Improving Utilization of Screening Protocol to Identify Anxiety in a Nursing Home Population

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Abstract

Anxiety is a common mental health issue faced by the growing population of senior adults (⩾65 years) in the United States. Clinical anxiety is associated with a variety of adverse health outcomes including poor overall physical health, increased pain, sleep issues, urinary incontinence, and increased disability and mortality risk. The U.S. Preventive Services Task Force (USPSTF) recommend screening for anxiety in the primary care setting. A quality improvement project was developed to increase knowledge of clinical staff and address the need for anxiety screening in the senior adult population through the identification of an optimal anxiety screening tool, a severity rating system, and a process for referral or treatment of those patients that test positive for anxiety. The anxiety screening protocol utilized the Generalized Anxiety Disorder 7 (GAD-7) questionnaire which has been clinically proven to effectively screen for anxiety. The healthcare staff was trained on why it is important to regularly screen patients and how to use the GAD-7 screener. A Wilcoxon Signed Rank Test determined that education on anxiety screening resulted in an improvement of knowledge from 68% to 96% ($p=0.042$) among N=5 participants. A chart audit was performed with a sample of 120 patient records (N=120) before implementation of the protocol revealing a 1.7% screening rate and post implementation showing an increase in screening of more than 95%. A two-tailed t-test was performed on the collected sample data and resulted in a p-value of <0.0001 indicating a statistically significant change in the number of anxiety screenings performed since implementation. These outcomes indicate the project implementation was successful and support further implementation in other clinical settings.

Keywords: anxiety, mental health, seniors, nursing home, gerontology, screening, GAD, GAD-7

Improving Utilization of Screening Protocol to Identify Anxiety in a Nursing Home Population

Anxiety is one of the most common mental health disorders in the world according to the World Health Organization (WHO, 2018). Approximately 264 million people in the world suffer from an anxiety disorder and the prevalence is getting worse as there has been a 15% increase in people with anxiety disorders since 2005 (WHO, 2018). The National Institute of Mental Health (NIMH) estimates as many as 23% of females and 14% of males in the United States have experienced anxiety in the last year and as many as 31% of individuals in the United States will experience an anxiety disorder in their lifetime (U.S Department of Health and Human Services, 2017). Approximately 23% of individuals with anxiety reported serious impairment in their work, relationships or home responsibilities and 43% reported a mild impairment (U.S. Department of Health and Human Services, 2017). The economic burden of mental health disorders including anxiety is estimated to be 85 billion dollars annually (WHO, 2018).

Anxiety is considered an emotion that is characterized by a person having feelings of tension, worry, racing thoughts, and may even include physical changes such as increased sweating, feelings of nausea, or increased blood pressure. Anxiety disorders often cause recurring intrusive thoughts. These thoughts and feeling may cause a person to alter their daily routines in order to avoid invoking these feelings (American Psychological Association [APA], 2020).

The *Diagnostic and Statistical Manual of Mental Disorders, 5th edition* (DSM-5) describes anxiety as a disorder with a variety of different features including separation anxiety disorder, selective mutism, phobias, social anxiety disorders, panic disorders, and generalized anxiety disorders (American Psychiatric Association [APA], 2013). All of these disorders share common features related to excessive fear related to behavioral disturbances. Anxiety disorders differ from normal fear and anxiety by being excessive, irrational, or extending beyond a normal duration of

time for that particular stressor or situation. Ultimately, the treating clinician determines whether or not the fear, anxiety or overestimation of danger by the patient is excessive (APA, 2013).

Although anxiety affects many individuals, it often goes undetected due to lack of screening by medical providers (Remes, Brayne, Van Der Linde, & Lafortune, 2016). It has been found that utilizing a standardized screening method can help to detect mental health disorders including anxiety (Plummer, Manea, Trepel, & McMillan, 2016). Detecting anxiety through a screening method can help with diagnosis and treatment thus potentially improving health outcomes for the individual (Plummer et al., 2016). The effects of anxiety are wide ranging including irritability, restlessness, muscle tension, headaches, gastrointestinal issues, fatigue, inability to concentrate, and pain (U.S. Department of Health and Human Services, 2017; Edmund & Sheppard, 2018). Individuals struggling with anxiety are at higher risk for both self-harm and suicide (Bentley et al., 2016). Anxiety is also often considered a precursor and common co-morbidity of depression (Adams et al. 2016). The most common sub-type of anxiety is general anxiety disorder (GAD) which is considered a chronic condition (Stein & Sareen, 2015). Symptoms of GAD may be experienced intermittently or continually and may last for only a short period of time or for a lifetime (U.S. Department of Health and Human Services, 2017).

Recommended screening tools for the identification of anxiety are the Generalized Anxiety Disorder 2 (GAD-2) and Generalized Anxiety Disorder 7 (GAD-7). There are advantages and disadvantages to each of these tools. The GAD-2 is a short two question anxiety screener which includes the first two questions from the GAD-7. It is often used as a quick preliminary screener to determine if additional screening is warranted, but does not identify much about any experienced anxiety. The GAD-7 is a commonly used anxiety screener that consists of seven screening questions. It is quick and provides a little more detail into the specifics of the anxiety (Sapra, et al., 2020). Both of these tools have been tested and validated and are known to be effective in the

detection and measurement of anxiety (Sapra, et al., 2020). Clinical anxiety is associated with a variety of adverse health outcomes including poor overall physical health, increased pain, sleep issues, urinary incontinence, and increased disability and mortality risk (Farris & Zvolensky, 2019). Excessive anxiety has also been attributed to loneliness, lower levels of physical activity and overall diminished satisfaction with life (Gottschling et al., 2016). Anxiety related disorders are also the most common mental health issue faced by senior adults (⩾65 years) worldwide (Gonçalves et al., 2011; Gum et al., 2009). Despite this evidence, very little is actually known regarding anxiety in this population. One study of nursing home residents in Australia found that up to 19.4% of residents suffered from symptoms of anxiety (Creighton et al., 2018). Research has shown that older people are much less likely to seek assistance for their anxiety symptoms (Wuthrich and Frei 2015; DiNapoli et al. 2016) and when they do, they are less likely to be referred to an appropriate mental health specialist (Chaplin et al., 2015). This is clearly an issue that should be further explored and appropriately addressed, especially in the vulnerable senior adult population. The purpose of this Doctorate of Nursing Practice (DNP) project is to improve the screening and detection of anxiety in an elderly population in a nursing home.

Background

Anxiety can generally be broken down into multiple distinct categories including panic disorder, various phobias, general anxiety disorder (GAD), and social anxiety disorder. There are many different anxiety screening tools available. The type of screening tool that should be utilized should be sure to address all of the various sub-types of anxiety. A few of the more common tools will be evaluated to determine the efficiency and effectiveness of the screening tool for this particular population. The U.S. Preventive Services Task Force (USPSTF) recommends regular screening for anxiety in individuals to ensure early detection, intervention and follow up. They recommend that anxiety screening take place within a primary healthcare setting (e.g., internal

medicine, family medicine, obstetrics/gynecology, pediatrics [for postpartum screening], family planning, military health clinics, university-based health clinics) or comparable location. The USPSTF is in the process of updating their recommendation at the time of this writing. The draft recommendations for anxiety still include screening all individuals from children to older adults and that the most effective location is in a primary care setting using standardized screening tools. There are a variety of well validated tools that have been created to screen for anxiety.

Problem Statement

As previously mentioned, screening for anxiety can help improve health outcomes. These health outcomes include not only improvements in mental health, but also physical health that is often directly affected by this mental health condition. This is a problem affecting more than 264 million and one that continues to grow (WHO, 2018). It is an issue that affects mental health and physical health and has both economic and social consequences related to it. In addition to the emotional distress that it causes an individual, it is often directly responsible for feelings of irritability, restlessness, aches and pains, concentration and memory issues (Edmund & Sheppard, 2018; U.S. Department of Health and Human Services, 2017). One study found that more than a third of those with GAD utilized drugs alcohol, and/or tobacco to attempt to relieve the symptoms (Stein & Sareen, 2015; Chírico et al., 2018; Casey et al., 2020). Another study found that those with anxiety often avoided common situations that may trigger their anxiety and experienced a much lower quality of life (Waters et al, 2015). Anxiety is a health issue for individuals of all ages, but is the most common mental health issue experienced by older adults (Segal et al., 2018). It is particularly common amongst older adults residing in nursing homes and long-term care residences. Unfortunately, it is rarely screened for and frequently goes undetected and untreated in this growing population (Creighton et al., 2018).

This DNP project will specifically target anxiety in the 65+ year old geriatric adult population. The practicum site selected for this DNP project is an onsite clinic dedicated to nursing home residents in the southwestern United States. This clinic treats both medical and basic mental health needs of the residents along with an onsite pharmacy for dispensing medications. The population consists of senior adult residents 65 years and older that live onsite full-time. The clinic recently began screening for depression in residents, but has not instituted a process for screening anxiety in this population.

Implementation of an anxiety screening protocol would allow these at-risk nursing home residents to be appropriately identified. Those senior residents that screen positive for anxiety will then have an opportunity to be treated for this disorder. Although, a small number of these residents have been previously identified, it is expected that this protocol will assist the healthcare providers in the identification and treatment of those patients that may have "fallen through the cracks".

Project Question

In the geriatric (65+ year old) nursing home population, does the implementation of an anxiety screening protocol over a one-month period improve the identification and treatment of anxiety as compared to current practices?

Population

The project targets primary care providers and nursing staff working in a nursing home.

Intervention

Implementation of an anxiety screening protocol

Comparison

There is no protocol currently in place.

Outcome

The goal is to improve screening and management of anxiety.

Timeline

The timeline for this project is 4 weeks.

Search Methods

A comprehensive literature review was completed to determine the prevalence and significance of anxiety in the senior adult (65+) population. This review included the use of multiple databases including: PubMed, CINAHL, and PsycINFO. All initial searches were limited to studies published within the last 5 years in the English language. "Anxiety" and "screening" were included as search terms for all searches. Additional sub-qualifier search terms included "seniors", "senior adults", "older adults", "gerontology", and "nursing homes". After an excessive return of articles using "adults", the results were further filtered to "older adults" as that was identified as the most commonly used term for that adult population. The search results, after adding "older adults" and "screening" as sub-qualifiers returned 253 articles. All of the article titles were reviewed and any pertinent articles were saved to a folder for further review and reference as needed.

Review of Study Methods

Upon a detailed review of the studies and related articles that were found, it was apparent that they included a wide variety of types of research. The types of studies identified for this research included randomized controlled trials (RCT), systematic reviews, interventional research trials, peer-reviewed studies, retrospective studies, and published guidelines and recommendations. All of the various studies identified contributed to the strength of the literature that was used in this DNP project. The research studies allowed for a comparison of different recommendations and provided a variety of statistical analysis to ensure that evidence-based practices would be implemented.

Review Synthesis

After a full review of the research materials identified, it is apparent that there a number of overarching themes that emerge. All of the studies determined that anxiety was a significant health issue and was generally not sufficiently addressed in the majority of populations. This theme held true across age groups, geographies and other demographical differences. Most of the literature also pointed out that anxiety contributed to other significant physical health problems in addition to the mental distress that it caused. Most of the articles concluded that there needs to be greater resources and efforts dedicated to the identification and treatment of this mental health disorder.

Impact of Anxiety and Need for Screening

Health

The prevalence of anxiety worldwide is estimated to be approximately 14% with more than 274 million people being affected, which is by far the greatest rate of prevalence of all mental health disorders (Konnopka & König, 2020). It is a significant health issue for patients of all ages. It is also an issue that can have an onset at any age from young children to the elderly (Essau et al., 2018). Although anxiety has been shown to be one of the most common psychiatric conditions for older adults, it is still just beginning to gain traction with regards to screening and treatment (Creighton et al., 2015). Rates of anxiety amongst the general population of older adult's ranges from 1.4% to 17% for those living outside nursing homes (Creighton et al., 2015), while rates are estimated to be even higher, 6.5% (Kang, et al., 2010) to 29.7% (Bryant et al., 2007) for those living in residential care facilities. The anxiety experienced by individuals presents issues not only due to the lower quality of life experienced, but also due to the physiological systems that are negatively affected by this experience. Multiple studies have been shown to increase the rate of mortality and morbidity for a wide range of diseases. Additional studies have also shown a

correlation between anxiety and an increased incidence of heart disease, a significant increase in both dementia and cognitive impairment, and even a 200% increase in the incidence of irritable bowel syndrome (IBS) (Kang et al., 2017; Santabárbara et al., 2019, Gulpers et al., 2016; & Sibelli et al., 2016). Another study has found a link between anxiety and Type II Diabetes Mellitus (Bickett & Tapp, 2016).

Economic

The World Health Organization (WHO) completed a study that found that anxiety and depression disorders cost the global economy more than US one trillion dollars per year. It also found that for each US $1 invested in the identification and treatment of anxiety and depression, there was return of US $4 to the economy due to better health and an increased ability to be able to return to work (WHO, 2017). According to a report by the United Nations, mental health costs are expected to double between the years 2020 and 2030 (United Nations [UN], 2015). The costs in lost productivity due to mental health issues is expected to exceed US $6 trillion by the year 2030. Presently less than 2% of the average nations' healthcare budget is allocated for the treatment of mental health. A UN policy brief issued in May 2020 stated, "This historic underinvestment in mental health needs to be redressed without delay to reduce immense suffering among hundreds of millions of people and mitigate long-term social and economic costs to society" (UN, 2020). The global costs of this illness are great and the return-on-investment (ROI) is high and should be addressed across the globe (Chisholm et al., 2016).

Anxiety Screening

There are many screening tools that have been developed. Some are specific to a certain population while others are more specific to certain types of patient anxiety. In addition, some scales are interviews by the clinician, while others are self-completed and then reported. A few of the most common anxiety screening tools are listed. General Anxiety Disorder 2 (GAD-2), a

simple 2-question tool that is commonly used, covers most types of anxiety and populations and can be used in a variety of settings, including primary care (Sapra et al., 2020). General Anxiety Disorder 7 (GAD-7), a slightly more detailed 7-question tool that is also widely used, covers most types of anxiety and populations, and is used in a variety of settings. This is one of the most popular tools and is sometimes employed if a subject initially tests positive on the GAD-2 screening (Sapra et al., 2020). The Hamilton Anxiety Rating Scale (HARS) is a well validated scale that was developed in 1959 and should only be used by those well versed in mental health. It is very comprehensive, has been translated into multiple languages and generally takes 15-20 minutes to complete (Thompson, 2015). Leibowitz Social Anxiety Scale (LSAS), a 24-item self-reported scale developed in 1987 by psychiatrist and researcher Dr. Leibowitz that specifically screens for social and performance anxiety (Beard et al., 2011). The Hospital Anxiety and Depression Scale (HADS) is another popular scale introduced in 1983 to measure anxiety and depression in patients, generally those that are physically ill (Djukanovic et al., 2017). An additional screening tool is the Penn State Worry Questionnaire (PSWQ), a 16-item self-measured and self-reported scale to measure the overall level of worry in a patient (Yao et al, 2016). The Overall Anxiety Severity Impairment Scale (OASIS) is another scale developed to measure the overall level of anxiety and fear as well as the level of impairment this anxiety causes in the patient (González-Robles et al, 2018). Lastly, the Geriatric Anxiety Inventory (GAI), a 20-item screening tool with "agree" or "disagree" responses that was developed specifically for the older adult population (Li et al., 2019). The previously listed screening tools plus many other standardized and customized anxiety screening tools exist. Each of them has their own advantages and disadvantages.

Screening Tool Validity

Due to its researched validity and ease of use, the GAD-7 will be utilized as the primary

screening tool in this DNP project. The GAD-7 includes the two questions from the GAD-2 plus an additional five questions. Multiple studies have reviewed the validity and accuracy of both the GAD-2 and GAD-7 screening tools. One recent meta-analysis looked at the accuracy of the GAD-7 in the identification of any type of anxiety disorder. They found that both the sensitivity and specificity values were high using a cutoff score of 8. They determined a sensitivity range of between 0.77 and 0.91. The specificity range for this same data was between 0.74 and 0.83. (Plummer et al., 2016). Sensitivity refers to the rate of accuracy in correctly identifying a patient with an anxiety disorder. The sensitivity of the GAD-7 is high with a rate of accuracy up to 91%. Specificity is similar, but rather than determine the rate of accurately identifying positive diagnosis it measures the ability of the tool to accurately detect those that are not anxious. This tool also has a high specificity score with an accuracy rate of up to 83% (Plummer et al., 2016).

The GAD-2 screener with only two questions demonstrated a slightly lower sensitivity and specificity level of moderate based on using a cutoff score rating of 3. Specificity for the GAD-2 in this study ranged from 0.65 to 0.72 and a specificity of between 0.88 and 0.92 (with one anomaly score of only 0.39). (Plummer et al., 2016). The researchers involved in this study recommend the use of these tools, but stress that for optimally accurate outcomes to be achieved a cutoff score of 8 should be used for the GAD-7 and a cutoff score of 3 should be used for the GAD-2 (Plummer et al., 2016).

Wild et al. (2014) also recently completed a study to determine the validity of the GAD-2 and GAD-7 scales specifically in the elderly population. This study also found that the screening tools were valid with a sensitivity of 0.63 and specificity of 0.90 for the GAD-7 and a sensitivity of 0.67 and 0.90 for the GAD-2 screening tool (Wild et al, 2014). This study also found that a lower cut-off score should be used to accurately identify anxiety in the elderly. It recommended using a cutoff score of 5 for the GAD-7 and a cutoff score of 2 for the GAD-2 screening tool. The study

also noted that higher scores on both screenings were strongly associated with a lower mental health related quality of life with a p-value of < 0.0001 (Wild et al., 2014).

Current Recommendations for Anxiety Screening

The evidence of how best to address and screen for anxiety is constantly evolving. The World Health Organization (WHO) issued a report called *Mental Health Action Plan 2013-2030* which has developed four objectives to address the mental health of people across the world. One of those objectives is to institute a strategy that serves to promote and prevent mental health issues. It specifically identifies two goals for nations to strive for across the world. The first goal states that at least 80% of countries globally will have a minimum of two operational national, multisectoral mental health knowledge and prevention programs by the year 2030. The second related goal is to achieve a 10% reduction in the rate of suicide worldwide (by the year 2030) (*Mental Health Action Plan 2013-2030*). Anxiety disorders are specifically included as one of the mental health disorders that needs to be addressed.

The American Academy of Family Physicians (AAFP) recommends utilizing current screening tools to identify patient anxiety. They state that current evidence suggests that both general anxiety disorder (GAD) and panic disorder (PD) are high but are frequently missed and are generally attributed to physical causes (Locke et al., 2015).

The U.S. Preventative Services Task Force (USPSTF) is a group of sixteen medical experts that provide evidence-based recommendations for the prevention and treatment of multiple primary care illnesses. The experts are appointed by the Agency for Healthcare Research and Quality (AHRG) which is a department of the U.S. Department of Health and Human Services (DHHS). Their current anxiety related recommendations are “in progress” at the time of this writing. According to the draft at this time, anxiety (and depression) screening is recommended for primary health care providers in all different settings including schools, correctional facilities, nursing

homes, clinics, emergency departments and other related facilities (USPSTF, 2021).

Issues Still Under Investigation

Although there are ample recommendations to complete anxiety screening across various primary care organizations, a gap lies in which tool to use to identify anxiety in patients. In addition to there being such a wide variety of different screening tools. There is a lack of consistency in how they are being used. Some providers use these screening tools as oral interviews with the patient, while others have paper or electronic copies for the patient to fill out as a questionnaire. Additionally, although all of the scales have a related score, many of them do not indicate what the cutoff score should be to indicate whether the patient should be further screened or treated for anxiety. This creates a gap with regards to who qualifies to be treated and who should just be monitored or screened again at some date in the future.

Project Aims

This project intends to increase the number of residents that are accurately identified with anxiety issues for treatment or referral by the provider. Treatment may include medication prescribed by the clinic primary care provider, recommending therapy from a therapist outside of the clinic or referring out to a psychiatric specialist to manage more complex cases of anxiety. This project also aims to achieve all of the specific objectives outlined below.

Project Objectives

In the timeframe of this DNP Project, the host site will:

1. Develop an evidence-based anxiety screening protocol to be used with all senior resident patients at the clinic.
2. Train clinical staff on the use of the GAD-7 anxiety screening tool through the development of a concise 15-minute training PowerPoint and written guidelines that will increase their understanding of the tool and screening process.

3. Assess clinical staff knowledge of the anxiety screening protocol by administering a pre-training and post-training educational assessment.
4. Post-implementation of the anxiety screening protocol, perform a chart audit to evaluate the compliance of the staff utilization of the anxiety screening protocol.

The timeline to meet all planned these objectives will be completed over a five-week period

Theoretical Framework

The framework being used for this DNP Quality Improvement (QI) project is the Plan-Do-Study-Act (PDSA) model also known as the Rapid Cycle Improvement Model, the Deming Cycle, or Shewhart Model (American Society for Quality, 2021). (Reference Appendix A). The PDSA model is a systematic quality improvement process that is used to test out ideas while also allowing simultaneous assessment of the impact the changes are having on the subjects involved. This model and other similar models are regularly used in healthcare and other industries to guide quality improvements. This framework assists in keeping the project on track and within scope as well as communicating progress of the project to stakeholders as it continues forward.

History of the PDSA Framework

Dr. W. Edwards Deming is credited with creating the original PDSA model. It was first presented by him at a lecture he held in Japan in 1950. Dr. Deming was a popular lecturer, professor, consultant, and engineer based in the United States, but known around the world for his novel approaches to process improvement. He has published hundreds of books and papers that are widely read today and is considered one of the key figures that turned around the economy of Japan after World War II (W. Edwards Deming Institute, 2021). His PDSA model originally started as PDCA with the “C” of the model representing “check”, but was later updated to an “S” for Study. The model was first introduced by Dr. Deming in the United States in 1986, after which he introduced a simpler, more abbreviated model in 1993 (Pyzdek & Keller, 2018).

The model was built on the efforts of many other scientists and engineers including Galileo in the 1600's, John Dewey in the early 1900's and Walter A. Shewhart in the mid-1900's in order to become the model it has developed into today (Pyzdek & Keller, 2013). This model is applicable to all types of organizations and industries. It encourages the use of the iterative learning process including inductive and deductive reasoning (Shewhart, 1939). It is also an adaptive process that allows changes and the ability to incorporate new learnings into the project while it is still being implemented. It is based on the scientific method, but is simple enough to be used and understood by individuals at all levels of an organization (Pyzdek & Keller, 2013).

Major Tenets of the Theory

Plan

The "plan" is the first phase of the PDSA cycle. It starts with an evaluation of the current environment in order to assess the need for a change. This phase entails scoping the problem and defining the project goals that will be achieved from this implementation. This phase is important to defining what is to be accomplished, how to know that a change is an improvement, and what changes can be made that result in improvement" (IHI, 2021)

Do

The primary focus of the "do" phase consists of implementing the plan and collecting related data on the problem as well as determining the timeline for moving to the next phase. This data will be used to obtain a baseline and will be compared to data post-implementation to determine if the identified goals have been achieved.

Study

The "study" phase reviews and analyzes what has been completed, compares the actual results of the pilot implementation with the expected results, and then summarizes the outcome of

the QI implementation (IHI, 2021). This phase offers the ability to make revisions or adjustments to the implementation prior to a full roll-out of the project.

Act

The "act" phase finalizes the PDSA cycle. The QI initiative may be adapted, adopted, or abandoned based on what was learned from the pilot implementation completed during the "do" phase. If the plan is adapted, modifications may be introduced and a repeat of the PDSA cycle can commence again staring with the "do" phase. If the final QI project is adopted then the results are often shared with the rest of the organization for implementation (American Society for Quality, 2021).

Application of Theory to Healthcare

The PDSA model has been used regularly within and outside healthcare for process improvement implementations. Due to the simplicity of the model, it has been used as the framework for a variety of healthcare related projects. A few recent examples of successful healthcare projects that have used this framework include: 1) an acute care hospital that reduced total patient wait time in the emergency department (Prybutok, 2018). 2) implementation of a colon cancer screening protocol at intervention health clinics (Coury et al., 2017). 3) improving the orientation and overall skills of a hospital-based nursing staff (Katowa-Mukwato et al., 2021). 4) development of a national anesthesia administration standard in Ireland (Moran et al., 2017). 5) Reducing pressure ulcers across multiple care settings in the United Kingdom (Wood et al., 2019). These process improvements in healthcare are only a small sample of the many QI projects within healthcare that utilize the PDSA framework.

Application of Theory to DNP Project

The PDSA framework will guide the implementation of this DNP QI project. Due to its simplicity and the opportunity to make adjustments during the project, this framework is very

applicable to this implementation. A brief overview of how the project framework will be phased is outlined below.

Plan. During this phase the specific scope of this project was identified. It includes the development of project goals and objectives, protocol and training program for staff so that they can screen all senior adult residents living at the nursing home and utilizes the onsite clinic for their primary care needs. After the training the staff plan to screen each of these patients for anxiety using the GAD-7 anxiety screening tool a minimum of once per year.

Do. This phase is being used to gather baseline anxiety screening data and information about current practices of the clinic. It will also include development and implementation of a staff training program.

Study. This phase of the project is used to perform chart audits to review the data that has been gathered at the clinic and compare that to data and evidence-based-practices (EBP) that are currently being recommended for anxiety screening which will be included as part of the screening protocol.

Act. This phase includes the presentation of pertinent data and analysis to project stakeholders. It will also ensure that the protocol is being used as originally designed and to evaluate if the clinic will continue to use the anxiety screening tool and related protocol after final completion of the QI project.

Population of Interest

The direct population involved in this project include all clinic staff and ownership. This includes the DNP owner of the clinic, one additional NP employee, three Medical Assistants (MAs) and three NP interns that are involved in the intake and evaluation of patients. All of them will receive training on why the project is being implemented, what screening tool will be used, how the tool is used, how it will be documented, and when a referral is needed.

It will not include the IT support staff nor the VP of Operations. It also will not include any of the staff that are employed by the nursing home where the clinic resides, but are not directly employed by the onsite clinic. It will indirectly affect all of the residents at the senior living location as they are patients of the clinic and will benefit from the project after implementation. None of the residents will be involved in training or other direct aspects of the project, however, they will receive and announcement that the new screenings have been implemented once the quality improvement is complete.

Setting

The venue for this project takes place at an onsite primary care clinic for a large senior living facility located in the Northern Phoenix metropolitan area. The site treats nearly 1,000 residents as their primary care provider with more than 800 clinical appointments per month. The clinic provides a full range of primary services such as labs, wellness visits, medication management, vaccinations, testing, etc. All residents live there full-time and are 65 years of age or older. The site uses PracticeFusion as their electronic health record (EHR) system, where all patient screening data is updated. It is a privately owned clinic that maintains an operations agreement with the host senior living facility site.

Stakeholders

There are multiple key stakeholders that will be involved with this project. The primary stakeholder will be the owner of the clinic. She is a DNP prepared Nurse Practitioner (NP). In addition to owning the clinic she sees patients full-time. There are also full-time employed NPs and student intern NPs that regularly see patients and will be participants in administration of the screening protocol. The nurses on staff will also be stakeholders as they often perform screenings prior to patients seeing the NPs when time allows. An affiliation agreement has been signed with the clinic to support implementation of this project (Appendix B). Additional stakeholders include

the DNP project manager as well as the DNP project member and project chair. Their role is to provide guidance to the DNP project manager during implementation and completion of the DNP project.

Tools

Multiple tools will be used in the implementation of this QI initiative. The primary tool will be the GAD-7 Anxiety Screening Tool. In addition to the screening tool there will be a written protocol and standardized training to ensure the screening process is performed correctly. There will also be a pre-training and post-training test as well as an audit tool to ensure that the protocol is being properly used.

GAD-7 Anxiety Screening Tool

The primary tool required for this QI project is the GAD-7 anxiety screening tool (Appendix C). This tool has a long history of use as an anxiety screener and has been validated multiple times as a statistically valid screening tool for anxiety (Plummer et al., 2016). When the patient enters the clinic, they will be given a paper copy of the GAD-7 screening tool to fill out along with their other paperwork. This will be provided to all new patients as well as any patient that has not completed the screening within one year or more. Scoring will be completed by the MA or RN that collects and enters the uploads the paperwork into the EHR. Any score of 10 or greater should be further reviewed between the patient and provider. The copyright for this tool is held by Pfizer, Inc., but this tool is authorized and everyone is encouraged to use this tool without restrictions from the creators (Spitzer et al., 2006; Pfizer, 2010).

Audit Tool

A second tool that will be used in this QI project is an audit tool (Appendix D). The purpose of this tool is to validate whether or not the newly implemented process is being consistently followed by clinical staff. A population sample will be selected once the protocol has

been implemented and the data will be reviewed and analyzed to determine the rate of compliance with this new protocol.

Training

Another tool that will be used during this QI project is the training (Appendix E). A PowerPoint Training has been developed so that all clinical staff will be familiar with the GAD-7 anxiety screening tool, the associated patient protocol, and scoring parameters. The training will be shown on an overhead screen and will last less than 30 minutes including questions. The training materials are based on the parameters outlined by Dr. Robert L. Spitzer, the creator of the GAD-7 training tool (Rutter & Brown, 2017). This training was created by the DNP project lead based off information obtained by Dr. Spitzer's guidelines and does not require any special permissions for use (Spitzer, 2006).

Staff Pre and Post Test

A test will be administered to staff members prior to and after training to determine the level of knowledge improvement (if any) after receiving the training as compared to prior to the training (Appendix F). Each staff member will receive a paper copy of the test and an answer sheet. The answer sheets will be collected for both the "pre" and "post" exams once they are completed by each staff member. The test scores will then be summarized and an average of the scores will be compared.

Protocol

Lastly, a clinical protocol has been developed and will be used as reference for the clinical staff (Appendix G). This protocol identifies who should be screened, the frequency of screening, the screening parameters including scoring, and when a referral or specific treatment is needed. There is currently no standard American protocol for screening of anxiety in primary care (Dartmouth-Hitchcock, 2019). This protocol was developed by incorporating research from a

comprehensive literature review and specifically utilizing the GAD-7 parameters and recommendations. The GAD-7 screener and accompanying guidelines do not require any specific permissions (Pfizer, 2021).

Interventions

Project approval consisted of the identification of a clinical site that did not currently have an anxiety screening protocol. After site agreements were signed and all approvals attained an analysis of current processes and available resources was completed. The goal was to identify a validated anxiety screening tool to be used on the senior adult population at a private primary care clinic. Although there is no universally accepted screening tool many of the most common screening tools were reviewed. The GAD-7 anxiety screening tool was one of the tools reviewed and ultimately selected for this QI implementation.

After the identification of an anxiety screening tool a procedure to screen patients was leveraged and adapted for this facility. This procedure (Appendix G) will be used as a guideline to screen patients for anxiety using the screening tool. A strategic plan was created and implemented to ensure the patient screenings were done correctly. This plan consisted of the creation of a PowerPoint presentation that would provide an overview of the screening tool, its purpose, and the protocol parameters for the screening. All clinical staff including NPs, MAs and RNs that will be responsible for providing these patient anxiety screenings will receive the training. The staff will also receive training on how to interpret the scores from the screening and next steps in the process.

Additionally, the staff will take a “pre” and “post” screening test to determine their level of knowledge before and after the training. After completion of the training and implementation of the protocol and audit will be implemented to ensure that the staff are appropriately using the screening as designed. Revisions (if any) will be implemented as necessary, based on the audit

results. DNP Lead will also be onsite during training, testing, roll-out, and audit to answer any questions and provide guidance as needed.

Study of Interventions/Data Collection

A pre-test and post-test will be administered to all staff that will be involved with the GAD-7 screening. The test results will be reviewed and analyzed to determine the level of improvement by the staff prior to completing the training as compared to after completing the training. Each paper test will have a number on it and provided to the same test taker for the pre- and post-training test. Each pre- and post-training test will then be compared individually in addition to an average of the pre- and post-training test results All results will be recorded and saved in a Microsoft Excel spreadsheet.

There will be an audit of staff compliance with the protocol after the new screening procedure is implemented. This audit will start in mid-July 2021 and will be conducted by the lead of this DNP project and consists of a checklist to ensure that the process is being appropriately followed by all staff. Charts will be continually reviewed by searching the EHR system for the screening updates. Thirty charts per week will be randomly reviewed over the course of the 4-week implementation. Each patient screening will be tracked using their medical record number (MRN) so that their names, birthdates and other demographic information that is gathered will not readily identify them. This audit tool will be completed using MS Excel and will have password protection for access to the results. The audit tool will include yes/no questions to ensure staff compliance with the implemented protocol. Results will then be analyzed based on a percentage of staff that followed the newly implemented protocol and those that did not follow the protocol. No patient specific data or patient identifying information will be recorded as part of this audit. This password protected audit worksheet will be digitally destroyed (and any paper copies [if any] will

be shredded) once the data has been gathered and analyzed and the audit is complete

Ethics/Human Subjects Protection

This QI project will follow all clinical site guidelines and is compliant with all state and federal regulations. Approval for this project was requested and received from the clinic owner of the site. The results from these screenings will be HIPPA compliant and there is no significant identified risk of ethical misconduct or confidentiality issues. No names or patient identifying information will be used in the gathering and audit of compliance related data. The data will be tracked using a simple yes/no and a number generated from a random number generator. After analysis of the data, all files and any paper copies of the data will be destroyed to maintain confidentiality. All of the gathered and analyzed audit information will be kept in a password protected MS Excel worksheet and kept on only one password protected computer which will be accessible only by the DNP project lead. These files will be fully destroyed by deleting the file and digitally shredding the file once the audit is fully complete.

Based on the Institutional Review Board (IRB) project screening guidance, no IRB review is needed at the project site, nor by TUN. There will be no compensation to participants for their participation in this QI project. Although all staff will be encouraged to participate in this project, this will not be a requirement and they have the option to opt out upon request. Their compliance or non-compliance with the protocol will have no effect on their performance ratings or continued employment at the facility.

Measures/ Plan for Analysis

The DNP QI project focuses on both improving anxiety screening and increasing knowledge and compliance regarding the developed anxiety screening protocol. The following measurements and statistical analysis are to be completed as part of this DNP QI project implementation.

A paired t-test will be used to measure the staff compliance with the implementation of the screening protocol. This test compares the averages of the same group or population to determine any statistical differences (Pyzdek & Keller, 2018). This will determine if there is a statistically significant change in the percentage of staff that follow the protocol prior to the implementation versus after the implementation.

A paired t-test will also be used to validate a statistical change in staff knowledge based on the scores received on the pre-training and post-training tests. This test compares the averages of the same group or population at two different points in time to determine if there is any statistical difference between the averages (Pyzdek & Keller, 2018). This will be used to evaluate the difference in knowledge prior to the training versus after completing the training.

The only descriptive statistics used will be the percentage change in patients screened and percentage improvement in staff test scores pre- and post-training (Corporate Finance Institute, 2021). Two descriptive statistics will be used as part of the audit analysis. One is the percentage of providers that followed the protocol versus those that did not. The other descriptive statistic is how many of the patients that were screened for anxiety tested positive for anxiety (based on their GAD-7 scores). Although the latter statistic is not necessary to determine if the protocol is being followed, it will be able to demonstrate to the clinic the impact that this screening can provide for their patients.

No statistician is needed for analysis of the results as the data is straightforward to gather and will be entered into XLSTAT statistical software to obtain a result. These results will then be reviewed and analyzed to determine statistically validated differences.

Analysis of Results

The purpose of this project was to develop and implement an evidence-based anxiety screening protocol for the senior resident patients of this clinic. In order to complete the

implementation all clinical staff were trained on the use of the GAD-7 anxiety screening tool and related protocol. The staff training consisted of a concise DNP candidate led 15-minute PowerPoint which introduced the purpose of the screening tool and protocol and why it was important for their patients to be screened for anxiety. Prior to the training all clinical staff were tested on their knowledge of anxiety and the GAD-7 screening tool. After the training was completed they were given another assessment to determine if their knowledge of anxiety and the screening tool had improved. Implementation of the new protocol was implemented the day after training. Post-implementation, a patient chart audit was performed to determine staff compliance with the anxiety screening protocol.

Training was completed by all clinical staff which included two nurse practitioners, two nurse practitioner students, and a medical assistant. A 10-question paper-based test was provided to the staff prior to the training as well as after the training was completed. The responses to these pre- and post- tests were used to determine if their knowledge regarding the GAD-7 screener had improved after the training. After the pre-test, the exam scores were entered into Microsoft Excel spreadsheet with an output that showed that the clinical providers attained a mean score of 72%. The highest test score achieved was 100% and the lowest test score was 30%.

After the training was finished and all questions answered another test was taken by the providers. On the post-test the providers achieved a mean score of 96% with a low score of 90% and high score of 100%. A two-tailed t-test was performed on the collected test results in XLStat (Microsoft Excel add-on software) to determine if there was a statistically significant difference between the two sets of scores. Due to the small sample size (n=5) a non-parametric test, the Wilcoxon Signed Rank Test was used. The results of the analysis with a 95% confidence interval returned a p-value of 0.042, as seen in Table 2, which is less than a p-value of 0.05. Therefore, we

reject the null hypothesis that there is no difference between the two distributions. This indicates that the improvement in the test scores is statistically significant.

Table 1

Descriptive Statistics Pre-Training and Post-Training Test Comparisons

Variable	Observations	Obs. with Missing Data	Obs. w/o Missing Data	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	5	0	5	3.000	8.000	6.800	2.168
Post-Test	5	0	5	9.000	10.000	9.600	0.548

Table 2

Wilcoxon Signed-Rank Test / Two-Tailed Test Pre-Training and Post-Training Comparison:

Expected value	7.500
p-value (Two-tailed)	0.042

Prior to this implementation the clinical providers did not routinely perform anxiety screenings on patients. A review of a sample of 120 patient records was performed prior to project implementation and it was found that only one provider had twice performed a GAD-7 anxiety screening test. No other provider had any record of having performed an anxiety screening test prior to this implementation. An average of only 1.7% of patients were screened prior to this implementation. To determine the effectiveness of the educational intervention, a review for utilization of the anxiety screening protocol was performed. This resulted in a review of 30 records per week for four weeks for a total of 120 records reviewed. The results showed that there was 100% compliance with the protocol the first week and only six patients from the samples were not

screened over the following three weeks. The provider compliance for screening post-implementation based on the samples was 95%. A paired t-test, which is used to compare the averages of two samples was used to compare the results pre-implementation and post-implementation. The t-test as shown in Table 3, using a 95% confidence interval returned a p-value of less than 0.0001 which indicates that we should reject the null hypothesis that there is no difference in means between the 2 samples. We also see an alpha value of 0.050 in Table 3 which indicates the significance level, which tells us that we have a low probability of mistakenly accepting or rejecting the null hypothesis. We would then accept the alternate hypothesis that there is a difference between the means of the samples.

Table 3

Pre-Implementation and Post-Implementation Comparison test for two independent samples / Two-tailed test:

95% confidence interval on the difference between the means:	
p-value (Two-tailed)	<0.0001
Alpha	0.050

Discussion of Findings

The purpose of this DNP project was to introduce a quality improvement initiative that would increase the knowledge of staff at a senior living health clinic to screen and identify patients with symptoms of anxiety. Anxiety in older adults frequently goes undiagnosed and untreated and is ignored significantly more often than in younger adults (Balsamo, et al., 2018). The original question posed for this project was, “In the geriatric (65+ year old) nursing home population, does the implementation of an anxiety screening protocol over a one-month period improve the identification and treatment of anxiety as compared to current practices?”. The project

implementation resulted in successful utilization of the GAD-7 screening tool and of the project many patients with anxiety were identified. An audit of 120 patient screenings prior to the implementation of this protocol showed an average of only 1.7% of patients were screened for anxiety, while after the implementation of the protocol the clinic healthcare workers achieved a nearly 100% patient screening rate (n=120), an increase of more than 95%.

The results from the pre-training and post-training tests also clearly indicated that the healthcare staff had an increased knowledge of anxiety, it's effect on the elderly, and how to screen these patients for anxiety. The clinical staff shared that the GAD-7 screener was easy to use and could quickly be completed on patients. Many were surprised to learn that anxiety was such a common mental health disorder amongst the elderly. The staff was already using the PHQ-9 screening tool for depression and felt that incorporating the GAD-7 screener would be an easy addition to this depression screener while adding little additional time to their patient appointment.

The results showed a high compliance rate of staff using the screening protocol. An audit of patient charts to verify compliance with the protocol also showed that some patients had tested positive for anxiety and additional steps were taken to address the anxiety. The staff believed that this screening would provide a more positive experience for their patients and would add to the "complete care" patient experience that they are trying to provide. Prior to successful implementation in this clinic, the GAD-7 screening protocol has been successfully implemented in other clinics (Garcia, 2020). Evidence-based practices suggests that this screening should be implemented for patients of all ages and demographics in primary care settings (Locke et al., 2015).

Significance/Implications for Nursing

A wide variety of research has shown that primary care providers often miss the symptoms of anxiety in their patients. In one recent study of 840 primary care patients, the rates of

misdiagnosis were 85.8% for panic disorder (PD), 71% for generalized anxiety disorder (GAD), and 97.8% for social anxiety disorder (SAD) (Vermani, et al., 2011). The first step in making an accurate diagnosis of anxiety is to understand and to screen for this disorder (Combs & Markman, 2014; Olariu et al., 2015).

The findings from this QI project demonstrate that the introduction of evidence-based practices can improve the knowledge of both experienced and less experienced nurses. The GAD-7 screener has significant evidence to back its effectiveness (Plummer et al., 2016). There is also significant evidence and recommendation from leading healthcare organizations such as the World Health Organization (WHO, 2018), the National Institute of Mental Health (U.S. Department of Health and Human Services, 2017), the American Academy of Family Physicians (AAFP), and the U.S Preventative Services Task Force (USPTSF, 2021) that these screenings should be performed.

Too often this screening is overlooked and patients suffer without treatment from this disorder (Remes et al., 2016). Anxiety disorders are both common and debilitating. They are frequently underdiagnosed and undertreated in the primary care setting. Due to their propensity to cause generalized and poorly differentiated symptoms, detection can often prove difficult. Multiple, effective screening tools exist to aid the PCP in this challenge. Once identified, however, treatments are predictably effective (Combs & Markman, 2014). It is important to follow the current recommendations of screening for anxiety, especially in the highly susceptible and vulnerable elderly population. This problem can be easily addressed with the use of a simple evidence-based anxiety screener (Plummer et al, 2016). This project demonstrates how quickly and effectively this screening can be implemented in clinics for other elderly populations and can also be expanded to include adult and adolescent patients with minimal impact on the time or financial costs to the healthcare provider. Anxiety screening is particularly important to the field of nursing. It has been shown that anxiety is underdiagnosed and undertreated, but that increased

knowledge about the symptoms of anxiety and tools used to screen for this disorder are extremely effective (Combs & Markman, 2014). The field of nursing often differentiates itself by focusing on a person holistically rather than just treating the symptom or disease for patients that are primary complaints or are readily seen (Shah et al., 2017). This project supports the implementation of anxiety screening for all primary care patients regardless of whether or not they are seeing the provider for the treatment of their anxiety or are seeking care for another completely different issue. The primary care provider is generally the initial and often only point of contact for most patients which offers an excellent opportunity to provide this important patient screening (Lauwers et al., 2019).

Limitations

Project Design

There were a few limitations related to the collection of data and the timeline of the project. Data collection by the clinic providers was optional, though all of them agreed to participate. In addition, due to the DNP project parameters, there were only a few weeks allotted for data collection which limited the sample size and prevented this project from demonstrating success over a long period of time. The established project timeline limits monitoring of any potential newly hired future staff and their subsequent compliance with the original project implementation.

Sample Size

This project was conducted at a clinical site that is located at a large senior living facility. There are other similar "sister" senior living site clinics under the same ownership. For convenience and to minimize any project related disruptions, this project implementation was limited to only those patients that were senior living residents at the selected clinical site.

Analysis

Other scope related limitations for this project include not analyzing the scores received back from the patients after their anxiety screening. Another out-of-scope limitation of this project is that no patient follow-up for treatment was tracked for those patients that screened positive for anxiety. The scope of this project was limited to gathering baseline screening data and comparing the volumes of anxiety screenings post-implementation to the screening volumes pre-implementation. This project also gathered data on the knowledge of the healthcare providers prior to receiving GAD-7 training and after they had received training. It was limited to gathering this data directly after receiving training and did not include longer-term retention of this knowledge, which was outside the scope of this project.

These are all potential opportunities for additional project research in the future. Additionally, although this project implementation was limited to one site there is an opportunity to easily roll-out the screening to additional primary care sites.

Dissemination

This project was disseminated to all healthcare staff and leadership at the clinical site of the implementation. There is a "sister" clinical site in Arizona with the same ownership that will also receive the results from the implementation at the selected project site. The project will be presented to nursing leadership and students including an accompanying PowerPoint presentation at Touro University at Nevada. It will also be published to the Touro University DNP repository. Additionally, the project will be posted to the Doctors of Nursing Practice repository, a central database for DNP projects from universities across the country, to enable greater access to this project implementation and related results for future reference. Lastly, this project will be submitted for publication to a few selected nursing journals to increase the dissemination of the project results.

Project Sustainability

This project and related results have been shared with all clinical staff and the clinic ownership. All clinic staff members have been trained on the importance of the screening and how to complete the screening. Critically, the new procedure has been added to the standard clinic protocols and GAD-7 training will be incorporated as part of all new employee clinical staff training. This implementation should continue in the long term as long as it remains a part of this new employee training and part of their standard clinical protocols. There is also an opportunity to add additional procedures to the original screening protocol that could be standardized for treatment or referral for patients that test positive for anxiety.

Conclusion

As part of this project a clinical site was identified that was not currently performing anxiety screenings on a regular basis. A preferred anxiety screening tool was identified and a protocol was established to successfully identify patients suffering from depression now and in the future. The information provided in this project summary can also be leveraged at other clinical sites to allow other providers to implement a similar process. The pilot for this project was successful and will continue to be used to improve patient care in the future.

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Appendix A

Plan-Do-Study-Act (PDSA) Cycle

Appendix B

Facility Agreement

TO TUN: Touro University Nevada
874 American Pacific Drive
Henderson, Nevada 89014
Attention: Andrew Priest, Ed.D, PT

TO INSTITUTION: Sagewood
Clinic 4555 E
Mayo Blvd
Phoenix, AZ 85050

Attn: Dr. Kelly Schultz DNP, RN, AGNP-C

J. Remedies. The various right, options, elections, powers, and remedies of the respective parties hereto contained in, granted, or reserved by this Agreement, are in addition to any others that said parties may be entitled to be law, shall be construed as cumulative, and no one of them is exclusive of any of the others, or of any right or priority allowed by law.

K. Severability. The provisions of this Agreement shall be deemed severable and if any portion shall be held invalid, illegal or unenforceable for any reason, the remainder of this Agreement shall be effective and binding upon the parties.

L. Waiver. Any waiver of any terms and conditions hereof must be in writing and signed by the parties hereto. A waiver of any term or condition hereof shall not be construed as a future waiver of the same or any other term or condition hereof.

10. EXECUTION

The signatories below warrant they have authority to bind their entity in contract. This contract applies to core and non-core clinical experiences.

FACILITY

Date: By:
<SIGNATORY>
<SIGNATORY TITLE> Kelly Schultz CEO NP Consultants

TOURO UNIVERSITY NEVADA

Date: 9/24/2020 By: Laura W Yavitz
Laura W. Yavitz
Interim Vice Provost

Date: 09/24/2020 By: Andrew Priest
Andrew Priest, Ed.D. PT
Dean, College of Health and Human Services

Appendix C

GAD-7 Screening Tool

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
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

(For office coding: Total Score T____ = ____ + ____ + ____)

SCORING INSTRUCTIONS

- Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively
  - 0–4: minimal anxiety
  - 5–9: mild anxiety
  - 10–14: moderate anxiety
  - 15–21: severe anxiety
- When used as a screening tool, further evaluation is recommended when the score is 10 or greater

Appendix D

Audit Tool

QI Project Audit Tool

Directions: *Review a pre-selected number of patient records as a sample for the greater patient population. Determine if the protocol was followed and if the results are tracked in the patient file.*

1. Was the patient screened with the GAD-7 Screening Tool?
    a. Yes
    b. No

2. Was the established screening protocol followed?
    a. Yes
    b. No

Appendix E

Anxiety Screening Training

ANXIETY

Anxiety Screening Training for Older Adult Population

INTRO TO ANXIETY

- Anxiety is one of the most common mental health disorders. It affects people from all socioeconomic backgrounds, races, cultures, sexes, and ages.
- In addition to the mental anguish and distress that comes from anxiety there are also a large number of physical ailments that are exacerbated by this disorder.
- Screening is the first step to recognition and treatment of this disorder.

- Anxiety has a wide range of physical effects on individuals including:
  - Increased blood pressure
  - Increased respiratory issues
  - Increased falls due to dizziness
  - Increased fatigue
  - Increased GI issues
    - Vomiting, diarrhea, constipation, ulcers
  - Increased rate of suicide
  - Increased rate of diabetes
  - Increased rate of heart attacks

References

https://www.healthline.com/health/anxiety/effects on-body#Other-effects

ANXIETY

- Anxiety is the most common illness amongst older adults
- It is estimatedthat 10%-20% of older adults suffer from anxiety
- A majority of elderly anxiety disorders remain undiagnosed and untreated
- Generalized Anxiety Disorder (GAD) is the most common, thought there are other types of anxiety that are also prevalent

- *References*
- *https://www.aagponline.org/index.php?src=gendocs&ref=anxiety*
- *https://www.mhanational.org/anxiety-older-adults*

TYPES OF ANXIETY

- Generalized Anxiety Disorder (GAD)
  - This is the most common and includes general worry about everyday things in life
  - Symptoms may include trembling, fatigue, headache, nausea, etc.
- Panic Disorder
  - Sudden onset of terror that often strikes without warning
  - Symptoms may include hear pain, shortness of breath, dizziness, feelings of doom or fear of dying, hear palpitations, etc.
- Phobia
  - An extreme, disabling, irrational fear of something that poses little or no real danger
  - Leads to avoidance of these things which limits enjoyment in life
- PTSD
  - Persistent symptoms that occur after a traumatic even (war, crime, rape, abuse, etc.)
  - Often includes nightmares, flashbacks, easily startled, and irritability.

SCREENING

- GAD-7 Screening Tool
  - A simple and popular tool that can measure levels of anxiety based on 7 questions that are answered on a scale of 0, 1, 2, or 3
  - A summary score of all 7 questions is then calculated to determine the level of anxiety experienced by the patient
  - Next steps are based on the overall score achieved

References

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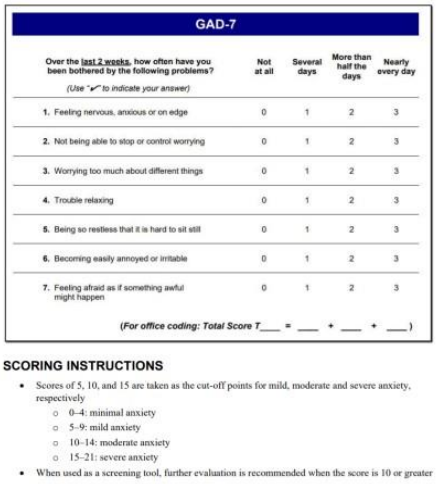
GAD-7 SCORING

- Overall scores from the screening should be summarized
- A score of 5+ indicates mild anxiety
- A score of 10+ indicates moderate anxiety
- A score of 15 + indicates severe anxiety



GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems? (Use "✔" to indicate your answer)	Not at all	Several days	More than half the days	Nearly every day
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

(For office coding: Total Score T____ = ____ + ____ + ____)

SCORING INSTRUCTIONS

- Scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively
  - 0–4: minimal anxiety
  - 5–9: mild anxiety
  - 10–14: moderate anxiety
  - 15–21: severe anxiety
- When used as a screening tool, further evaluation is recommended when the score is 10 or greater

References

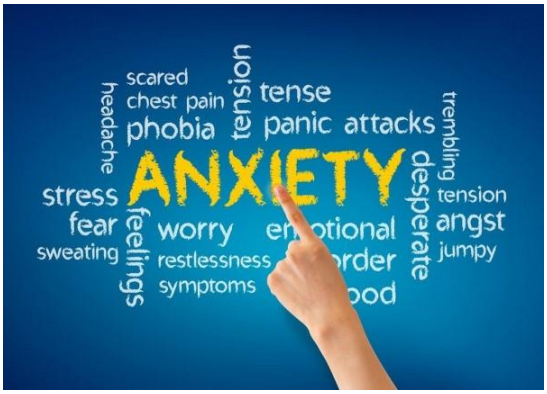
https://patient.info/doctor/generalised-anxiety-disorder-assessment-gad-7

SCORING FOLLOW-UP

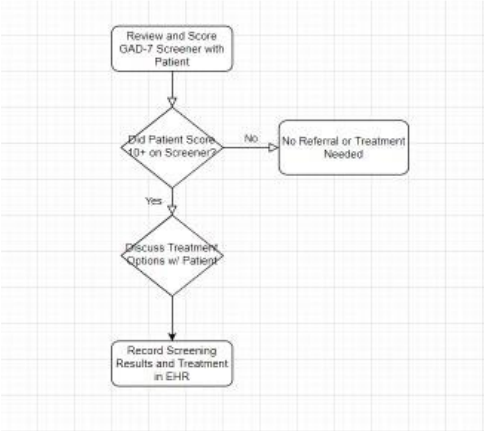
- Any score of 10 or more should be further followed up for treatment
- A score of below 10 may also be treated if requested by the patient

NEXT STEPS

- A score of 10 or more should be discussed with the patient to determine treatment (if any)
- A moderate level of low to moderate generalized anxiety may be treated with medication in-house and/or referred to a therapist for treatment
- Moderate to severe anxiety, suicidal ideation, or a mental health co-morbidity with anxiety should be referred to a mental health professional (PMHNP or Psychiatrist)



PROTOCOL



- All screeners will follow this simplified protocol diagram
- A more detailed written protocol is available in case of questions
- Protocol can be accessed online in the clinic protocol database

QUESTIONS

REFERENCES

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Appendix F

GAD-7 Training Pre-Test & Post-Test

GAD-7 Training Test

1. **What is the most common illness in the elderly?**

2. **What is the GAD-7 used to screen for?**

3. **What is the scoring scale for each question?**

4. **How many questions are in the GAD-7 Screening?**

5. **What does a summary score between 10-14 indicate?**

6. **What score does not require further evaluation?**

7. **When should patients be screened?**

8. **Why should a patient that is already being treated for anxiety be screened?**

9. **Who should receive this training?**

10. **What types of anxiety are there?**

Answer Sheet

1. **Anxiety**
2. **Anxiety**
3. **0 to 3**
4. **7**
5. **Moderate Anxiety**
6. **Less than 7**
7. **Upon initial visit and annually thereafter**
8. **To determine if anxiety has improved (or worsened)**
9. **All clinical staff**
10. **GAD, Panic Disorder, PTSD**

Appendix G

SAGEWOOD CLINIC ANXIETY SCREENING PROTOCOL

Background Information and Rationale
This protocol is to be used to screen for anxiety for all onsite patients seen at this clinic. The goal is to better identify and reduce the experienced anxiety of patients at this clinic.

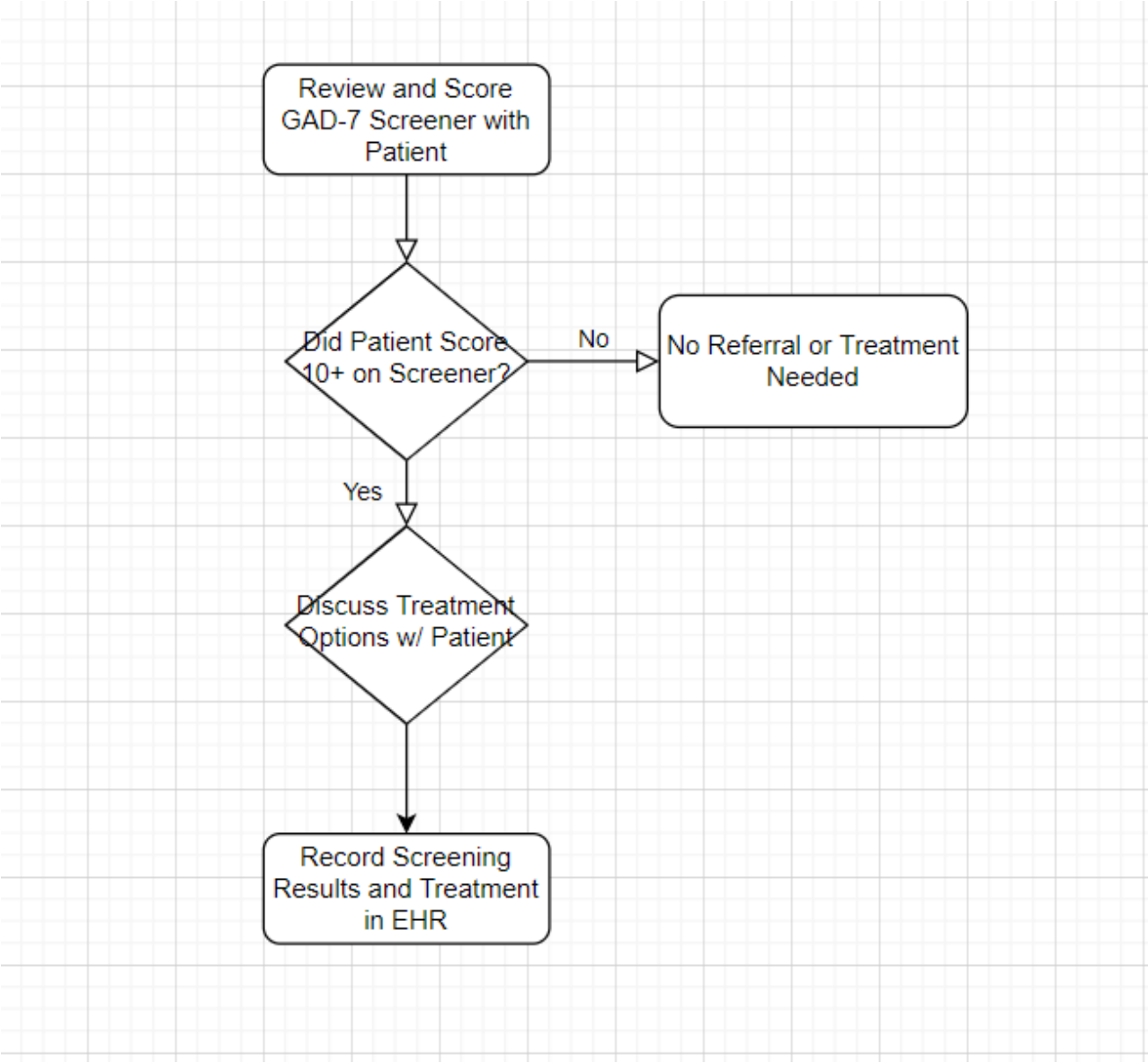
Introduction
Anxiety is the greatest mental health issue experienced by the older adult population. This protocol will provide guidelines with regards to how to screen for anxiety and the associated steps that should be completed

Name of Tool or Intervention
GAD-7 Screening Tool

Site Sponsor
Dr. Kelly Schultz, DNP, FNP
CEO Nurse Practitioner Consultants

Location
Sagewood Clinic
4555 E Mayo Blvd Building #2000
Phoenix, AZ 85050

Screening Protocol Simplified Algorithm



Anxiety Screening Detailed Protocol

All onsite patients are to be screened for anxiety

1.1. Frequency: Minimum of annually, generally at annual physical checkup
1.2. Tool: GAD-7 Anxiety Screening Tool
1.3. Screener: NP or nurse seeing patient

2. Steps to be completed for all patients

2.1. Provide a paper copy of GAD-7 paperwork with intake packet for all patients
2.2. Review completed GAD-7 screening
2.3. Calculate overall score for GAD-7 screening
2.4. Review score with patient
2.5. Interpret the results and related meaning for the patient

3. Discuss treatment options for all patients that achieve an overall score of 10 or more

3.1. For mild anxiety

3.1.1. Explain options to patient
3.1.1.1. No medication needed unless requested by patient and approved by provider
3.1.1.2. No referral to counselor or other professional needed unless requested by patient or suggested by provider

3.2. For moderate anxiety (10-14 points)

3.2.1. Refer to counselor for therapy (if patient accepts referral)
3.2.2. Provide medication for patient based on diagnosis
3.2.3. Refer to PMHNP or Psychiatrist if preferred by provider or patient
3.2.3.1. Refer all patients with additional mental health comorbidities
3.2.3.2. Refer all patients with suicidal ideation

3.3. For severe anxiety (15 or more points)

3.3.1. Refer to counselor for therapy
3.3.2. Refer to PMHNP or Psychiatrist for treatment

4. Rescreen any patient that previously scored 10 points or more at all appointments

4.1. Calculate score and compare to previous results to evaluate any improvement
4.2. Review results with patient

5. Screen all patients at least annually as part of annual physical exam

5.1. Patients should be screened at initial intake and if it has been a year or more since last screening

6. Screen patients upon request of patient or whenever moderate to severe anxiety is suspected

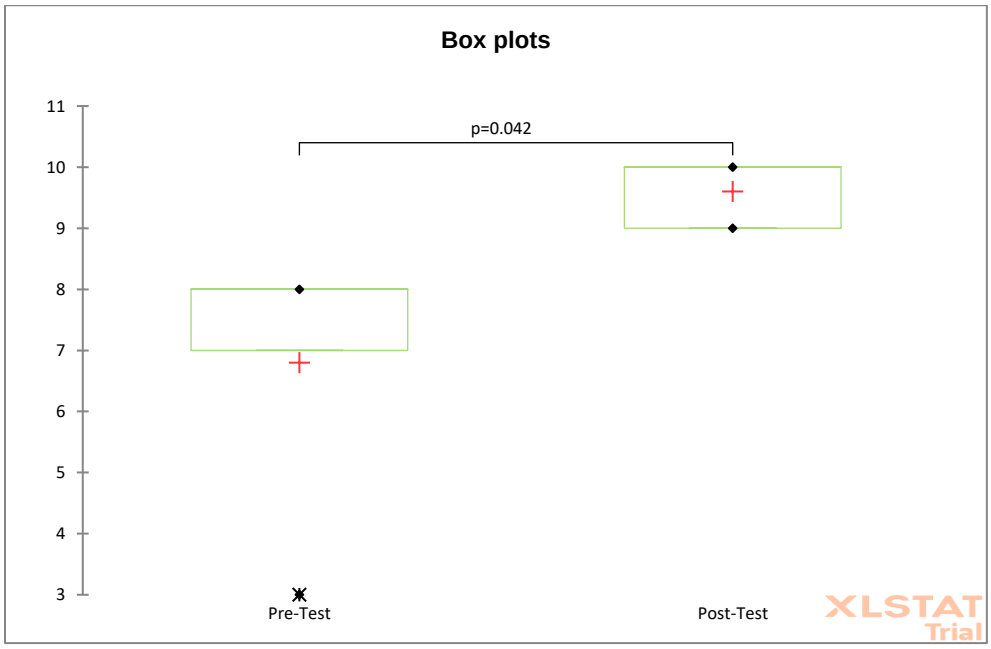
6.1. Complete screening if patient complains of anxiety or depression or if either is suspected

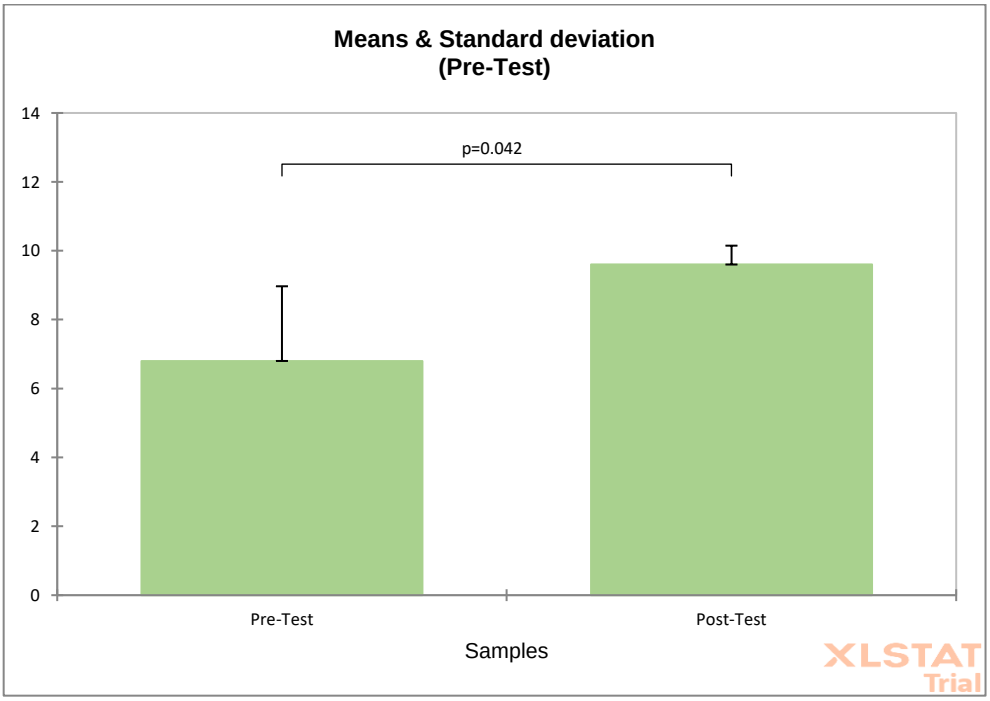
7. Document all screening results in patient record

7.1. Document GAD-7 score (with date) in HER
7.2. Document any referral or next steps taken with patient based on screening score

Appendix H

Pre-Training and Post-Training Test Comparisons





Appendix I

Pre-Implementation and Post-Implementation Sample Comparisons