ANXIETY SCREENING AT A PSYCHIATRIC INPATIENT FACILITY: A QUALITY IMPROVEMENT PROJECT

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Abstract

Background. Generalized anxiety disorder (GAD) is characterized by persistent anxiety and uncontrollable worry occurring more days than not for a minimum of 6 months (Patriquin & Mathew, 2017). Presently, anxiety screening and evidence-based practice treatment for adults are suboptimal. It is impossible to overemphasize the importance of early diagnosis and prompt treatment of GAD in patients.

Purpose. The purpose of this quality improvement project is to implement the Generalized Anxiety Disorder-7 (GAD-7) screening tool, a validated, evidence-based instrument, in a psychiatric inpatient facility to improve early detection and treatment of anxiety disorders in patients.

Methods. Staff members were educated on the use of the GAD-7 screening tool. Patients who were 18 years of age and older were screened for anxiety upon admission to the general adult inpatient psychiatric unit using the GAD-7 screening tool. Patients were given treatment by providers and staff based on the clinical practice guidelines.

Results. All new patients admitted to the general adult inpatient psychiatric unit were screened using the GAD-7. Of the 23 patients screened, 52.2% of patients scored 15 or higher, which triggered further assessment by the provider.

Implications for Practice. The GAD-7 screening tool is used to assist and guide providers in diagnosing and treating GAD. Ultimately, the implementation of the GAD-7 will address the underdiagnosis and undertreatment of the disease by improving the assessment, rate of diagnosis, and care for patients experiencing severe anxiety.

Keywords: anxiety, generalized anxiety disorder, GAD-7, assessment, anxiety screening tool

Anxiety Screening at a Psychiatric Inpatient Facility: A Quality Improvement Project

Anxiety is defined as the fear or worry surrounding a potential threat (Rafsten et al., 2018). Small amounts of anxiety can be helpful. It motivates one to act with haste in the face of imminent danger, focuses one's attention on problems, and improves one's overall performance. Anxiety can also be detrimental, especially when it is too severe or occurs too frequently. This form of anxiety is debilitating and can interfere with one's activities of daily living (Alharthy et al., 2017). Extreme anxiety can lead to a decrease in one's overall quality of life, decreased productivity, and even illness. Symptoms of anxiety include intense worry, increased heart rate, sleeping troubles, changes in eating habits, evasion of fear, gastrointestinal upset, muscle tension, and difficulty concentrating. Individuals with anxiety may also have panic attacks in an effort to combat fear (Szuhany & Simon, 2022).

Anxiety disorders are the most prevalent mental disorders. To date, approximately 18.1% of American adults—42 million people—live with anxiety disorders such as panic disorder, obsessive-compulsive disorder, posttraumatic stress disorder, generalized anxiety disorder (GAD), and phobias (World Health Organization, 2017). Anxiety is more prevalent in females than males. Many anxiety disorders develop during childhood and tend to persist during growth and development if treatment is not sought (Tarbell, 2020).

GAD is a type of anxiety disorder characterized by excessive and uncontrollable worry occurring more days than not for a minimum of 6 months (Patriquin & Mathew, 2017). GAD is regarded as a chronic condition because of its frequent lifetime recurrence and persistent symptoms. Independent of depression, studies have shown a relationship between GAD and a poor prognosis of coronary heart disease (Liu et al., 2019). Furthermore, GAD has been linked to poor cardiovascular health, coronary heart disease, and cardiovascular mortality. Individuals

suffering from GAD are more likely to engage in self-harming behavior and attempt suicide (DeMartini et al., 2019). Although the majority of GAD patients can receive treatment in an outpatient setting, those endorsing suicidal ideation should be hospitalized.

The Generalized Anxiety Disorder-7 (GAD-7) is a seven-item scale used to measure anxiety disorder symptoms. On this questionnaire, individuals are asked how frequently they have experienced symptoms in the last two weeks. Each of the seven items is based on the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* and is graded from 0 to 3 (Terrill et al., 2015). The sum of the scores is indicative of anxiety severity.

Organization Assessment

An assessment was conducted at Houston Behavioral Healthcare Hospital (HBHH), a private, acute care behavioral hospital located in Houston, Texas, within the 77080 zip code. This one-story, 163-bed hospital was established in 2014. HBHH belongs to Aurora Behavioral Healthcare, LLC (Signature Healthcare Services), which is based in Corona, California. HBHH serves thousands of patients each year. Aurora Signature Healthcare has other hospital locations in Arizona, California, Nevada, Massachusetts, and other cities in Texas. The mission of HBHH is to be the regional leader in behavioral health services by developing and delivering metric-driven programs and services molded by outcome measurements delivered to those entrusted in its care (HBHH, n.d.). This facility offers behavioral health and chemical dependency treatment programs for adolescents 12 to 17 years old, as well as adults 18 years of age and older.

The facility encompasses seven inpatient units: A1A2, A3, B1B2, C-North, C-West, C-East, and C-South. A1A2 is the female adolescent unit, and A3 is the male adolescent unit. B1B2 is the psychiatric intensive care unit (PICU); it is the unit of the highest acuity. C-West is a general adult male unit, and C-North is a general adult female unit. C-East is the geriatric unit.

C-South serves as an overflow unit. The patient population on C-South varies from time to time. C-South has also been frequently used as a unit for patients with COVID-19. In-person visitation had been suspended for some time due to the COVID-19 pandemic. Visitation has since resumed, and the hours are as follows: Monday through Friday from 6 p.m. to 7 p.m., and 3 p.m. to 4 p.m. on Saturday. There is no visitation on Sundays unless specifically ordered for a patient by a physician. Visitation is held in the cafeteria for all units except B1B2. Visitors for patients on B1B2 are seen on the unit due to the patients' high elopement risk.

HBHH is accredited by Centers for Medicare & Medicaid Services and The Joint Commission. Some of the insurances accepted at HBHH include Aetna, Amerigroup, Beacon Healthcare, Blue Cross Blue Shield, Care N' Care, Cenpatico, HealthFirst, Magellan, Molina Healthcare, Secure Horizons, Texas Children's Health Plan, Texas True Choice, TRICARE, and Wellcare. HBHH offers a no-cost assessment telephone line that prospective patients may utilize to speak with a trained assessor who will assist in determining the appropriate level of care to be pursued for the condition that the individual is struggling with.

HBHH operates 24 hr a day, 7 days a week. The healthcare professionals working in this facility include five psychiatrists who hold the Doctor of Medicine degree, one psychiatric physician assistant, two psychiatric-mental health nurse practitioners, seven on-call medical staff (one medical doctor, five family nurse practitioners, and one adult-gerontology nurse practitioner), 24 day-shift registered nurses (RNs), seven day-shift licensed vocational nurses, 34 day-shift mental health technicians, 28 night-shift RNs, three night-shift licensed vocational nurses, 31 night-shift mental health technicians, two day-shift nursing supervisors, and two night-shift nursing supervisors. All nursing supervisors hold RN licenses. Presently, HBHH does not have any security officers.

The length of a typical stay ranges from 5 to 9 days. Patients meet with their psychiatrist at least twice a week, and nurses are available to patients continuously throughout hospitalization. Acute psychiatric conditions such as depression, bipolar disorder, psychosis/schizophrenia, anxiety, and substance-related disorders with psychiatric symptoms typically merit inpatient hospitalization. Upon admission, each patient is placed on a set of precautions based on his or her reason for admission and the history of the patient's present illness. These precautions include Suicide Precautions—High/Moderate/Low, Assault Precautions, Elopement Precautions, Self-harm, Detox, Seizure Precautions, Fall Precautions, Sexual Acting Out, and Unit Restriction. These precautions are renewed and/or discontinued by the physician daily. Every newly admitted patient is automatically placed on Unit Restriction and given a blue armband. This means that the patient is not permitted to leave the unit. Only patients on Staff Escort may leave the unit under the supervision of a staff member; these patients have a green armband. Patients may only have a green band with a doctor's order. All patients on B1B2 remain on Unit Restriction at all times due to the high risk for elopement; green bands are never issued on this unit. All entry points within the facility always remain locked and are only accessible with badges or keys.

At the beginning of every shift, environmental rounds are completed by the mental health technicians and RNs. Environmental rounds consist of ensuring every patient is in his or her assigned room and that there is no contraband in any patient's room. The following items are not allowed on the units: aerosols, illicit substances, reading material that contains violent or sexual content, products containing alcohol, electronic equipment, glass items, high heels or steel tip shoes or heavy boots, hoodies, sharp metal objects, purses, luggage, backpacks, jewelry, razors, and stuffed animals. Wedding bands without stones are permitted. Razors will be provided by the

facility if the patient has a doctor's order for shaving privileges with staff supervision. During environmental rounds, patient rooms are also scanned for any items that could potentially be used to inflict self-harm, such as broken tiles or missing screws.

Mental health technicians conduct 10-min rounds on patients who are on Suicide Precautions – High, and 15-min rounds are conducted on every other patient. Nurses on every shift provide oversight of patient observation rounds by physically rounding at certain hours. The patient's location and behavior are documented on the rounds sheet at the time observation. Day shift nurses round at 10 a.m., 1 p.m., and 6 p.m. Night shift nurses complete their rounds at 10 p.m., 1 a.m., and 6 a.m. After each round conducted by the nurse, the nurse signs alongside the mental health technician on the rounds sheet for that hour. When rounding, nurses and mental health technicians are to observe the rise and fall of the chest for a minimum of three breaths. Night staff use small flashlights to round when patients are sleeping. Each patient's assigned precautions are marked on his or her rounds sheet. It is the responsibility of the night shift nurse to ensure that any changes in individual patient precautions are reflected on the rounds sheet for the following day.

Some patients may require one-to-one observation in which the patient is assigned a staff member of the same gender (unless contraindicated) who must remain within arm's reach of the patient at all times. This includes attendance during shaving, bathing, and toileting. Examples of patients who would need continuous observation are a patient who is disrobing indiscriminately, a patient who just attempted to end his life by tying sheets around his neck, or a patient who is a high fall risk. It is the responsibility of licensed staff to ensure the physician's orders include the justification for a one-to-one level of monitoring.

In addition to psychiatric inpatient services, the facility offers two types of outpatient programs. These programs are the intensive outpatient program and partial hospitalization program. The partial hospitalization program is more time-intensive than the intensive outpatient program. A patient in the partial hospitalization program remains in group therapy for the full day; family therapy is also incorporated into treatment. The partial hospitalization program is 5 days a week, while the intensive outpatient program is only 9 hr a week. The facility provides recreational and family therapy. Recreational therapy consists of individual and group counseling. Group therapy occurs twice a day. The main goal of family therapy is to stabilize the home environment and interrupt crisis. Electroconvulsive therapy is also offered at HBHH.

C-West is the unit that was assessed for this project. There is minimal artwork on the unit. The walls are painted with a uniform, gray-colored paint, and the flooring is an off-white linoleum. The color scheme of the unit is a calm white, gray, and navy blue so as not to overstimulate patients. The nursing station has large plexiglass windows. The medication room contains a miniature refrigerator where insulin and other medications are stored. There is an Omnicell, an automated medication management system, in the medication room as well. The cabinets in the medication room are filled with supplies such as safety lancets, alcohol pads, exam gloves, blood glucose meters, syringes and needles, and first-aid products.

C-West has 11 bedrooms with two beds each in addition to a private room with a single bed. Every room has a window and two floor-to-ceiling bookshelves. There is a restroom in each room that consists of a shower, toilet, and sink. There is no hand soap or shower gel in the restroom; patients must retrieve these items along with their hygiene bucket from a mental health technician. Hygiene buckets contain a toothbrush, toothpaste, deodorant, lotion, and a brush or comb. The restroom doors are soft and ligature-resistant. They are sand in color. These doors can

be easily installed and removed from the door frame. Magnets are embedded in the hinge of the doors. The door cannot support a patient's weight; it breaks away from the door frame under 20 lb of pressure. The ligature-resistant doors are designed so that hospital staff can maintain sight of the patient's feet, head, and shoulders while still preserving the patient's privacy. The doors are designed to eliminate anchor points and help prevent successful suicide attempts.

Needs Assessment

The microsystem assessment revealed that during their daily nursing assessment, nurses ask their patients to rate their current anxiety level on a scale of 0 to 10. Patients are also asked about any anxiety symptoms. However, there is no standardized anxiety screening tool in place to be utilized by providers to screen patients upon admission. The implementation of the GAD-7 screening tool can help improve patient outcomes by promoting the early detection and prompt treatment of anxiety disorders in psychiatric inpatients. This instrument also allows for the circumvention of misdiagnosis.

Readiness for Change and Stakeholder Engagement

A conjoined effort from members of the multidisciplinary team is required to successfully implement change within the organization. Following the completion of the microsystem assessment, I met with the nursing director, nursing supervisor, providers, floor nurses, and other staff members to present my findings. I highlighted that there was no standardized anxiety screening tool in place for providers to use to screen patients upon admission. I suggested the implementation of the GAD-7 assessment tool. I received positive feedback, as the willingness and desire for practice change was expressed. The providers and a number of nurses were familiar with the GAD-7. The nurses who had no prior knowledge on the anxiety screening tool demonstrated their willingness to learn. The facility supports an integrated, person-centered

approach to care and recognizes the importance of evidence-based interventions that will address the individual needs of patients and promote their stabilization and healing.

Project Identification

Purpose

The purpose of this quality improvement project is to use the GAD-7 screening tool, a validated, evidence-based instrument, to assess anxiety in patients upon admission and implement provider treatment protocol within the general adult unit at a psychiatric inpatient facility.

Objectives

This project had the following objectives:

1. By July 1, 2023, 100% of staff and providers will be educated on the importance and proper usage of the GAD-7.
2. By July 1, 2023, 100% of new patients will be screened using the GAD-7.
3. By July 1, 2023, 100% of new patient admissions will complete the GAD-7; patients with high anxiety scores (scores ≥15) will be identified.
4. By July 1, 2023, 100% of all patients admitted with GAD-7 score of 15 and higher will be seen by providers who will complete an evaluation to determine the appropriateness of treatment option(s).

Summary and Strength of the Evidence

An extensive evidential literature review was conducted to guide my project implementation plan. The online databases of Academic Search Complete, CINAHL Complete, MEDLINE – EBSCO, PubMed, Science Direct, Journals@Ovid, Psychiatry Online, PsycINFO, and Cochrane Library were utilized in the search for evidential literature. Keywords used to

search these databases include “GAD-7,” “GAD7,” “GAD-7 screening,” “anxiety screening tool,” “anxiety,” “generalized anxiety disorder,” and “generalized anxiety disorder screening.”

Herr et al. (2014) systematically reviewed the accuracy of self-report screening instruments in diagnosing GAD. Out of the nine screening tools utilized, it was determined that the GAD-7 was the most efficient, as it produced a sensitivity of 89%, specificity of 83%, and the highest LR+ (5.1; 95% CI, 4.3-6.0). A study by Wild et al. (2014) also revealed that the GAD-7 is an accurate screening tool that is easy to use. In this study, the validity of the GAD-7 in detecting GAD in older adults was appraised. The GAD-7 had a sensitivity of 0.89 and a specificity of 0.82 (Wild et al., 2014). The area under the curve was 0.88 (95% CI, 0.83-0.93).

In a cross-sectional study conducted by Simpson et al. (2014), the efficacy of three different screening tools for GAD were compared. The sample of this study were perinatal women. Out of the three instruments, the GAD-7 suggested to be the most accurate in identifying GAD in patients. This study reinforces the notion that the GAD-7 screening tool can assist providers in arriving at the most accurate diagnosis, as this instrument will aid the provider in differentiating clinically significant anxiety from normal increases in anxiety that is related to pregnancy.

Plummer and colleagues (2016) completed a systematic review to examine the accuracy of the GAD-7 and GAD-2 questionnaires for identifying anxiety disorders. A total of 5,223 participants from 12 samples were involved. A cutoff point of eight for the GAD-7 yielded the highest sensitivity and specificity balance. The GAD-7 demonstrated reliability in the identification of GAD. The study revealed that the GAD-7 represents a clinically useful scale for the detection of GAD.

Muñoz-Navarro et al. (2017) conducted a study to establish the validity of a computerized version of the GAD-7 questionnaire used to detect GAD in patients in Spanish primary care centers. A cut-off of 10 yielded the following statistics: a sensitivity of 0.87, specificity of 0.78, positive predictive value of 0.93, negative predictive value of 0.64, positive likelihood ratio of 3.96, negative likelihood ratio of 0.17, and Younden's Index of 0.65. These values indicate that the GAD-7 is a well-established measure with good reliability.

According to the Anxiety and Depression Association of America (ADAA, 2023), first-line non-pharmacological treatments for adults with GAD include cognitive behavioral therapy, cognitive therapy, and applied relaxation. Second-line non-pharmacological treatments include acceptance and commitment therapy and mindfulness, which are newer types of cognitive behavioral therapy. The ADAA recommends selective serotonin reuptake inhibitors and serotonin and norepinephrine reuptake inhibitors as first-line pharmacological treatments (ADAA, 2023). Benzodiazepines and buspirone are second-line medications which are prescribed for the treatment of GAD in adults. Hydroxyzine is an additional medication that has been approved by the United States Food and Drug Administration for GAD treatment. Agents that are to be used adjunctively include olanzapine, risperidone, quetiapine, and pregabalin (ADAA, 2023). These augmentation agents, however, have not been approved by the Food and Drug Administration.

Methods

The setting of this quality improvement project is unit C-West of a psychiatric inpatient facility. This unit is a general adult male unit that serves patients who are age 18 years and over. First, providers and staff members received education on the use and importance of the GAD-7 screening tool. Each learner was then asked to state his knowledge on the GAD-7 in his own

words. This teach-back method was employed to evaluate the understanding of the learner. The providers and staff were oriented on the entire project intervention plan. An attendance sign-in sheet was used to record attendance.

The GAD-7 was incorporated into the new admission paperwork. Every patient who was newly admitted to C-West received the GAD-7, a 7-item, self-administered anxiety screening tool. Patients who scored a 15 or higher were further assessed by the provider (i.e., psychiatrist, physician assistant, or psychiatric-mental health nurse practitioner). The provider then initiated an individualized treatment plan for each patient. A chart review was conducted to verify the screening of new admissions using the GAD-7, the number of patients who scored a 15 or higher, and the number of patients who were further evaluated and received treatment for anxiety. As far as ethics were concerned, following national practice guidelines, there were no risks associated with the implementation of this project other than those within routine practice. No patient identifying information was collected or recorded during the audit of patient charts.

Results

The project was carried out over a 12-week period. Table 1 displays the pre-intervention percentage, goal outcome, and actual outcome for each project intervention. Objective 1 called for 100% of staff members and providers to be educated on the proper use and importance of the GAD-7. As shown in Figure 1, this objective was met within the 1st week of the implementation period. An in-service was held in the facility's conference room. Any staff members who were not present during the in-service received one-on-one training during the week.

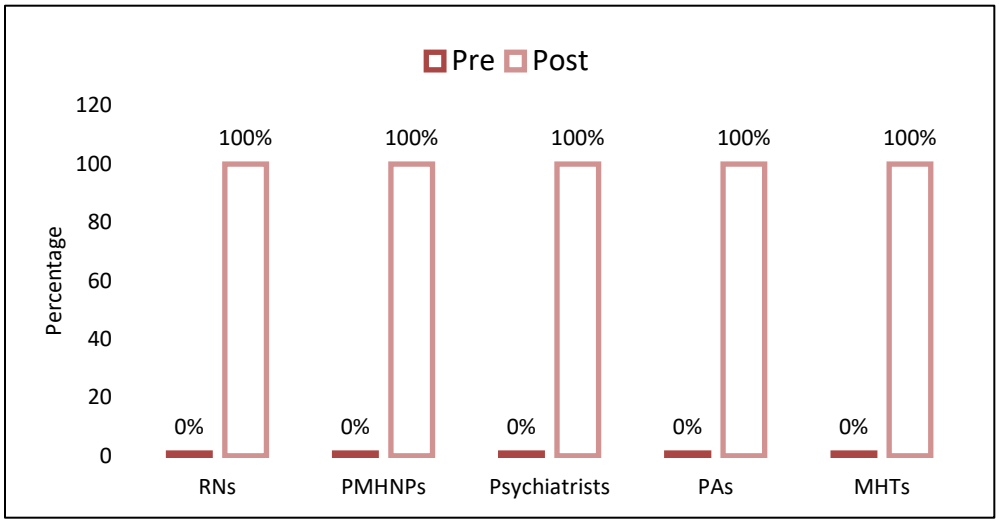
Table 1

Objectives/Outcomes

Intervention	Pre-Intervention	Goal Outcome	Outcome
Staff education	0%	100%	100%
GAD-7 screening	0%	100%	100%
GAD-7 scores ≥15	0%	100%	52.2%
Pharmacological treatment	95.7%	100%	100%

Figure 1

Education on the GAD-7 Questionnaire



Objective 2 called for 100% of new patients admitted to C-West to be screened using the GAD-7. Full implementation of screening for GAD with this quantifiable screening tool was achieved. The two main factors that contributed to this outcome are the ease of use and accessibility of the GAD-7. The assessment tool was already included in the admission packet, so the nurses did not need to search for it. Additionally, user-friendliness tends to increase patient compliance. Table 2 outlines the demographic data of the 23 patients who were screened for anxiety.

Table 2

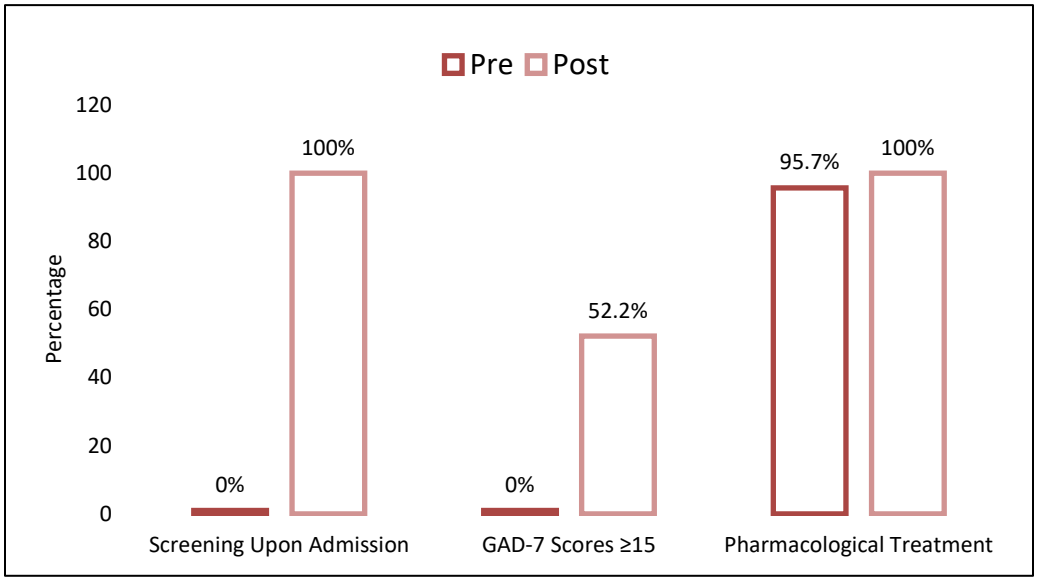
Demographics Table

Characteristics of Patients	Percentage (%)	Number (*n* = 23)
Gender		
Male	52.2%	12
Female	47.8%	11
Age		
20-29 years	26.1%	6
30-39 years	34.8%	8
40-49 years	17.4%	4
50-59 years	13.0%	3
60-69 years	8.7%	2
Race		
White	39.1%	9
Black/African-American	30.4%	7
Hispanic	17.4%	4
Other		
Asian	8.7%	2
Indian	4.3%	1
Marital Status		
Married	60.9%	14
Divorced	13.0%	3
Widowed	4.3%	1
Never Married	21.7%	5
Education		
Associate Degree	4.3%	1
Bachelor's Degree	26.1%	6
Graduate Degree	13.0%	3
High School	26.1%	6
Some College	30.4%	7
Employment Status		
Full Time	43.5%	10
Part Time	26.1%	6
Retired	8.7%	2
Disability	21.7%	5
Reason for Admission		
Anxiety	39.1%	9
Depression	43.5%	10
Aggression	4.3%	1
Detoxification	8.7%	2
Psychosis	4.3%	1

Objective 3 called for 100% of new patients with GAD-7 scores of 15 and above to be identified. This objective was met. Twelve (52.2%) out of the 23 patients admitted to C-West scored a 15 or greater. Objective 4 called for 100% of all new admissions with a GAD-7 score of 15 and higher to be further evaluated by a provider to determine the appropriateness of potential treatment option(s). This objective was achieved. Both pharmacological and nonpharmacological interventions were added to the treatment plans of all 12 patients, depending on score and information gathered upon assessment by the provider. Some pharmacological interventions initiated include prescribing oral hydroxyzine, buspirone, or clozapine for anxiety. Some nonpharmacological interventions initiated include cognitive behavioral therapy and guided imagery with relaxation. Figure 2 illustrates Objectives 2, 3, and 4 pre- and post-intervention.

Figure 2

Implementation of the GAD-7 Questionnaire



Discussion

A number of significant changes occurred which positively impacted this behavioral health facility over the course of this quality improvement project. Patients who participated in

this project most likely would not have been comprehensively assessed and treated for anxiety in the manner that they were because the project site did not previously employ an anxiety screening tool, quantify anxiety risk, and implement direct provider assessment of patients. Central strengths of this quality improvement project were the well-validated outcome measures and the thorough diagnostic assessment determined upon admission to a behavioral health facility. When patients scored 15 or higher on the GAD-7 upon admission, I did not encounter any issues with the providers' availability to evaluate and intervene. Johnson et al. (2019) conducted a study in which patients in treatment—both inpatient and outpatient patients—completed the GAD-7 pre- and post-treatment. This study demonstrated that the GAD-7 is a valid and reliable self-report measure that can be safely used by providers to evaluate anxiety symptoms in both inpatient and outpatient settings. This study also revealed that a score of 8 or higher may suggest the presence of an anxiety disorder, necessitating further evaluation by the provider.

Limitations

Some limitations of this quality improvement project require comment. One limitation includes low patient census. During the summer months, the facility's census tends to drop drastically. Therefore, the number of patients admitted to the unit where implementation took place was much lower than anticipated. However, there were many instances at the facility where there were many unoccupied beds one day, and on the following day, the facility was bombarded with an influx of new admissions. During shifts like this, nurses may receive new admissions consecutively.

During the implementation phase of this project, a rival hospital began offering RNs higher pay than the facility at which this project took place. Many RNs opted for pro re nata

status or completely parted ways with the facility, leaving the remaining nurses at the facility short-staffed. This subsequently increased the workload of the remaining RNs, especially on days with high admission rates. Although the nurses did administer and have all new admissions complete their GAD-7 screenings, the nurses expressed the turmoil they faced while doing so on top of their already-heavy workload.

Recommendations

The most fundamental way to ensure intervention continuation is to make sure the GAD-7 is easily accessible to staff. With low staffing levels being the current dilemma of the facility, nurses are now facing increased workloads. Ensuring that the instrument is readily available will be a tremendous help to the nurses, as they may not have the time to search for one on their own. Another way to ensure the continuation of the intervention is for the facility's nurse educator to conduct routine in-person in-services on the importance and proper usage of the GAD-7 for current staff. These educational sessions will increase skill and knowledge retention surrounding the use of the screening tool. The integration of education on the GAD-7 screening tool into new hire orientation sessions should also be considered. Lastly, I proposed that this provider treatment protocol be implemented not only on the general adult inpatient unit at HBHH, but on all other units as well.

Sustainability

One major sustainability facilitator of this project was the accessibility of the GAD-7. The instrument was incorporated into the admission packets, so it was always readily available to the nurses. Another core facilitator was the ease of use of the GAD-7. This assessment tool is a self-administered patient questionnaire that only takes approximately 1 to 2 min to complete. The education of staff members on the use and importance of the GAD-7 is also vital for project

sustainability. Additionally, the staff at the facility were warm, willing to participate, and very patient with the DNP student. The welcoming atmosphere created by the staff at HBHH positively impacted the trajectory of this project.

To foster the sustainability of this project, the provider could develop a policy in which patients are assessed for anxiety using the GAD-7 screening tool upon admission and prior to discharge. The policy would also incorporate score-based treatment interventions. Current clinical guidelines do not address screening recommendations for individuals at an increased risk for GAD. This is most likely due to the lack of high-quality evidence demonstrating the efficacy of screening or early intervention (DeMartini et al., 2019). However, GAD is only properly diagnosed one-third of the time, and around 60% of those diagnosed do not receive treatment (DeMartini et al., 2019). Better detection may be the first step in addressing underdiagnosis and undertreatment and improving care, as has been observed in the treatment of depression (DeMartini et al., 2019).

Implications for Practice

Despite the unimpressive sample size, I regard the findings of the present quality improvement project to be of high relevance from a clinical perspective. First, this project can be used to advocate for the routine use of an anxiety screening tool in hospital and primary care settings in order to align with best practices. Second, this project underscored the importance of using treatment guidelines to increase positive patient outcomes.

The doctorally-prepared nurse practitioner's role is very similar to that of the psychiatrist in this project. The nurse practitioner is able to diagnose and prescribe medications, just as the psychiatrist is. Advanced nursing practice involves the assessment of patients by the nurse practitioner before the recommended treatment is initiated based on clinical practice guidelines.

The implementation of a valid and reliable screening tool such as the GAD-7 will assist the advanced practice registered nurse in arriving at an accurate and timely explanation of the patient's symptoms.

This quality improvement project should be emulated and used as a point of reference in the care of patients at HBHH. Every patient admitted to any inpatient unit should be assessed for general anxiety symptoms using a valid and reliable instrument such as the GAD-7. The provider will then interpret the score and use the proposed treatment recommendations based on score to develop a comprehensive, individualized treatment plan for each patient. The implementation of this tool will help address the significant treatment gap which exists in psychiatric care today.

References

Alharthy, N., Alrajeh, O., Almutairi, M., & Alhajri, A. (2017). Assessment of anxiety level of emergency health-care workers by Generalized Anxiety Disorder-7 tool. *International Journal of Applied and Basic Medical Research, 7*(3), 150-154.

Anxiety and Depression Association of America. (2023). *Clinical practice review for GAD.* https://adaa.org/resources-professionals/practice-guidelines-gad

DeMartini, J., Patel, G., & Fancher, T. (2019). Generalized anxiety disorder. *Annals of Internal Medicine, 170*(7), ITC49-ITC64.

Herr, N., Williams, J., Benjamin, S., & McDuffie, J. (2014). Does this patient have generalized anxiety or panic disorder?: The rational clinical examination systematic review. *JAMA: The Journal of the American Medical Association, 312*(1), 78-84.

Houston Behavioral Healthcare Hospital. (n.d.). *Our mission and vision statements to bring mental health services to Houston area residents.* https://www.houstonbehavioralhealth.com/about/houston-mission

Johnson, S., Ulvenes, P., Øktedalen, T., & Hoffart, A. (2019). Psychometric properties of the General Anxiety Disorder 7-item (GAD-7) scale in a heterogeneous psychiatric sample. *Frontiers in Psychology, 10*, 1713.

Liu, H., Tian, Y., Liu, Y., Nigatu, Y., & Wang, J. (2019). Relationship between major depressive disorder, generalized anxiety disorder and coronary artery disease in the US general population. *Journal of Psychosomatic Research, 119*, 8-13.

Muñoz-Navarro, R., Cano-Vindel, A., Moriana, J., Adrián Medrano, L., Ruíz-Rodríguez, P., Agüero, L., Rodríguez-Enríquez, M., Pizà, M., & Ramírez-Manent, I. (2017). Screening

for generalized anxiety disorder in Spanish primary care centers with the GAD-7. *Psychiatry Research, 256*, 312-317. https://doi.org/10.1016/j.psychres.2017.06.023

Patriquin, M., & Mathew, S. (2017). The neurobiological mechanisms of generalized anxiety disorder and chronic stress. *Chronic Stress, 1*, 1-10. https://doi.org/10.1177/2470547017703993

Plummer, F., Manea, L., Trepel, D., & McMillan, D. (2016). Screening for anxiety disorders with the GAD-7 and GAD-2: A systematic review and diagnostic metaanalysis. *General Hospital Psychiatry, 39*, 24-31.

Rafsten, L., Danielsson, A., & Sunnerhagen, K. (2018). Anxiety after stroke: A systematic review and meta-analysis. *Journal of Rehabilitation Medicine, 50*(9), 769-778.

Simpson, W., Glazer, M., Michalski, N., Steiner, M., & Frey, B. (2014). Comparative efficacy of the Generalized Anxiety Disorder 7-item scale and the Edinburgh Postnatal Depression Scale as screening tools for generalized anxiety disorder in pregnancy and the postpartum period. *Canadian Journal of Psychiatry, 59*(8), 434-440.

Szuhany, K., & Simon, N. (2022). Anxiety disorders: A review. *JAMA: The Journal of the American Medical Association, 328*(24), 2431-2445.

Tarbell, S. (2020). Editorial: Anxiety in pediatric chronic illness: The elephant in the exam room. *Journal of the American Academy of Child and Adolescent Psychiatry, 59*(5), 586-587.

Terrill, A., Hartoonian, N., Beier, M., Salem, R., & Alschuler, K. (2015). The 7-item generalized anxiety disorder scale as a tool for measuring generalized anxiety in multiple sclerosis. *International Journal of MS Care, 17*(2), 49-56.

Wild, B., Eckl, A., Herzog, W., Niehoff, D., M.D, Lechner, S., Maatouk, I., Schellberg, D., Brenner, H., Müller, H., & Löwe, B. (2014). Assessing generalized anxiety disorder in

elderly people using the GAD-7 and GAD-2 scales: Results of a validation study. *The American Journal of Geriatric Psychiatry, 22*(10), 1029-1038.

World Health Organization. (2017). *Depression and other common mental disorders: Global health estimates*. https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf

Appendix A

Generalized Anxiety Disorder-7 Questionnaire

Generalized Anxiety Disorder 7-item (GAD-7) scale				
Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over 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's 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
Add the score for each column	+	+	+	
Total Score *(add your column scores)* =				

Appendix B

Human Subjects Research Determination

April 13, 2023

PI: Ms. Irene Akwitti
Protocol title: Anxiety Screening at a Psychiatric Inpatient Facility: A Quality Improvement Project
Project link: https://uiw.forms.ethicalreviewmanager.com/Project/Index/5808

Hello,

Your project described above has been reviewed and found to not meet the federal regulatory requirements for human subjects research based on the following criteria:

- The intervention with patients is solely for the purpose of improving patient care,
- The implemented tool is a known and accepted practice,
- The data collected is for assessing the quality of care only, and
- Any dissemination of quality improvement results is not intended to contribute to generalizable knowledge.

Your project is determined to be Quality Improvement and, as such, may not be referred to as "research." Should the results of the quality improvement project be disseminated in publication or presentation, include the following statement, "This project was undertaken as a Quality Improvement project and as such does not constitute human subjects research."

Keep this document with your project records as your **"Not Regulated Research Determination"** letter. Please use IRB number 2023-1372-NRR when inquiring about or referencing this determination. Should you determine at any point you wish to add additional elements to the project, please contact us before initiating those components as they may impact this determination.

Please contact us with any questions or for information regarding the IRB or the review process.

Sincerely,

Office of Research and Graduate Studies
Research Compliance
University of the Incarnate Word
(210) 805-3555
irb@uiwtx.edu

IRB #: 00005059 / FWA #: 00009201

Appendix C

Proposed Generalized Anxiety Disorder-7 Treatment Recommendations

Score	Severity	Recommendations
0–4	None to minimal	No follow-up is warranted at this time.
5–7	Mild	It is recommended to monitor symptoms and follow-up as indicated.
8–9	Mild	This individual is likely to be diagnosed with an anxiety or related disorder. Repeat administration of the GAD-7 every 4 weeks to monitor symptoms. Follow up to determine if current symptoms warrant a referral to a mental health professional.
10–14	Moderate	This individual is likely to be diagnosed with an anxiety or related disorder. Their symptoms are clinically significant and warrant further assessment (including diagnostic interview and mental status examination) and/or referral to a mental health professional is recommended.
15–21	Severe	This individual's symptoms of anxiety likely warrant active treatment. This individual is likely to be diagnosed with an anxiety or related disorder. Further assessment (including diagnostic interview and mental status examination) and/or referral to a mental health professional is recommended.

Appendix D

Pharmacological and Nonpharmacological Treatment Recommendations for Generalized Anxiety Disorder

GAD Treatment Recommendations

	ADAA (2015)	NICE (2019)	Canadian (2014)	WFSBP (2012)
Psychotherapy First-line	CBT CT Applied relaxation	Facilitated self-help Individual self-help Psychoeducational groups CBT Applied relaxation	CBT	CBT
Pharmacotherapy First-line	SSRIs • Paroxetine • Escitalopram • Sertraline • Fluoxetine SNRIs • Venlafaxine XR • Duloxetine	SSRIs • Sertraline • Any other SSRI SNRIs Pregabalin	SSRIs • Paroxetine (CR) • Escitalopram • Sertraline SNRIs • Venlafaxine XR • Duloxetine Pregabalin Agomelatine	SSRIs • Escitalopram • Paroxetine • Sertraline SNRIs • Venlafaxine • Duloxetine Pregabalin
Pharmacotherapy Second-line	BZDs • Diazepam • Alprazolam • Lorazepam • Clonazepam TCAs • Imipramine Buspirone Hydroxyzine	BZDs	BZDs • Alprazolam • Bromazepam • Diazepam • Lorazepam TCAs • Imipramine Atypical antipsychotics • Quetiapine XR Hydroxyzine Buspirone Bupropion XL Vortioxetine	BZDs • Diazepam • Lorazepam TCAs Hydroxyzine Atypical antipsychotics • Quetiapine

ADAA: Anxiety and Depression Association of America; BZDs: benzodiazepines; CBT: cognitive behavioral therapy; CT: cognitive therapy; GAD: generalized anxiety disorder. NICE: National Institute for Health and Care Excellence; SNRIs: selective norepinephrine reuptake inhibitors; SSRIs: selective serotonin reuptake inhibitors; TCAs: tricyclic antidepressants; WFSBP: World Federation of Biological Psychiatry.
Source: References 2, 7-9.