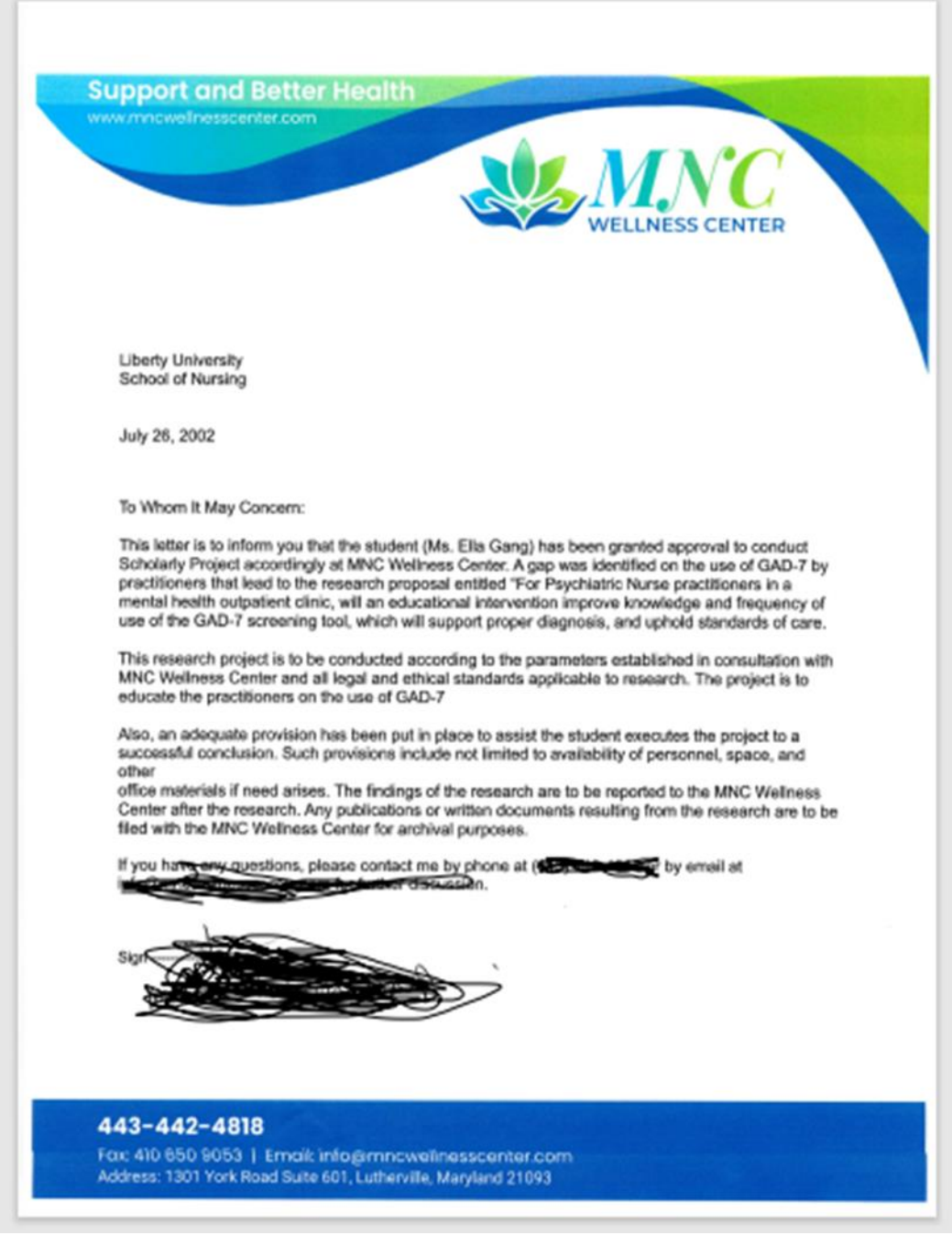
Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
Article 13 Sinnema et al., (2018)	To explore which patient and general practitioners [GPs] characteristics are associated with the recognition of anxiety and depression	444 patients	Cluster Randomized controlled trial	Patients with a report of perceived need for psychological care (OR=2.54, 95% CI 1,60-4.03) and those with higher distress scores were more likely to be recognized. Those patients with a perceived need for physiological care and high distress were	Level II	The inherent methodology is limited when using medical records. The self-report questionnaire, the EK-10, was used as a reference standard for adding the participants to the study. Although EK-10 is a screening instrument for anxiety and depressive	Yes. Implementing a reliable reference standard for the diagnosis will add confidence in GPs' ability to identify anxiety and provide whole-person treatment.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
				more likely to be noticed by their general practitioner for having anxiety and depression.		disorder in general practice, a reliable instrument for standardized diagnosis may have been preferable.	
Article 14 Spitzer et al., (2006)	A brief measure for assessing Generalized Anxiety disorder the GAD-7	A total of 2740 adult patients completed the study questionnaire	Cross-sectional study using a questionnaire.	A 7-item anxiety scale (GAD-7) had good reliability, as well as the criterion, construct, factorial, and procedural validity.	Level IV	The tool focuses on only one anxiety type and provides only probable diagnoses that need further evaluation. The study needs to determine the responsiveness of the GAD-7	Yes. The GAD-7 tool is a valid and efficient tool for screening GAD and assessing its severity in clinical practice as

Article Title, Author, etc. (Current APA Format)	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence (Use Melnyk Framework)	Study Limitations	Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.
						across time due to its cross-sectionality.	well as research. It has generalizability to outpatient practice.
Article 15 Toussaint et al., (2020)	To investigate sensitivity to change and minimal clinically important differences of the GAD-7 questionnaire.	N-261 patients were included in the analyses.	Evaluator-blinded, prospective, parallel-group, randomized clinical trial	The results show that the GAD-7 tool is sensitive to detect a change in psychopathology throughout the treatment.	Level II.	The Hamilton Rating Scale for Depression (HRSD-24) score might not be the ideal external criterion for treatment improvement. However, the sample evaluated is	Yes. It is important to recognize the comorbidity and assess and treat it accordingly.

Article Title, Author, etc. (Current APA Format)	**Study Purpose**	**Sample (Characteristics of the Sample: Demographics, etc.)**	**Methods**	**Study Results**	**Level of Evidence (Use Melnyk Framework)**	**Study Limitations**	**Would Use as Evidence to Support a Change? (Yes or No) Provide Rationale.**
						detected as useful in the treatment response in terms of symptoms of anxiety.	

Appendix B: Organizational Letter of Support



Support and Better Health
www.mncwellnesscenter.com

M.N.C
WELLNESS CENTER

Liberty University
School of Nursing

July 26, 2002

To Whom It May Concern:

This letter is to inform you that the student (Ms. Ella Gang) has been granted approval to conduct Scholarly Project accordingly at MNC Wellness Center. A gap was identified on the use of GAD-7 by practitioners that lead to the research proposal entitled "For Psychiatric Nurse practitioners in a mental health outpatient clinic, will an educational intervention improve knowledge and frequency of use of the GAD-7 screening tool, which will support proper diagnosis, and uphold standards of care.

This research project is to be conducted according to the parameters established in consultation with MNC Wellness Center and all legal and ethical standards applicable to research. The project is to educate the practitioners on the use of GAD-7

Also, an adequate provision has been put in place to assist the student executes the project to a successful conclusion. Such provisions include not limited to availability of personnel, space, and other
office materials if need arises. The findings of the research are to be reported to the MNC Wellness Center after the research. Any publications or written documents resulting from the research are to be filed with the MNC Wellness Center for archival purposes.

If you ha[redacted] questions, please contact me by phone at ([redacted] by email at [redacted].

Sig[redacted]

443-442-4818
Fax: 410 650 9053 | Email: info@mncwellnesscenter.com
Address: 1301 York Road Suite 601, Lutherville, Maryland 21093

Appendix C: The Liberty University Review Board Determination Letter of Support

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 18, 2022

Ella Gang
Sherri Walker

Re: IRB Application - IRB-FY21-22-1253 Practitioners in a mental health outpatient clinic, will educational intervention improve knowledge and frequent use of GAD-7 screening tool, which will support proper diagnosis, uphold standards of care, and increase revenue within six months?

Dear Ella Gang and Sherri Walker,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study is not considered human subjects research for the following reason: Evidence-based practice projects are considered quality improvement activities, which are not "designed to develop or contribute to generalizable knowledge" according to 45 CFR 46.102(l).

Please note that this decision only applies to your current application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

Also, although you are welcome to use our recruitment and consent templates, you are not required to do so. **If you choose to use our documents, please replace the word *research* with the word *project* throughout both documents.**

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix D: CITI Certificate

CITI PROGRAM

Completion Date 19-Jun-2022
Expiration Date 18-Jun-2026
Record ID 49260178

This is to certify that:

Ella Gang

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

CITI Conflicts of Interest
(Curriculum Group)
Conflicts of Interest
(Course Learner Group)
1 - Stage 1
(Stage)

Under requirements set by:

Liberty University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wa9a36d29-85cd-4110-9c29-85aae1fd7a9c-49260178

CITI PROGRAM

Completion Date 19-Jun-2022
Expiration Date 18-Jun-2025
Record ID 49257159

This is to certify that:

Ella Gang

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Essentials of Research Administration
(Curriculum Group)
Essentials of Research Administration
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

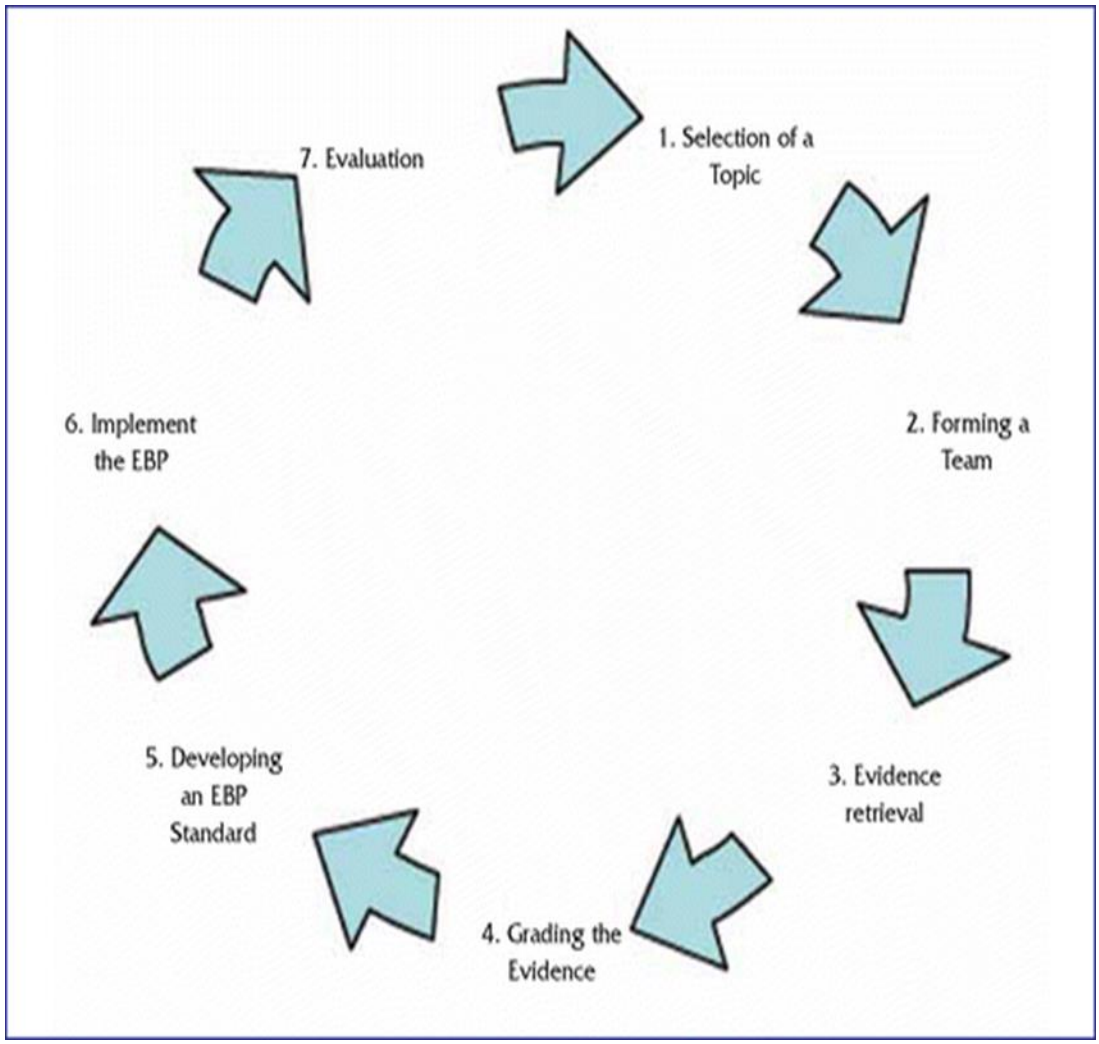
Liberty University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w9b774ec5-f02c-4c11-a7c4-9dbe60d4d291-49257159

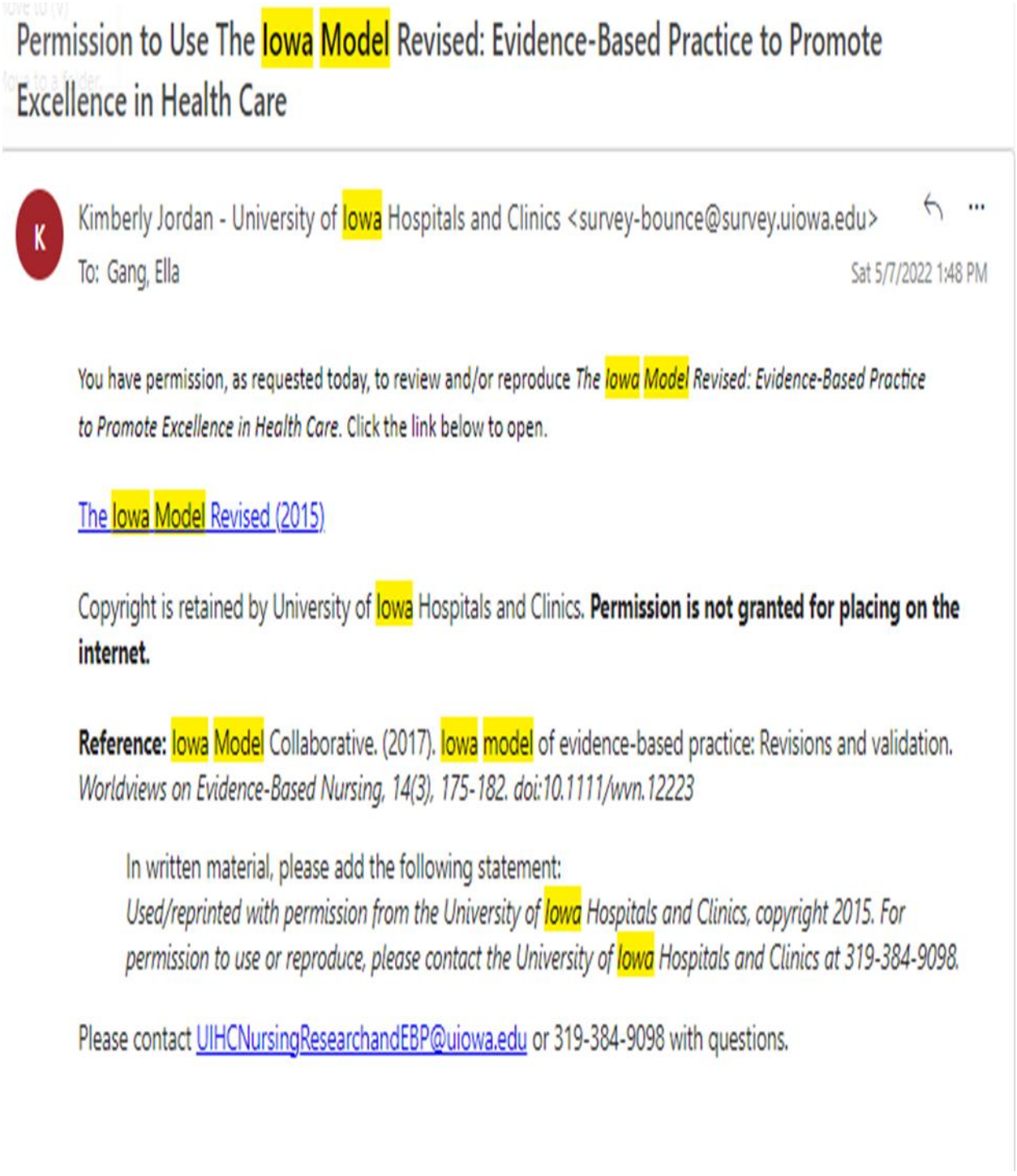
Appendix E: Iowa Model of Evidence-Based Practice

Seven Steps of Iowa Model of Evidence-Based Practice (EBP)



Note. From "Introducing Evidence into Nursing Practice: Using the Iowa Model," by Doody, C. M., & Doody, O. (2011). Introducing evidence into nursing practice: Using the IOWA model. *British Journal of Nursing*, *20*(11), 661-664.

Appendix F: Permission to Use the Iowa Model



Permission to Use The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care

K

Kimberly Jordan - University of Iowa Hospitals and Clinics <survey-bounce@survey.uiowa.edu>

To: Gang, Ella

Sat 5/7/2022 1:48 PM

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care*. Click the link below to open.

The Iowa Model Revised (2015)

Copyright is retained by University of Iowa Hospitals and Clinics. **Permission is not granted for placing on the internet.**

Reference: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing, 14(3), 175-182. doi:10.1111/wvn.12223*

In written material, please add the following statement:
Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.

Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

Appendix G: Generalized Anxiety disorder screening tool (GAD-7)

Table 2. GAD-7 Screening Tool

Over the last 2 weeks, how often have you been bothered by the following problems?	*Not at all*	*Several days*	*More than half the days*	*Nearly every day*
(Use "✓" to indicate your answer)				
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
Total score _____	= ___	+ ___	+ ___	+ ___

NOTE: *Total score for the 7 items ranges from 0 to 21. Scores of 5, 10, and 15 represent cutoffs for mild, moderate, and severe anxiety, respectively. Although designed primarily as a screening and severity measure for GAD, the GAD-7 also has moderately good operating characteristics for panic disorder, social anxiety disorder, and posttraumatic stress disorder. When screening for anxiety disorders, a recommended cutoff for further evaluation is a score of 10 or greater.*

GAD = generalized anxiety disorder.

Reprinted from Spitzer RL, Williams JB, Kroenke K, et al., with an educational grant from Pfizer Inc. Patient health questionnaire (PHQ) screeners. http://www.phqscreeners.com/overview.aspx?Screener=03_GAD-7. Accessed July 22, 2014.

Appendix H: Anxiety Toolkit Contents Guidelines for using GAD-7

GAD-7 Anxiety Score Proposed Treatment Action

Proposed Action by GAD 7 Score

Score	Risk Level	Intervention
0-4	No to Low Risk	None
5-9	Mild	Provide general feedback, repeat GAD-7 at follow up, consider providing your patient with behavioral health resources.
10-14	Moderate	Further evaluation recommended; provide your patient with SonderMind resources.
15+	Severe	Provide with SonderMind resources. Assess safety plan and pharmacotherapy evaluation; If emergent need then consider referral to higher level of care.

Appendix I: Disclosure Consent

GAD-7 Education at MNC Wellness Center

Voluntary Disclosure Consent

GAD-7 Education at MNC Wellness Center

Voluntary Disclosure Consent

Instruction: Please read carefully

The purpose of this quality improvement project is to evaluate the impact on participant knowledge and self-efficacy following an educational training on the indication, use, and significance of the GAD-7 assessment tool. The goal is to improve the knowledge and frequency of use of the GAD-7 in an outpatient mental health clinical clinic.

If you choose to participate in this project, you will be asked to:

1. Participate in a brief educational training on the GAD-7, which includes a presentation and discussion.

Other than knowledge gained from the educational session, it will improve the rate of acceptance of and devotion to practice changes, creates shared goals, and promotes common ascendancy. There are no anticipated risks associated with participation in this project.

If you choose to participate in this project, please note that participation is completely voluntary, and each participant has the right to refuse without penalty. You may withdraw from the project at any time.

For questions or concerns regarding this quality improvement project, you may contact:

Ella Gang, MSN, RN, FNP-BC

Liberty University, DNP Student

Phone: [redacted]

Email: [redacted]