Behavioral Health Integration in Primary Care: A Quality Improvement Project

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DNP Project Signature Sheet

Nurse Preceptor Support

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Dedication

This project is dedicated to every health care provider, whose unwavering dedication and empathy illuminate the path towards holistic healing. May their steadfast commitment to nurturing the well-being of individuals grappling with mental health concerns serve as an encouragement of hope and resilience.

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Table of Contents

Abstract

This quality improvement project aimed to identify and treat patients at risk for depression and anxiety, facilitating earlier entry into treatment through increased screenings during routine primary care visits. Utilizing screening tools such as PHQ-9, GAD-7, and C-SSRS ensured comprehensive mental health assessments. Implementation of the Collaborative Care Model at Priority Family Medical Clinic improved patient outcomes, satisfaction, and reduced healthcare costs, addressing disparities in access to behavioral health services. The project enhanced identification and management of depression and anxiety, leading to increased referrals to CoCM, psychiatric services, and medication initiation, highlighting the effectiveness of integrating mental health screenings for early intervention. Sustainable integration of behavioral health in primary care transformed practice, improving outcomes, satisfaction, and resource utilization.

Keywords: adults, mental health, primary care, depression, anxiety.

Behavioral Health Integration in Primary Care: A Quality Improvement Project

The demand for mental health treatment in the United States increased significantly over the past three years. In 2019, 19.2% of adults had received mental health management, with 15.8% receiving treatment and 9.5% receiving treatment from a mental health professional (Vahratian et al., 2021). Despite high rates of positive depression screenings in primary care, under-recognition of mental health disorders persisted (Vahratian et al., 2021). In 2019, 50 million Americans suffered from mental illness, with 22.3% not receiving needed treatment (Mental Health America, n.d.). The outbreak of COVID-19 exacerbated psychological distress, with depression symptoms increasing threefold compared to pre-pandemic levels (Ettman et al., 2020).

Behavioral health factors exerted a significant influence on morbidity and mortality, constituting a significant aspect of primary care visits with patients. However, many patients faced challenges in accessing mental health care due to insufficient screenings, insurance coverage, or accessibility barriers (Schrager, 2021). The adoption of integrated behavioral health approaches, tailored to the unique needs of patients and primary care teams, was identified as the most effective strategy for addressing overall population health (Schrager, 2021).

This quality improvement (QI) project aimed to increase mental health screenings in a primary outpatient clinic to identify patients at risk for depression and anxiety, facilitating earlier treatment entry through the adoption of behavioral health integration (BHI) such as the Collaborative Care Model (CoCM).

Background & Needs Assessment

Depression ranked among the leading causes of disability in individuals aged 15 and older, affecting various aspects of life and posing a common concern in primary care settings

(Gilbody et al., 2007). Kocalevent et al. (2013) reported moderate to severe depressive symptoms in 5.6% of the general population. During the pandemic, the incidence of depression symptoms in the United States surged, with a more than threefold increase compared to pre-COVID-19 levels (Valhratian et al., 2021). The pandemic exacerbated mental health symptoms, particularly depression and anxiety, especially among young adults, coinciding with rising COVID cases (Valhratian et al., 2021; Ettman et al., 2020). Individuals facing limited community and financial resources, along with heightened stressors such as job loss, heightened reported depression symptoms (Ettman et al., 2020).

Generalized Anxiety Disorder (GAD) emerged as one of the most prevalent anxiety disorders in general medical practice and the general population (Lowe et al., 2008). In a primary care-based anxiety study, 19.5% of adults received a diagnosis of at least one of the four most common anxiety disorders, including generalized anxiety, panic disorder, social anxiety, and posttraumatic stress disorder (Lowe et al., 2008). Despite the notable association of these disorders with comorbid depression, only a minority of patients with anxiety received recognition in primary care, with 41% reporting no current treatment (Lowe et al., 2008).

The U.S. Preventive Services Task Force (USPSTF) guidelines recommended the implementation of mental health screening tools with appropriate systems to ensure accurate diagnosis, effective treatment, and proper follow-up (USPSTF, 2016). Organized screenings was advocated to enhance identification, treatment, and outcomes of depression and to expedite the follow-up of patients' symptom improvement (USPSTF, 2016). Utilizing these screening tools improved the accuracy and identification of adult patients with depression and anxiety in primary care settings (USPSTF, 2022). Mental health screenings played a role in enhancing quality care.

Providers were encouraged to find creative ways to promote health and well-being and to equip patients with tools to manage their worries and stressors at home (National Alliance on Mental Health, 2022). Community awareness was deemed essential for patients to maintain their mental health, emphasizing the importance of connections, support, and acceptance within communities (National Alliance on Mental Health, 2022). Ensuring equal access to mental health services and integrating mental health and well-being into healthcare was seen as pivotal in raising community awareness about mental health (National Council for Well Being, n.d.).

The Patient Health Questionnaire 9 (PHQ-9) and Generalized Anxiety Disorder 7 (GAD-7) were recognized as effective and valid screening tools, commonly utilized in various settings, including primary care clinics (Gilbody et al., 2007). The Colombia Suicide Severity Rating Scale (C-SSRS) was recommended as a valid screening tool for patients with positive scores for suicidal ideation on the PHQ-9, assessing the severity of suicide risk (USPSTF, 2016). Utilizing these screening tools represented the initial step in identifying depression and anxiety, ensuring early recognition for patients with unrecognized conditions (Gilbody et al., 2007). Close follow-up with patients who screened positive allowed primary health care providers to initiate treatment earlier, potentially decreasing clinical morbidity. Additionally, adopting integrated behavioral health approaches and collaborating with psychiatric nurse practitioners offered additional support to patients, contributing to their overall health and well-being (USPSTF, 2016).

For this project, the PHQ-9 and GAD-7 were selected for their sound psychometric properties, high validity, reliability, and clinical usefulness in screening for depression and anxiety in adults (Gilbody et al., 2007). The C-SSRS was widely acknowledged as a gold

standard, innovative suicide risk screening tool (Peter et al., 2018). Refer to Appendix A for the list of mental health screening tools utilized in this QI project.

The diagnostic validity of the PHQ-9 was established through studies conducted in eight primary care clinics and seven obstetrical clinics. PHQ scores of 10 or greater demonstrated a sensitivity of 88% and a specificity of 88% for major depression in adult patients, indicating sound psychometric properties (Kroenke et al., 2001). The GAD-7 underwent validation in 15 primary care clinics, with a cutoff score of 10 showing a sensitivity of 89% and a specificity of 82% for identifying generalized anxiety in adults, confirming its validity and efficiency in screening for anxiety (Spitzer et al., 2006). The C-SSRS's diagnostic validity was established through a study involving 100 adult patients in a psychiatric outpatient care setting, demonstrating a sensitivity and specificity of 95%, along with sound psychometric properties (Viguera et al., 2015).

Behavioral Health Integration/Collaborative Care Management

Since January 2017, the Centers for Medicare and Medicaid Services (CMS) have authorized reimbursement for medical services provided to patients with behavioral health disorders participating in psychiatric collaborative care programs or receiving behavioral health integration services. These services, collectively referred to as "Behavioral Health Integration" (BHI) services, comprised three specific codes describing psychiatric collaborative care management services (CoCM) and general BHI service (American Psychiatric Association [APA], n.d.).

The scope of coverage for these services encompassed individuals with behavioral health or substance use disorders who were beneficiaries of either a traditional Medicare plan or a Medicare Advantage plan. Additionally, these services were applicable within the settings of

Federally Qualified Health Centers and Rural Health Clinics. To promote broader adoption and implementation, the APA strongly advocated for all private payers to adopt and integrate these specified codes into their coverage framework (APA, n.d.).

Psychiatric CoCM was provided by a primary care team comprising a primary care provider and a care manager who collaborated with a psychiatric consultant, such as a psychiatrist or psychiatric mental health nurse practitioner. Care was directed by the primary care team and involved structured care management with regular assessments of clinical status using validated tools, and treatment modification, as necessary. The psychiatric mental health provider delivered regular consultations to the primary care provider to review patient clinical status and care, making recommendations as required (APA, n.d.).

The behavioral health integration model (CoCMs) proved highly beneficial for integrating behavioral health services into primary care settings for several compelling reasons. This model involved a team-based approach, with primary care providers, behavioral health specialists, and care managers collaborating to deliver comprehensive and coordinated care to patients (Archer et al., 2012). CoCMs addressed the prevalent issue of under-recognition and under-treatment of behavioral health conditions in primary care by ensuring systematic screening and assessment of patients for mental health concerns. Additionally, it enhanced the capacity of primary care providers to identify and manage a wide range of behavioral health conditions, including depression and anxiety (Katon et al., 2010).

This model also improved access to evidence-based treatments by integrating mental health services directly into primary care and allowed for close monitoring of patient progress, adjustment of treatment plans, and ongoing support through care management (Katon et al., 2010). The CoCMs also demonstrated effectiveness in improving patient outcomes, including

reductions in symptoms, improved functioning, and increased patient satisfaction (Archer et al., 2012). Studies reported that this model led to better remission rates and higher treatment response rates compared to usual care (Archer et al., 2012). It also demonstrated cost-effectiveness by reducing healthcare utilization, emergency department visits, and hospitalizations, thereby lowering overall healthcare costs (Katon et al., 2010). Overall, this approach proved valuable in healthcare and bridged the gap between behavioral health and primary care, resulting in improved patient outcomes, enhanced access to care, and efficient resource utilization (Katon et al., 2010).

The behavioral health integration model progressed through three stages to achieve full integration. The first stage involved *coordinating* behavioral health integration in the primary care setting. Primary care providers and behavioral health providers worked within physically separate facilities and had separate health record systems. Communication rarely occurred about cases, and if it did occur, it was usually based on a specific need for particular information about a mutual patient (Huggard, 2020). The second level of integration was *co-located*. This stage was where behavioral providers and PCPs delivered care in the same physical location or practice. Patient care was still often separated from mental health and primary care and there may have been occasional meetings between providers to discuss mutual patients (Huggard, 2020). The final stage was *fully integrated* behavioral health. This was when mental health providers and primary care providers functioned as a team and worked together in the same physical space to design and implement a patient care plan. Providers understood the distinct roles each staff member played and structured the delivery of care to better achieve patient goals. Providers and patients viewed clinical operations as a single system treating the entire person (Huggard, 2020).

Literature Search

Keywords for the clinical question included adults, mental health, primary care, depression, and anxiety. Some of the combination key words that were also utilized were "mental health adult," "mental health in primary care," and "depression primary care." The primary databases used for this search were Google Scholar, PubMed, and Cumulative Index to Nursing and Allied Health Literature (CINAHL) Index/Elton B. Stephens Company Industries (EBSCO) Host. These databases were chosen for the fact that they had nursing, allied health, and mental health literature available including full text articles and publications.

The inclusion criteria that were used included full text articles, articles published within the past 5 years, adults over the age of 18, and adults living in the United States. The initial hits for Google Scholar using the words depression mental health and primary care adults resulted in 23,500 results. The initial hits for PubMed using the words primary care mental health adults resulted in 4,657 studies, whereas using the words depression and mental health adults primary care resulted in 2,807 studies. The initial hits for CINAHL/EBSCO Host using the words depression anxiety and primary care and adults resulted in 1,900 studies. When adding the inclusion criteria of full text, within the past 5 years, adults over the age of 18, and United States, the results yielded 187 studies. After further investigation, an additional 168 articles were excluded due not meeting the purpose of the project or were based outside of the United States. A total of 19 articles were used for the literature synthesis. For further information see the PRISMA graph in Appendix B.

Literature Synthesis

Depression and anxiety in primary care settings were not always detected during routine visits with primary care providers. The purpose of this literature search was to identify research studies that supported the use of mental health screenings in the primary care setting. For further

information see Appendix C for the evidence evaluation table and Appendix D for the synthesis matrix.

Several underlying themes emerged from the 19 studies used in the literature synthesis. One common theme that was discovered was validation of screening tools using the PHQ-9, GAD-7, and C-SSRS in the primary care setting for the screening of depression and anxiety symptoms in the adult population (Siniscalchi et al., 2020). Another theme of the findings was that pharmacotherapy and psychotherapy were found to be effective in treating symptoms of depression and anxiety in primary care settings (Olfson et al., 2016). A final theme that was discovered was the importance of assessing mental health conditions (Blackstone et al., 2022).

Validation of Screening Tools

The first underlying theme found in this literature synthesis was the validation of the PHQ-9, GAD-7, and C-SSPS in the general adult population in the primary care setting. Mental health disorders, including depression and anxiety, were classified in research using validated diagnostic interviews. Efforts to improve depression and anxiety identification and treatment in primary care included increased use of screening tools. The PHQ-9 and GAD-7 were the most used screening tools for depression and anxiety in adults and had demonstrated clinical utility and diagnostic accuracy, as evidenced by sensitivity and specificity scores (Siniscalchi et al., 2020). The C-SSRS was considered the gold standard for screening for suicide risk in the general population (Peter et al., 2018).

The PHQ-9 was a valid instrument tool used to screen for depressive disorders. The diagnostic validity of the PHQ-9 was established in studies involving eight primary care clinics. A diagnostic meta-analysis of 5,026 participants (with 770 confirmed cases of major depressive disorder) validated this tool against major depressive disorder with a sensitivity of 0.80 (95% CI

0.71-0.87); specificity of 0.92 (95% CI 0.88-0.95); positive likelihood ratio of 10.12 (95% CI 6.52.-15.67); and a negative likelihood ratio of 0.22 (0.15 to 0.32). Studies were performed on adults in primary care, cardiology, and general medical outpatients (Gilbody et al., 2007).

PHQ-9 scores of 10 or greater had a sensitivity of 88% and a specificity of 88% for major depressive disorder (APA, 2020). The reliability and validity of the tool indicated that it had sound psychometric properties. Internal consistency was shown to be high in the general adult population (Gilbody et al., 2007). The PHQ-9 had been used in numerous primary care settings as well as with older individuals. This was a free, easy-to-use tool and was available in English and 30 other languages (APA, 2020). The purpose of the PHQ-9 was not to establish a final diagnosis or monitor severity but rather to screen for depression. Patients who screened positive should have been further evaluated to determine whether they met the criteria for a depressive disorder. These findings should have warranted a consultation with the psychiatric mental health provider to make the final diagnosis for the patient (APA, 2020).

The diagnostic validity of the GAD-7 was established in studies involving 15 primary care clinics. A 7-item anxiety scale (GAD-7) had good reliability, as well as criterion, construct, factorial, and procedural validity (Spitzer et al., 2006). The sensitivity of the GAD-7 was at 89% and the specificity was at 82%. This tool was also helpful in screening three other common anxiety disorders—generalized anxiety disorder (sensitivity 74% and specificity 81%), social anxiety disorder (sensitivity 72% and specificity 80%), and post-traumatic stress disorder (sensitivity 66% and specificity 81%). Increasing scores on the scale were strongly associated with multiple domains of functional impairment. Although anxiety and depression were frequently co-morbid, factor analysis confirmed them as distinct dimensions (Spitzer et al., 2006). The GAD-7 was a valid and efficient tool for screening for generalized anxiety disorders

and assessing its severity in clinical practice and research (Spitzer et al., 2006). The positive predictive value of this tool range was considered high. Internal consistency had also been shown to be high in the general population (Spitzer et al., 2006). This tool was free to the public and easy to use in primary care clinics.

The diagnostic validity of the C-SSRS was established in a study involving 3,776 patients who completed a baseline and 1 or more follow-up assessments (with a mean follow-up period of 64 days). The sensitivity and specificity of positive reports for identifying suicidal behaviors were 67% and 76%, respectively (Mundt et al., 2013). Patients who reported lifetime suicidal ideation with intent to act and/or prior suicidal behavior at baseline were 4 to 9 times more likely to prospectively report suicidal behavior during study participation (Mundt et al., 2013). The C-SSRS was a free, easy-to-use screening tool to assess suicidal ideation and behavior in the clinical setting.

The C-SSRS demonstrated good convergent and divergent validity with other multi-informant suicidal ideation and behavior scales and had a high sensitivity and specificity for suicidal behavior classifications compared with other behavioral scales (Posner et al., 2011). The C-SSRS demonstrated moderate to strong internal consistency, and the findings suggested that this was a suitable tool for assessing suicidal ideation and behavior in clinical and research settings (Posner et al., 2011).

Primary care practices needed tools that were reasonable, dependable, short, easy to administer, free, and easily available to the general population (Mulvaney-Day et al., 2018). Determining the types of screening for the healthcare setting might have required information about the behavioral health needs of the patient population that the practice provided. Tool

selection also required information about the validity and reliability of these screening tools (Mulvaney-Day et al., 2018).

The PHQ-9 and GAD-7 were potentially valuable tools for the diagnosis and management of depression and anxiety because these tools could generate a positive screening of major depression and generalized anxiety as well as be used to continually monitor treatment (Arroll et al., 2010). They had also been found to be acceptable and dependable as more extended provider-administered instruments in a variety of settings, countries, and populations (Gilbody et al., 2007). The C-SSRS was another potentially valid tool for screening for the severity of suicide ideation and was found to be effective in primary care settings (Peter et al., 2018).

Depression was one of the most troubling health conditions at both the individual and population levels and was the most common mood disorder with lifetime incidence rates ranging from 7% to 21% (Vilagut et al., 2016). Depression was also associated with severe functional impairment, decreased value of life expectancy, increased responsibilities to patients and caregivers, and a greater risk of death (Vilagut et al., 2016). Primary care providers accurately identified depression in only about 50% of cases during routine, unassisted depression testing, and a small proportion of these cases received adequate treatment (Vilagut et al., 2016).

Depression screening was also important in primary care settings to monitor disease incidence and target interventions at the individual or group level (Vilagut et al., 2016). Screening alone did not improve health outcomes; education, training, and clinical processes that promoted early and effective treatment, as well as resources for required diagnostic follow-up as indicated by the USPSTF, were also needed (Mulvaney-Day et al., 2018).

Psychological Treatment in Primary Care Settings

The second theme found in the literature synthesis was the use of psychological treatments in the treatment of depression and/or anxiety in the primary care setting. Primary care providers were essential for identifying and managing symptoms of depression and anxiety. They were the patient's first point of contact and could assess and diagnose the patient if needed. Screening for depression and anxiety in primary care settings was a positive step toward improving detection, treatment, and outcomes for depression and anxiety (Waitzfelder et al., 2018). If the patient scored positive for depression and/or anxiety on their screening tools, the primary provider would collect additional information and perform a thorough history and physical to confirm the diagnosis. They would then be able to prescribe medication, refer to psychotherapy, or do both (Sirey et al., 2017).

Depression varied in severity in many patients, so proper treatment was critical. A range of interventions could be provided, from monitoring, psychotherapy or counseling, exercise and yoga to medication and combined interventions (Olfson et al., 2016). Treatment depended on the severity and frequency of symptoms and varied depending on the individual (National Institute of Mental Health, n.d.). Randomized control trials suggested that antidepressants were not recommended for people with mild or less severe depression, but there was compelling evidence to support their use in people with major depressive disorder (Hidalgo & Sotos, 2021). A mixture of psychotherapy and antidepressants was beneficial for patients with persistent depression and more severe symptoms (Olfson et al., 2016).

Psychotherapy, such as cognitive behavioral therapy, was more effective than medication and was the first choice for most patients. Cognitive behavioral therapy could also be flexibly applied to different age groups. Combined therapy, however, was more effective than either psychotherapy or pharmacotherapy alone (Cujipers et al., 2019). Medication was effective when

primary care providers prescribed them, but psychotherapy had been found to be highly effective when patients were referred for such treatment (Cujipers et al., 2019).

Importance of Assessing for Mental Health Conditions

The final theme found in the literature synthesis was the importance of assessing for mental health conditions. Distinguishing between mild and moderate depression and anxiety in the primary care setting required a comprehensive assessment of symptoms, functioning, and overall clinical presentation. Although specific diagnostic criteria might have varied slightly, several factors could have helped differentiate these various levels of depression and/or anxiety. Severity of symptoms, impact of functioning, duration, and persistence of symptoms were all important distinguishing factors (APA, n.d.).

Mild depression and anxiety were characterized by the presence of several of the symptoms listed in the PHQ-9 and GAD-7 that caused mild functional impairment but did not significantly disrupt daily functioning. On the other hand, moderate and severe forms involved more pronounced symptoms that caused notable impairment in social, occupational, or other areas of functioning (APA, n.d.). The duration and persistence of symptoms were crucial in the differentiation process. Mild symptoms typically persisted for at least two weeks, with symptoms presenting most days. In contrast, moderate and severe symptoms were characterized by more persistent and longer-lasting symptoms, often exceeding two weeks (APA, n.d.).

The presence of suicidal ideation was also an important consideration to consider when dealing with patients in the primary care setting. While suicidal ideations could occur with both mild and moderate forms of depression, they tended to be more prevalent and severe in moderate depression, suggesting a higher level of depression severity (Mitchell et al., 2009). Validated assessment tools, such as the PHQ-9, GAD-7, and C-SSRS, could also assist in assessing

depression, anxiety, and suicidal ideation severity in the primary care setting (Kroenke et al., 2001).

Assessing depression and anxiety symptoms in the primary care setting was essential for early intervention and improving patient outcomes. Primary care providers played a key role in assessing depression and anxiety in the primary care setting. An accurate diagnosis was important as depression and anxiety often co-occurred and could be comorbid with physical health conditions. Failing to identify and treat these conditions could lead to adverse health outcomes and increased healthcare costs (Baumeister et al., 2016). Primary care providers were also in a unique position to assess suicide risk associated with depression and anxiety, enabling early intervention and appropriate referrals to prevent self-harm or suicide (Luoma et al., 2002). Timely identification of these mental health conditions provided an opportunity for early intervention and treatment, which significantly improved patient outcomes and prevented the development of chronic and more severe mental health conditions (Gilbody et al., 2007).

Impact of Mental Health Issues

The United States needed to be prepared more than ever for an increase in cases of people with severe mental health needs. Community awareness actions that focused on maintaining mental health were needed in the United States, so it was crucial that healthcare professionals worked diligently to apply evidence-based approaches to care for the psychological health needs of all Americans so that these approaches were accessible, especially in primary care settings (Blackstone et al., 2022).

Some community awareness actions that could help with the mental health needs of people in the United States included self-management support. This was supported by the primary care provider and could help patients support their self-management in an evidence-

based, structured way. Self-management assistance could be viewed as a collection of methods and tools to help patients choose healthy behaviors and transform the patient-provider relationship into a collective partnership (Dineen-Griffin et al., 2019). This could also be accomplished by maximizing a person's abilities and skills in managing their health condition through routine assessment of progress and difficulties, goal setting, and problem-solving assistance (Kocalevent et al., 2013). Patient-provider relationships could collaborate to improve substantive and practical healthcare solutions, while providers could help develop the skills needed to achieve these goals and monitor improvements in patient health (Dineen-Griffin et al., 2019).

A common skill set that had been proven to be effective for successful self-management care by the patient included problem-solving, decision-making, resource utilization, forming an effective patient-provider relationship, and taking action to improve self-management care. Learning these skills could improve self-effectiveness, which was necessary to obtain one's preferred goals (Dineen-Griffin et al., 2019). Research also reported that encouraging people to self-manage their health could improve clinical outcomes and reduce the fiscal impact of chronic diseases. Encouraging people to self-manage had resulted in reduced use of healthcare providers, fewer hospital admissions, and significant improvements in health status and symptom control (World Health Organization, n.d.). Efficient self-management implementation was extremely crucial to ensure sustainability and improve health outcomes while also reducing pressure on the healthcare system (Dineen-Griffin et al., 2019).

Clinical Problem

Depression and anxiety disorders are some of the most common mental disorders in the United States. The prevalence of at least one major depressive episode among United States

adults aged 18 years or older had been 17.3 million, representing 7.1% of all United States adults. Depression and anxiety could be debilitating, costing an estimated $210 billion in healthcare and wasted production annually (Siniscalchi et al., 2020). Untreated depression may cause emotional distress, decrease a person's productivity level, lead to missed earnings, impair relationships, and increase the risk of comorbidities. Because physical and mental health are intricately linked, there was evidence that depression coexisted with many chronic diseases (Siniscalchi et al., 2020).

Primary care providers are in a unique position for early identification and surveillance of depression and anxiety disorders. Healthcare providers might not have monitored primary care patients for depression and anxiety because they might not have felt comfortable treating them for mental illness or did not have access to refer them elsewhere if needed. Approximately 60% of mental health care services took place in primary care settings, and 79% of prescriptions for selective serotonin reuptake inhibitors (SSRIs) were written by primary health care providers (Park & Zarate, 2019). One study concluded that out of those patients who had attempted suicide, 38% of these individuals visited their provider the week before the attempt, and 64% visited their provider within 4 weeks of the attempt (Park & Zarate, 2019).

Primary care was often the entry point for behavioral care; however, for many healthcare professionals, stigma remained a major barrier to identifying and providing treatment for mental illness. Within primary care settings, depression went undetected in more than 50% of patients (Huggard, 2020). In many primary care practices, there were questions about depression and anxiety embedded in the electronic health records (EHR). However, there continued to be a lack of follow-through of positive PHQ-9 and/or GAD-7 screenings by the primary care provider (Huggard, 2020). The challenges experienced by primary care providers due to the increasing

number of patients presenting with behavioral health concerns have led to provider exhaustion, which could have inhibited the overall clinic flow as providers spent significantly more time with patients than originally scheduled (Huggard, 2020).

It was reported that 66% of primary care providers could not connect patients with outpatient behavioral health providers due to a shortage of behavioral health providers and health insurance barriers (Huggard, 2020). The recommendation was to integrate CoCMs into primary care settings to enhance access to behavioral health services, support primary care providers in addressing patients' behavioral health needs, and alleviate negative effects on physical health. This integration aimed to improve patient clinical outcomes and enhance overall satisfaction with care through a unified and integrated approach (Huggard, 2020).

Local Problem

There existed a gap in care at Priority Family Medical Clinic (PFMC) in Prescott, Arizona. The standard protocol for new patients seeking care involved screening them with the PHQ-9 and GAD-7 tools before their initial provider visit. If patients screened positive for suicidal ideations, providers engaged in discussions to assess their condition and ensure they lacked concrete plans or intentions to act on their thoughts. Some patients establishing at the clinic may have previously tested positive for depression and/or anxiety and received treatment elsewhere. Those not receiving treatment for these conditions were at an elevated risk of untreated and unrecognized mental illness.

To address these concerns, the providers in the primary care clinic initiated a QI project where adult patients over the age of 18 were screened at entry to the clinic, with subsequent screening at each encounter using the PHQ-9 and GAD-7 screening tools. If a patient scored positive on their PHQ-9 for suicidal ideations, the provider would then screen the patient with

the C-SSRS tool to determine the severity of their risk for suicide. The C-SSRS tool was also used in subsequent encounters for patients who screened positive for suicide as well.

This project aimed to implement a policy change by ensuring that every adult visiting the local primary care clinic underwent screening for mental health issues during each appointment. Additionally, the initiative sought to document these screenings in the electronic health records (EHR) to facilitate the tracking of follow-up actions for any identified concerns. With the implementation of this QI project, the office staff had all patients over the age of 18 complete the mental health screenings PHQ-9 and GAD-7 in the office prior to being seen by the provider at every appointment. It also helped determine if the patient needed additional resources for their mental health needs, and if so, the providers initiated appropriate follow-up and provided the necessary tools to address their issues. These resources may have included educational handouts, videos, online resources, psychiatry, and counseling services (see Appendix E).

Additionally, integrating CoCMs in the primary care setting helped increase the availability of behavioral health services within the medical model, provided support to the primary care provider in addressing their patients' behavioral health needs, and improved their clinical outcomes (Huggard, 2020). This policy change for the clinic began on November 1st, 2023, as part of the standard of care in the clinic. Data was analyzed and evaluated following Institutional Review Board (IRB) approval.

Key Stakeholders

Stakeholders were those with an appeal or "stake" in an action or its assessment (Leviton & Melichar, 2016). QI experts were encouraged to consider all who might be affected by a project, specifically those at risk for adverse effects. Rationally, they also knew that QI required the support of other experts. Stakeholder discussions meant connecting stakeholders in assessing

behaviors, choosing issues and approaches, searching for expectations, enabling data collection, and understanding results (Leviton & Melichar, 2016).

The main stakeholders of this internal QI project were the three nurse practitioners working in the medical office along with the one registered nurse, three medical assistants, two administrative assistants, and an office manager. A psychiatric mental health nurse practitioner and a care manager were also part of this QI project once the behavioral health integration model was implemented on November 1st, 2023. See Appendix F for additional information.

The primary care provider identified patients who were at risk for mental health disorders using a screening tool, introduced the behavioral health integration model, made an initial diagnosis, and initiated treatment (prescribed medication, referred to psychotherapy, or both). The behavioral health care manager engaged patients, tracked patients in the registry (patients registered for the behavioral health integration services), and provided care management. The psychiatric nurse practitioner (consultant) provided caseload consultation (reviewed patient registry), supported team assessment and treatment, and delivered optional direct evaluation in person or via telemedicine/video (APA, n.d.).

The external key stakeholders were the present and future patients that the providers saw on an everyday basis. Stakeholders influenced the implementation and content of the improvement project through continuous feedback. The researcher served as the main contact and resource for project-related knowledge for the stakeholders. The internal and external stakeholders received up-to-date and accurate data and had their needs addressed in a timely manner. Once the plan was implemented, communication regularly with the stakeholders about the project's achievements, breakdowns, and new proposals helped create opportunities and support for this improvement project (Agency for Healthcare Research & Quality, n.d.).

Practice Partner

The proposed site for this project setting was PFMC in Prescott, Arizona. This clinic had been open since 2019 and was a small locally owned primary care clinic staffed by nurse practitioners in Northern Arizona. The clinic employed three nurse practitioners (NPs), one registered nurse, three medical assistants (MAs), two front office staff, and one office manager. At the time, PFMC served the needs of over 7,000 patients and was still open to receiving new patients. Additionally, a psychiatric nurse practitioner and case manager joined this practice as contracted remote employees in September 2023 to help integrate behavioral health management.

The practice partner for this QI project was the researcher's mentor, Thomas Gann, FNP-C. Thomas was another family nurse practitioner in the practice and also the owner of the clinic. He had been in clinical practice as a provider for over 10 years and had experience in emergency medicine, physical rehabilitation, and family practice. He helped guide the implementation of this new policy change and directed the MAs to have patients fill out the screening tools prior to each visit. Thomas had a policy of requiring these screenings on all patients in the future. See Appendix G for additional information on the strengths/weaknesses/outcomes/threats (SWOT) analysis.

Intended Improvement

At PFMC, the PHQ-9 and GAD-7 were used for screening at every new patient visit and annual visits. However, they were not routinely used during follow-up visits. If a patient screened positive for suicide risk on the PHQ-9, no additional screening tools were used (such as the C-SSRS) to assess the severity of suicide risk at PFMC. PFMC increased screenings in the adult population at every follow-up visit by having the patient fill out the PHQ-9 and GAD-7

prior to being seen by the primary care provider. If they tested positive for depression and/or anxiety, the provider could add evidence-based interventions to their care in either a pharmacological or non-pharmacological manner.

This helped ensure that the mental health needs of adults were met at every visit. Additionally, this QI project assessed for suicidal ideations and tendencies in the primary care setting and if positive, followed a standardized protocol for providers and staff to use as needed for crisis intervention (with the use of the C-SSRS tool). They also sought the collaboration and support of the psychiatric nurse practitioner and case manager for additional help if needed. See Appendices A and E for more details on this protocol.

The purpose of this QI project was to evaluate whether increasing mental health screenings at all clinic visits for the general adult population (18 and older) in a primary outpatient clinic would assist in the identification of patients at risk for depression and/or anxiety and allow for earlier entry into treatment. In addition, increasing screenings during routine visits would provide opportunities for interventions that promote mental health in this population.

This also aimed to initiate and evaluate the start of the CoCMs and incorporate them into this practice by Fall 2023. This QI project sought to gather retrospective data on at least 200 patients over the age of 18 who completed their PHQ-9 and/or GAD-7 screenings at an office visit pre and post-policy implementation. These screenings were implemented starting November 1st, 2023, as part of the standard of care in clinical practice. Implementing surveys at every visit helped determine the percentage of patients who had positive mental health screenings detected after the implementation of the assessments at every visit and whether there was a need to continue screening at every visit going forward in the practice.

Clinical Question

The clinical question proposed for this QI project was as follows: for **(P)** adults in the general patient population, **(I)** would mental health screenings (PHQ-9 and GAD-7) at every visit, **(C)** vs. screenings done only at baseline, **(O)** allow for early identification and treatment for positive screenings, **(T)** compared to 1 month post policy change?

Project Objectives

The first objective for this QI project aimed to assess the efficacy of periodic screening versus screening during every visit in identifying patients at risk following a recent policy change, with the existing background literature supporting this investigation. Data (the scores for all patients screened with the PHQ-9, GAD-7, and C-SSRS if applicable) were collected on every patient seen over the age of 18 years old at every visit for 1 month post policy change as part of the QI project initiative for the clinic. The assessments can be found in Appendix A.

The second objective for this QI project involved a comparative analysis of the number of patients requiring referrals, medications, and additional support before and after the policy change. In instances where patients exhibited positive indications of suicidal ideations or tendencies, a specialized consultation with the psychiatric nurse practitioner was initiated. This collaborative consultation culminated in formulating an individualized care plan that was accommodated to the unique circumstances and requirements of the patient in question.

The third objective for this QI project was to integrate behavioral health management at PFMC. The frequency of behavioral health screenings conducted within the primary care setting pre- and post-implementation of this QI project was analyzed with SPSS statistical software. Currently, PFMC was in the third stage of developing fully integrated behavioral health. The primary care providers functioned as a team with the psychiatric nurse practitioner and worked together in the same physical space to design and implement a patient care plan specific to each

patient (Huggard, 2020). Effective communication and collaborative skills were continued to be employed in developing and implementing practice models and standards of care.

Evaluation of the positive (a score of 5 or higher) and negative (a score of 4 or lower) scores on the screening questionnaires (PHQ-9 and GAD-7) helped PFMC determine if mental health screenings at each visit should be a priority in the general adult population. The baseline data was compared to the post-implementation data. This comparison helped determine the need for increasing mental health screenings in the general population within the primary care setting. Additionally, it assessed the effectiveness of the screenings in identifying more patients and the extent of usage of the CoCMs. The implementation of the CoCM model was designed to closely monitor the progress of primary care patients with clearly identified chronic mental illness and provided an additional resource to the providers and patients to be connected with a psychiatric mental health provider if needed.

Expected Outcomes

A vital part of nursing intervention was a thoughtful and attentive assessment of an adult's mental health. The purpose of this project was to institute a policy change, where every adult was screened for mental health illness at every visit to a local primary care clinic and to have this documented in the EHR to help track follow-up for concerns. The PHQ-9 and GAD-7 (and the C-SSRS, if positive for suicidal ideations or tendencies) were easy-to-use screening and assessment tools that could quickly be included in everyday evaluations. By using these screening tools at every visit and suggesting appropriate care when needed, providers were able to assist in the identification and treatment of patients at risk for depression and anxiety and allow for earlier entry into treatment.

The implementation of the CoCM model, which was based on a chronic care management approach, incorporated psychiatric services along with brief psychoeducation or motivational interviewing for primary care patients who had been diagnosed with a chronic mental health illness. This comprehensive service was provided by a team consisting of a primary care provider, a care manager, and a remote psychiatric mental health nurse practitioner who consulted with the team. If psychotherapy was deemed necessary, patients were referred to other mental health clinicians in the Prescott area who were taking new patients. Numerous research studies had repeatedly demonstrated that this model consistently showed moderate positive effects (APA, n.d.). The CoCM was specifically designed to closely monitor the progress of primary care patients with clearly defined chronic mental illness (APA, n.d.).

Conceptual Framework

Conceptual frameworks, also referred to as process models for change, provided a common explanation for the interactions between ideas in each experience. The framework selected for this project was based on the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) model. This model employed an evidence-centered methodology for clinical practice decision-making and utilized a three-step method called PET (Practice, Evidence, and Translation). Evidence-based practice was recognized as a crucial element for organizations, aiding them in meeting healthcare goals such as enhancing individual well-being, improving health outcomes, reducing organizational expenses, and enhancing the overall well-being of healthcare staff (Johns Hopkins University, n.d.).

The goal of this model was to ensure that the latest research findings and best practices were promptly and effectively integrated into patient care (John Hopkins University, n.d.). While the JHNEBP model incorporated theoretical principles related to evidence-based practice, it

primarily served as a conceptual model providing practical guidance for healthcare professionals to implement evidence-based decision-making in their clinical settings (John Hopkins University, n.d.). See Appendix H for further details on this framework. Integrating behavioral health into a primary care setting was deemed crucial for providing comprehensive and holistic patient care. The JHNEBP model was adapted and applied in this context to enhance the delivery of behavioral health services within primary care.

In the first step of the JHNEBP model (practice), primary care providers identified relevant practice questions concerning behavioral health integration, utilizing diagnostic screening tools from Appendix A to determine the most effective interventions for managing these conditions within primary care.

In the second step (evidence), the primary care team conducted a comprehensive review of evidence related to behavioral health interventions in primary care, including successful integration models, collaborative care approaches, and evidence-based interventions for behavioral health disorders. By critically appraising the evidence, the primary care team identified effective strategies to address behavioral health needs and improve patient outcomes.

In the third step (translation), the primary care team developed a plan to integrate behavioral health services into their practice, collaborating with the care management team (care manager and psychiatric mental health nurse practitioner) to create protocols for routine screenings. They also identified appropriate interventions for different behavioral health conditions and established communication channels between medical and behavioral health providers. Additionally, the team explored the use of brief interventions (educational handouts) and referrals to specialized behavioral health services (therapists) as part of the patient's care plan (John Hopkins University, n.d.).

Incorporating behavioral health into a primary care setting required a multidisciplinary approach with family nurse practitioners, a psychiatric mental health nurse practitioner, care manager, medical assistants, and front office staff working together to ensure patients received comprehensive and quality healthcare. The JHNEBP model provided a systematic framework for primary care teams to identify best practices, implement evidence-based interventions, and continually evaluate and improve their approach to behavioral health integration. By utilizing this model, primary care providers were able to better meet the complex needs of their patients, leading to improved behavioral health outcomes and overall healthcare quality (John Hopkins University, n.d.).

The JHNEBP model enticed and educated staff and providers who supported and sustained evidence-based practice while improving patient and work environment-related outcomes. The goal of the model was to quickly incorporate the best available research into clinical practice, along with clinical practice and patient preferences, so that nurse practitioners could make informed patient care decisions. Evidence-based practice served as the foundation of clinical practice, and incorporating this data into practice enhanced the quality of care and patient outcomes (Johns Hopkins University, n.d.). By continually improving and teaching the most up-to-date evidence-based practice guidelines, the three nurse practitioners at PFMC practiced by utilizing the most current evidence for their practice (Heinrich & Argote, 2015).

The purpose of using this framework was to increase the frequency of mental health assessments during every patient encounter for adult individuals aged 18 and above. In cases where a patient screened positive for depression and/or anxiety, the healthcare provider was equipped to offer personalized evidence-based interventions, with options encompassing both pharmacological and non-pharmacological modalities tailored to the unique needs of the patient.

In the past, clinical practice at PFMC involved screening all new patients for depression and anxiety; however, when these patients followed up, they did not always fill out additional screening tools to assess the development of new symptoms with their depression and/or anxiety. Previous evidence and research has reported that mental illness was highly prevalent in the United States and was associated with an increased risk of morbidity and mortality (American Academy of Family Physicians, 2023). Primary care providers were well-equipped to provide mental health services and were one of the primary sources of mental health care in the United States (American Academy of Family Physicians, 2023).

In the past, incorporating mental health screenings at every follow-up visit allowed for early identification and treatment for positive screenings in the practice indefinitely. Translation of evidence into practice required mindful effort among the three nurse practitioners in the office. They were aware of screening recommendations for their patients, recognizing that identifying mental health issues was integral to ensuring appropriate treatment and reducing complications (American Academy of Family Physicians, 2023). The three nurse practitioners in the office were well-prepared to provide many mental health services and continued to lead and participate in these services to improve access, quality, and outcomes.

Project Design and Methods

The QI project design embodied a systematic and strategic approach, providing the framework for an initiative to enhance mental health screenings within the primary care setting. Leveraging a systematic literature review and convenience sampling, the project sought to comprehensively address identified research objectives. By conducting a retrospective review of charts of adult patients aged 18 and above in a rural primary care clinic, the project targeted the implementation of regular mental health screenings excluding non-English-speaking and

underage participants. Ethical oversight was ensured through the Northern Arizona University (NAU) IRB, with data implementation commencing in the Spring of 2024. Notably, the project emphasized routine anxiety and depression screenings at each patient visit, enabling timely interventions and subsequent follow-up procedures in alignment with the project's overarching goals. See Appendix I for the project team agreement form.

As part of routine care for the new QI initiative, the medical assistant administered the PHQ-9 and GAD-7 screening tools to all patients over the age of 18 at every visit. (If the patient scored positive for suicidal ideations, the provider administered the C-SSRS screening tool to the patient during the office visit). Positive scores prompted the provider to discuss results and offer follow-up options. Tailored educational handouts addressed individual mental health needs, covering topics such as depression, anxiety, and available interventions including medication, local therapy resources, and holistic practices like yoga and exercise. Patients who scored positive on these screening tools (10 or higher) were enrolled in the CoCM program and received close monitoring within the primary care setting. To ensure standardized procedures, healthcare providers conducted a pre-implementation meeting for protocol alignment.

IRB Process

The NAU IRB thoroughly evaluated the QI project to guarantee that the patients would be treated appropriately, and potential benefits outweigh any risks or harm to the patients involved. However, given it was a QI project, the IRB deemed this project as non-research since research was not being conducted and was considered an administrative review. See Appendix J for this determination letter. Furthermore, ensuring equitable representation and avoiding bias in the data selection and analysis was paramount to safeguarding the study's integrity and validity.

This was completed by implementing a transparent data collection process and utilizing appropriate statistical techniques to ensure the accuracy and reliability of the findings.

Informed Consent

As a QI initiative primarily focused on enhancing healthcare practices and patient outcomes within the established clinical setting, the project's interventions were intended to improve standard procedures rather than to produce generalizable knowledge. Nonetheless, it remained imperative to prioritize patient confidentiality and privacy throughout the project, ensuring that all data collection and analysis adhere to strict ethical standards and regulatory requirements. Informed consent was not obtained since this was a QI project and data was collected only for those purposes. A letter was provided by PFMC to this researcher to support and endorse this request for this QI project. See Appendix K for additional information.

Risks and Benefits

The potential implications of the project findings on both patients and the larger community were evaluated. Necessary measures were implemented to minimize any negative consequences and leverage the results to improve care quality and patient outcomes within the primary care clinic. Through a steadfast commitment to ethical principles, a retrospective study on integrating behavioral health care in primary care could offer valuable insights while concurrently safeguarding the well-being rights of all individuals involved.

The assessments offered significant benefits to patients by enabling early detection and intervention for mental health concerns, thereby enhancing overall well-being. MAs who administered the assessments gained a deeper understanding of patients' mental health needs, fostering a patient-centered approach and facilitating improved coordination with healthcare providers. Furthermore, healthcare providers received valuable insights into patients' mental

health status, supported informed decision-making, tailored treatment plans, and enhanced patient-provider communication. Nonetheless, potential risks included increased workload for medical assistants, patients not coping well with the assessments by having to bring up uncomfortable feelings during their visit, and the need for stringent data protection measures to ensure patient privacy and confidentiality. There was always a risk that the data may be compromised; however, measures such as removing identifiable information were taken to ensure confidentiality was maintained.

Protection of Data

Patient confidentiality and privacy were rigorously upheld, as this retrospective study involved the analysis of pre-existing patient data. All patient information was de-identified and anonymized to protect individual identities and complied with relevant data and protection regulations. Each patient was assigned a code number for data entry, and each chart was evaluated only once, eliminating the need for a linking code. The information was entered into a CSV file on a password-protected server in the office where the project was conducted. For analysis purposes, the file with de-identifiable data was encrypted and uploaded to a NAU Teams folder, which was maintained on a password protected NAU Server and shared with NAU faculty members for assistance with data analysis. The CSV file was imported into SPSS for data analysis, and the SPSS files were maintained in the NAU Teams Account.

HIPAA

HIPAA regulations were strictly adhered to throughout the course of this retrospective study, as the project involved the analysis of pre-existing patient data within a healthcare setting. All patient information was de-identified and assigned unique code numbers for data entry, ensuring individual identities remained protected and compliance with HIPAA privacy

standards. Data entry and storage occurred on a password-protected server within the designated office space, emphasizing the secure handling of sensitive information by this researcher only. Additionally, to facilitate data analysis, the de-identifiable data file was encrypted and uploaded to a NAU Teams account, which was shared with authorized NAU faculty members who assisted with the necessary analyses in accordance with HIPAA guidelines. Measures were in place to secure the data both during transmission and storage, safeguarding patient confidentiality and privacy throughout the project duration.

Setting

The project design incorporated a retrospective review of a convenience sample within a rural primary care clinic, encompassing a total of 200 patients aged 18 and above. This clinic was privately owned and managed by a nurse practitioner. Three nurse practitioners, including the owner, operated within this practice, specializing in family medicine. All practitioners consented to a review of their charts.

Population

The population of this QI project study comprised adults aged 18 years and older who were proficient in the English language and had visited the office. Most of these patients were insured either privately or publicly, with very few being non-insured. By targeting this demographic, the study sought to comprehensively evaluate and tackle the mental health needs of all adult patients within a rural primary care clinic. Including English-speaking adults ensured effective communication and participation in the screening and intervention process, facilitating accurate and efficient data collection for analysis and improvement purposes.

Exclusion criteria for this study included individuals below 18 years of age and those with limited proficiency in the English language. It also excluded telemedicine/phone visits due

to the sensitive nature of screening and discussing the mental health concerns of the patient. By excluding children, non-English-speaking individuals, and telemedicine/phone visits, the project aimed to maintain a focused approach on the mental health needs of the adult population and ensured that the screening and intervention processes were effectively tailored to this specific demographic.

Participant Recruitment

As this was a QI project, participant recruitment was not applicable. All adults aged 18 years and above underwent routine screening during their visits using the PHQ-9 and GAD-7 tools. Additionally, the C-SSRS was administered if necessary. Inclusion and exclusion criteria were applied to identify eligible participants. This was done by consulting the schedule to determine who was seen a month before and a month after the initiation of the assessments.

Methodology

At the initiation of the intervention, all patients who met the inclusion criteria completed screening forms provided by the Medical Assistant. Assessment results (PHQ-9, GAD-7, and C-SSRS if applicable) were recorded in the EHR and reviewed by the primary care provider. Positive screenings triggered a thorough assessment, enabling the primary care provider to make initial diagnoses and initiate treatment for depression and anxiety. If needed, collaboration with the psychiatric nurse practitioner occurred, including recommendations for further mental health evaluations in-person or via telemedicine. Every patient aged 18 and above was administered both the PHQ-9 and GAD-7 during the month of November 2023.

Surveys were administered via paper or the patient portal before the provider visit. If not completed online, patients filled out paper surveys at the front office, which were then scanned and entered into the patient chart by the Medical Assistant. After exemption from the IRB, data

was extracted, entered into a CSV file, and, two months post-initiation, reviewed, de-identified, and imported into SPSS for analysis.

Demographic data including age and birth gender, appointment month, and clinical variables were collected. Information on whether the PHQ-9 and GAD-7 had been administered during the appointment, along with the respective scores if available, was recorded. Additionally, the C-SSRS total score (if applicable), referral to the CoCM program, referrals to psychiatric providers and/or therapists, and use of medication were documented. This data was obtained and entered into the CSV file. Baseline data for the month before the intervention and post-implementation data for the month after implementation were collected. Establishing this baseline allowed for an accurate assessment of changes over time and a better understanding of the intervention's effects. Additionally, the data collection assessed any potential overall increase in positive screening outcomes among patients at the clinic.

The implementation of this QI project commenced on November 1st, 2023, as part of the standard of care in clinical practice. Following IRB exemption, data from October and November appointments were extracted from the EHR and entered into a CSV file. Patient appointments were randomly selected using a random number generator in Microsoft Excel, assigning unique identifiers to each. The population encompassed all patients with appointments during the specified time frame, with no replacement permitted to ensure each patient was included only once. The sample size of 100 appointments for each period (pre- and post-policy change) was determined through statistical power calculations and resource considerations. This method maintained transparency, as evidenced by a detailed randomization log. Specifically, 100 charts were extracted in October 2023 before the policy change, and another 100 charts were extracted in November 2023 after the policy change for comparison and analysis purposes.

In adherence to protocol guidelines, patient records for the month before and after the QI project implementation were accessed for data extraction. The automated process, facilitated by Kareo Cloud, ensured accurate retrieval of appointment date, patient ID, and relevant clinical information aligned with project objectives. Prior to extraction, necessary permissions were obtained, and access was restricted to authorized personnel directly involved in the QI project, complying with ethical and legal standards. Unauthorized access to patient records, including those not part of the study, was prohibited.

The CSV file was encrypted and uploaded into a Teams folder so it could be accessed for data analysis with SPSS. The file was converted into an SPSS data file and also saved in the password-protected Teams folder. The SPSS output files (the results of the analyses) were also saved in a Teams folder. Access to Teams was restricted to authorized personnel, and stringent controls were in place to ensure that patient data was handled with the utmost care and in compliance with ethical and legal standards.

A detailed record of the data extraction process ensured transparency and data integrity. It included a step-by-step procedure, patient log, criteria for inclusion/exclusion, and notes on encountered challenges. This record served as quality control, audit purposes, and ensured reproducibility in the QI project's data extraction methods.

Instruments

The surveys used for this QI project included the PHQ-9, GAD-7, and the C-SSRS, if positive for suicidal tendencies (as evidenced by scoring positive on Question 9 on the PHQ-9 screening tool). The PHQ-9 was a standardized instrument in the healthcare setting that measured a person’s level of depression. The PHQ-9 scored each of the nine DSM-IV criteria as “0” (not at all) up to “3” (nearly every day). The total score on the assessment could range from

0 to 27 (Kroenke et al., 2001). The reliability and validity of the tool had indicated that it had sound psychometric properties. It had also been found to have good internal consistency, indicating that the items in the questionnaire measured the same underlying construct of depression (Gilbody et al., 2007).

If a patient scored between 1 and 4 on the PHQ-9, they were considered to have minimal to no depression symptoms and might not have needed treatment. A patient score between 5 and 9 was considered as mild depression. Mild depression might or might not have been treated based on a healthcare provider's clinical judgment. A score of 10 to 14 was considered as moderate depression, and a score of 15 or higher was considered as severe depression. Moderate and severe depression warranted the use of the C-SSRS tool, medication, and/or therapy. If the patient had severe depression and was suicidal (scored positive on the last question in the PHQ-9 and had an active plan through the C-SSRS screening tool), this warranted immediate treatment, such as hospitalization or in-patient psychiatric care (Kroenke et al., 2001). The primary care provider highly recommended that the patient stayed in the office until they were immediately referred to an inpatient psychiatric hospital.

The GAD-7 was a brief standardized tool used to identify probable causes of anxiety and evaluate its severity in clinical practice and research. The GAD-7 was calculated similarly to the PHQ-9 with scores ranging from "not at all," "several days," "more than half the days," and "nearly every day." These scores ranged from 0 to 3 and were added up to a total between 0 and 21. These seven items addressed apprehension, lack of ability to stop worrying, excessive worry, restlessness, trouble relaxing, easily annoyed, and worry of something terrible happening. Scores of 5, 10, and 15 were reported as the cut-off points for mild, moderate, and severe anxiety, respectively (Spitzer et al., 2006).

Further assessment and follow-up were suggested when the score was 10 or greater. The GAD-7 had good reliability, criterion, construct, factorial, and procedural validity (Spitzer et al., 2006). Increasing scores on this scale indicated a strong likelihood of functional impairment and disability of anxiety symptoms (Spitzer et al., 2006). The scale demonstrated strong internal consistency and test-retest reliability, affirming its consistent measurement of anxiety symptoms over time (Spitzer et al., 2006). The GAD-7 also exhibited notable convergent and divergent validity, effectively discriminating between individuals with and without generalized anxiety disorder and correlating with other validated measures of anxiety and related constructs (Spitzer et al., 2006).

The C-SSRS was supported by the National Institute of Mental Health (NIMH) and was developed as a screening tool for a 2007 NIMH study of treatment to decrease suicide risk among individuals with depression (National Institute of Mental Health, n.d.). The Colombia Protocol was based on more than 20 years of scientific study and uniformly and reliably identified people who were at risk. This protocol also achieved accurate and comparable results using consistent, well-defined, and science-based terminology. In 2011, the CDC adopted this protocol for suicidal behavior (CDC, 2011, p.16). In 2012, the Food and Drug Administration declared this protocol as the standard for measuring suicidal ideation and behavior in clinical trials (Colombia Lighthouse Project, 2016).

Risk identification with the Columbia Protocol was a directive, providing the provider with a good indication of the level of suicide risk and being adaptable so that interventions could be modified using clinical judgment. The “score” was either low, moderate, or high risk, depending on which questions had affirmative answers (Colombia Lighthouse Project, 2016). The most worrisome answers were a recent (past month) “yes” to ideation severity and/or any

recent (past 3 months) suicidal ideation behaviors. Answers were color-coded for easy risk level identification (Colombia Lighthouse Project, 2016).

The C-SSRS demonstrated robust reliability and validity in assessing suicidal ideation and behavior (Colombia Lighthouse Project, 2016). Psychometric studies indicated strong internal consistency, suggesting that the items within the scale were highly correlated (Colombia Lighthouse Project, 2016). Additionally, the C-SSRS showed good test-retest reliability, indicating consistent results over time when administered to the same individuals under similar conditions (Colombia Lighthouse Project, 2016). Regarding validity, the C-SSRS exhibited strong construct validity, effectively capturing the severity of suicidal ideation and behavior (Colombia Lighthouse Project, 2016).

The C-SSRS also demonstrated good concurrent and predictive validity, showing significant correlations with other established measures of suicidal ideation and behavior and accurately predicting future suicidal behavior (Colombia Lighthouse Project, 2016). These findings underscored the credibility and utility of the C-SSRS as a reliable and valid tool for the comprehensive assessment and monitoring of suicidal ideation and behavior in clinical and research settings (Colombia Lighthouse Project, 2016). According to the Colombia Lighthouse Project (2016), there were 36 studies supporting specific psychometric studies on this assessment.

Statistical Analysis

Descriptive statistics were provided as an overview of the collected data. The total PHQ-9, GAD-7, and C-SSRS scores were used to determine if the patient had mild, moderate, severe, or no depression and anxiety or was suicidal. Frequencies and proportions for gender, and categories of the PHQ-9, GAD-7, and C-SSRS at the pre and post-interventions were also

reported. Means and standard deviations were calculated for continuous data, including age and total baseline and post-intervention PHQ-9, GAD-7, and C-SSRS scores

To assess the impact of the 1-month QI period, the proportion of patients tested with the instruments and testing positive was assessed by comparing the current pre-test scores to the current post-test scores with z tests. Changes in the severity categories (none, mild, moderate, and severe) between baseline and 1-month PHQ-9 and GAD-7 (and C-SSRS if applicable) assessments were also evaluated using Mann-Whitney U tests. Referrals, medication data, and implementation of the CoCMs pre and post QI initiative were analyzed with z tests. All statistical tests maintained a significance level of 0.05 but were adjusted for the family error rate. Data was analyzed using SPSS statistical software (Version 29).

Results and Discussion

The results of the QI project revealed notable enhancements in the identification and management of patients at risk for depression and/or anxiety within the primary care setting. Through the implementation of mental health screenings using the PHQ-9 and GAD-7 tools, early detection and intervention were facilitated. Data analysis post-implementation indicated a significant increase in referrals to the CoCM, psychiatric referrals, and initiation of medications. The findings below highlighted the effectiveness of integrating mental health screenings into standard clinical practice, emphasizing the early identification and intervention for patients' mental health needs within the primary care setting. See Appendix L for additional information.

Descriptive Statistics

Descriptive statistics were provided to offer an overview of the collected data. Frequencies and proportions were reported for gender, age, and types of visits out of the total data collected in October and November 2023. The data revealed that out of the 200 patients, 130

were female (65%) and 70 were male (35%; see Table L1in Appendix L). The number of males and females in the two groups were not significantly different, $p = .767$ (see Table L2 in Appendix L). The types of visits were also categorized, with 51 out of 200 (25.5%) being annual wellness visits (AWV), 34 out of 200 (17%) being establish visits, 86 out of 200 (43%) being follow-up visits, and 29 out of 200 (14.5%) being sick visits.

In November, the average age of patients was 64.12 years, with a wide range from 20 to 88 years (an outlier), and a median age of 61. The data was highly right-skewed (9.376) and leptokurtic (91.731). In contrast, October had an average age of 60.12 years, with a smaller range from 18 to 90 years, and a median age of 62. The data in October was slightly left-skewed (-0.653) but closer to a normal distribution (kurtosis -0.052). These statistics helped describe the distribution of patient ages, showing differences in the average, range, and shape of the age data between the two months (see Table L3 in Appendix L). The ages of the patients in the two groups were not significantly different, $p = .642$ (see Table L4 in Appendix L).

Assessment Categories

The total scores from the PHQ-9, GAD-7, and C-SSRS were used to categorize patients into mild, moderate, severe, or no depression and anxiety, as well as to identify those with suicidal ideations. Evaluations of positive (a score of 5 or higher) and negative (a score of 4 or lower) scores were also collected on both the PHQ-9 and GAD-7 screenings.

The patients were categorized as minimum, mild, moderate, or severe on the PHQ-9 and GAD-7 (see Tables L5 and L6 in Appendix L). A Mann-Whitney U test was used to determine if the PHQ-9 and GAD-7 categories (minimum, mild, moderate, and severe) differed from pre-initiative to post-initiative. The Mann-Whitney tests were not significant for the PHQ-9, $U =$

1404.00, p = .064, or GAD-7, U = 1513.00, p = .228. See Tables L7 and L8 in Appendix L for additional information.

November's GAD-7 scores exhibited a shift compared to October, with 69.1% showing minimal anxiety (down from 80%), 16.5% mild (up from 11.4%), 8.2% moderate (up from 2.9%), and 6.2% severe (consistent). Similarly, PHQ-9 scores in November showed 63.9% minimal depression (down from 82.9%), 20.6% mild (up from 5.7%), 9.3% moderate (up from 5.7%), and 6.2% severe (consistent). This suggests a trend towards higher proportions of mild anxiety and depression in November compared to October, reflecting decreases in minimal scores and increases in moderate ones. See Tables L5 and L6 Appendix L for additional information.

Effectiveness of Screenings

The first objective of the study aimed to assess the effectiveness of periodic screenings compared to screenings at every visit in identifying patients at risk following a recent policy change. Data was collected in October 2023 from a total of 650 visits. From these visits, 100 randomly selected patients who met the inclusion criteria underwent the pre-test assessment. In November 2023, data was collected from 663 visits, with another 100 randomly selected patients undergoing the post-test assessment. Each patient received both the PHQ-9 and GAD-7 assessments to complete.

The proportions of patients who were tested of those seen were calculated for October and November. In October, 35% of the 100 patients randomly chosen were assessed with the PHQ-9 and GAD-7. In November, 97% of the 100 patients randomly selected were assessed, which was significantly greater than the percentage of patients tested in October, z = 9.25, p = .001, effect size = 1.53 (large). See Tables L9 and L10 in Appendix L for additional information.

The proportions of patients who were assessed and positive in October and November were compared. In October, four of 35 patients (11.4%) tested positive on the PHQ-9. Fifteen of the 97 patients (15.5%) tested positive in November. The proportions of patients who were positive on the PHQ-9, $z = 0.58$, $p = .560$, effect size = 0.12 (very small), and GAD-7, $z = 0.89$, $p = .375$, effect size = 0.19 (very small), were not significantly different between October and November. See Tables L11 and L12, in Appendix L for additional information.

Treatments

The second objective of this QI project involved a comparative analysis of the number of patients requiring referrals, medications, and additional support before and after the policy change. SPSS statistical software (Version 29) was utilized to compare the categorical data between the two periods (pre and post-policy change). Additionally, the third objective aimed to integrate behavioral health management at PFMC, analyzing the frequency of behavioral health screenings conducted within the primary care setting pre and post-implementation of this QI project using SPSS statistical software.

Out of the total patients selected, referrals for the CoCM program increased significantly from 0 in October to 26 in November. This represented a 100% increase in CoCM referrals after the start of the QI initiative, which was significant, $z = 5.47$, $p < .00001$. Referrals for psychiatric therapy also increased significantly from 3 in October to 19 in November, indicating a 72.8% increase in psychiatric referrals after the start of the QI initiative, $z = 3.62$, $p < .0015$. Medication initiation for depression and/or anxiety similarly saw an increase from 30 patients in October to 39 in November, reflecting a 13% increase in medication initiation after the start of the QI initiative. However, this increase was not significant, $z = 1.3$, $p = .0912$. Overall, there was a

28% increase in total referrals (CoCMs, psychiatric/therapy referrals, and medication initiation) after the start of the QI initiative. See Table L13 in Appendix L for additional information.

Impact on Population

The results of this study had significant implications for the population. By categorizing patients' levels of depression and anxiety, healthcare providers could accurately identify and address mental health issues early, potentially preventing worsening conditions. Tailored treatment plans based on severity categories allowed for targeted interventions, such as therapy or medication. Increased referrals and CoCMs ensured patients received appropriate support, improving outcomes. Dissemination of findings raised awareness among professionals and policymakers, informing potential policy changes for improved mental health screenings. These findings contributed to a more efficient healthcare system that prioritized mental health alongside physical health, benefiting individuals with depression and anxiety disorders.

The evaluation of the collected data provided valuable insights into the clinic's approach to mental health care. The substantial increase in CoCM referrals, psych referrals, and medications started suggested a growing demand for mental health services, indicating that mental health screening at each visit should have been considered a priority for the general population. This rise in referrals and treatments also allowed for an assessment of the effectiveness of the initiated treatments, providing feedback on the clinic's interventions.

Additionally, the data reflected changes in the proportion of depression and/or anxiety among the treated population, highlighting evolving trends or increased awareness of these conditions within the clinic's patient demographic. Furthermore, the observed potential for sustainability, with CoCMs being implemented as part of standard clinical practice, signified an improvement in the clinic's quality of delivery for adults at PFMC. Overall, these results

demonstrated the clinic's proactive stance in addressing patient needs effectively and integrating mental health services seamlessly into routine clinical practice.

The QI project's outcomes illustrated significant strides in identifying and managing patients at risk for depression and anxiety in primary care through the use of PHQ-9 and GAD-7 screenings. The notable increase in referrals to the CoCM program, psychiatric referrals, and medication initiations following the policy change highlighted the efficacy of these screenings in facilitating early intervention. Despite no significant differences in positive test proportions between pre- and post-implementation periods, the substantial rise in screening percentages in November indicated a positive impact of the policy change. Moreover, the shift towards more patients with mild anxiety and depression post-implementation suggested enhanced identification and care for these conditions.

The data also revealed a 28% increase in total referrals after the policy change, supporting the success of the QI initiative. The integration of behavioral health management at PFMC, evident in the frequency of behavioral health screenings, showed promise in improving mental health care delivery within primary care. These findings emphasized the importance of routine screenings, specialized consultations, and individualized care plans in enhancing patient outcomes and effectively managing depression and anxiety in the primary care clinic.

Limitations

The limitations of this project included a small sample size from a convenience sample, conducted over a limited period of 2 months. Screenings specifically targeted the general adult population aged 18 and older. It is important to note that Yavapai County had limited diversity, with a predominantly White, English-speaking population. A time constraint was also a consideration; however, the IRB approved this project as non-research on March 1st, 2024. If the

project proposal had not been approved in time, starting the QI project would have posed a challenge. A significant delay in approval would have necessitated pushing back the data collection start date, potentially requiring work on the project through Spring 2024 and delaying graduation for another semester.

Implications

Implications for Nursing Practice

Primary care providers are crucial in identifying and managing depression and/or anxiety symptoms. Approximately 60% of mental health care occurred in the primary care setting, and 79% of prescriptions that involved anti-depressants were written by general healthcare providers (Park & Zarate, 2019). According to Park & Zarate (2019), of the many people who attempted suicide, approximately 38% visited a primary care provider within the week prior to their attempt, and 64% of this population visited within the past 4 weeks before their attempt.

Community awareness actions that focused on maintaining mental health are very much needed. Some community awareness actions that could help with the mental health needs of people in the United States included self-management support and physical exercise. It was critical that healthcare companies and outpatient facilities such as primary care clinics strived to apply evidence-based approaches to the psychological needs of all Americans so that these approaches could be used, especially among the poor. Despite efforts to inform patients and communities, stigma remained a major barrier to identifying and providing treatment for mental illness. Now, more than ever, there was a need to identify useful health behaviors to mitigate the detrimental effects of depression and/or anxiety on mental health (Dineen-Griffin et al., 2019).

Implications for Quality, Policy, and Education

Although depression and generalized anxiety disorders were frequently co-occurring, factor analyses had confirmed them as distinct entities. Spitzer et al. (2006) noted there was a strong correlation between self-reported symptoms and interviewer-administered versions of the PHQ-9 and GAD-7 screening tools. Both tools were useful in identifying causes of depression and anxiety.

The high comorbidity of anxiety and depression and the high correlation between depressive and anxiety measures was well known. However, they were not always comorbid. Many patients who had screened positive for anxiety did not screen positive for depression. These findings had suggested that using only a tool to screen for depression may not have been adequate when screening patients for mental health conditions. It had been of individual importance to test patients for both depression and anxiety so the healthcare provider could select the most efficacious treatment plan for the individual patients (Spitzer et al., 2006).

In terms of quality of care, these findings underscored the necessity of comprehensive mental health screening protocols in healthcare settings. By incorporating both depression and anxiety screening tools into routine assessments, healthcare providers could better identify patients' needs and tailor treatment plans accordingly. This could lead to improved patient outcomes and satisfaction with care.

From a policy perspective, this highlighted the importance of supporting integrated mental health services. Policies that promoted the use of standardized depression and anxiety screening tools in primary care settings could facilitate early detection and intervention. Additionally, policies that encouraged interdisciplinary collaboration among healthcare professionals could enhance the holistic management of patients with both depression and

anxiety. By addressing these mental health conditions comprehensively, policies could contribute to a more efficient and effective healthcare system.

Plans for Dissemination

For this QI project, the dissemination plan was crucial for sharing the project's outcomes, lessons learned, and best practices with key stakeholders. The approach for dissemination included targeted strategies to reach healthcare professionals, administrators, policymakers, and patients in primary care settings. This project was considered not research by the IRB, and therefore not generalizable. However, this project will be published within the year to a reputable nursing journal.

The dissemination strategies for this QI project included two main approaches. Firstly, the project's findings, methodology, and outcomes were presented at Scholar's Day at Northern Arizona University on April 5th, 2024. This event served as a platform attended by healthcare professionals, colleagues, and students, providing an opportunity for sharing insights and networking. Secondly, the project was uploaded to the Northern Arizona University Graduate Symposium platform by March 26th, 2024, allowing access for other professionals and students to review the QI findings. Feedback and discussions on this platform were expected to enhance the project's impact and learning. The results will be presented to this researcher's colleagues at Priority Family Medical Clinic in the next several months and will also be uploaded into the Sigma repository by May 2024.

The objectives of these dissemination strategies were multi-faceted. Firstly, the project aimed to share its outcomes and best practices with a diverse audience of healthcare professionals, students, and administrators. Additionally, it sought to create network opportunities by engaging with peers and colleagues at Scholar's Day, facilitating the exchange

of ideas and experiences in QI within healthcare. Lastly, the project aimed to serve as an educational resource by providing a platform for students and professionals to learn from its methodology and outcomes through the university's symposium platform.

Key messages to be highlighted during dissemination included the success of the project in improving mental health screening and treatment in primary care settings. Valuable insights and lessons learned throughout the project were also shared to guide future QI initiatives. Emphasis was placed on how the project positively impacted patient care and outcomes in primary care settings, illustrating the tangible benefits of the implemented strategies.

To evaluate the impact of dissemination efforts, feedback was gathered through comments and suggestions from Scholar's Day attendees and symposium users to assess the project's relevance and impact. Usage metrics, such as downloads and views of the project on the symposium platform, were monitored to gauge interest and engagement. Follow-up discussions with interested parties were also conducted to further explore the project's implications and potential for implementation in primary care settings. Through these dissemination strategies and evaluation measures, the project aimed to contribute valuable insights and best practices to the field of mental health screening and treatment in primary care.

Conclusion

In conclusion, healthcare practitioners were advised to screen all adult patients who visited the clinic using screening tools such as the PHQ-9 and GAD-7. The C-SSRS would only have been utilized if the patient tested positive for suicidal ideations. By employing these tools at every visit, along with pharmacologic and non-pharmacologic measures, patients should have been able to see some improvement in their mental health. With proper psychological methods,

techniques, and interventions, the general population's psychological health could have been well protected and maintained (Necho et al., 2021).

The data collected by this QI project helped primary care providers in assisting with the early identification and treatment of depression and/or anxiety disorders in the general adult population. Both the PHQ-9 and the GAD-7 were analyzed using the total score as a measure of improvement in the level of depression and anxiety, respectively.

Evaluation of this data helped the clinic determine whether mental health screening at each visit should have been a priority for the general population. It also indicated if the treatment initiated was effective and whether the proportion of depression and/or anxiety in the population treated at this clinic had changed over time. The potential for sustainability improved the quality of delivery for adults in priority family medicine clinics and was used indefinitely as part of standard clinical practice.

Implementation & Sustainability

The sustainability of behavioral health integration within a primary care clinic was a pivotal development with transformative implications for primary care practice. This integrated approach not only addressed the growing mental health needs of patients but also enhanced overall healthcare outcomes. By embedding mental health screenings as a routine part of primary care visits, early detection and intervention for mental health issues were achieved, contributing to improved patient well-being and preventing the escalation of mental health conditions.

Sustainable integration necessitated fostering a collaborative culture between primary care providers and behavioral health specialists, with shared decision-making and coordinated treatment plans. As this approach became more ingrained in primary care practice, it ushered in a change in thinking, fostering a patient-centered healthcare system that recognized and prioritized

mental health alongside physical health. This shift led to improved patient outcomes, increased patient satisfaction, and more efficient resource utilization within primary care clinics, advancing the overall quality of healthcare delivery for patients across diverse populations.

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Appendix A

Mental Health Screening Tools

Figure A1

Patient Health Questionnaire 9 (PHQ-9)

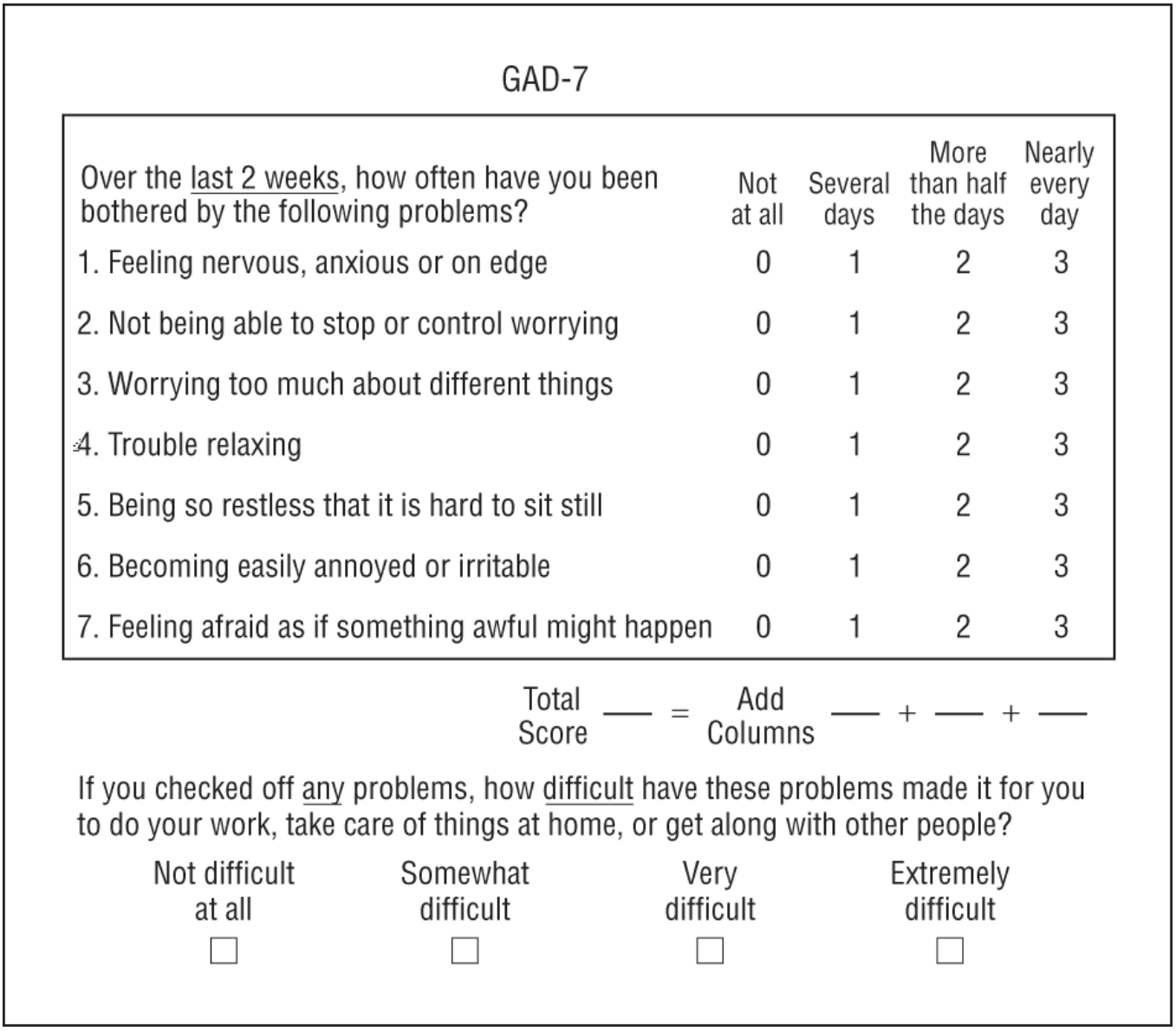
Over the last 2 weeks, how often have you been bothered by any of the following problems?	**Not at all**	**Several Days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3

Total Score: 1-4 Minimal depression; 5-9 Mild depression; 10-14 Moderate depression; 15-19 Moderately severe depression; 20-27 Severe depression

Reference: (https://integrationacademy.ahrq.gov/sites/default/files/2020-07/PHQ-9.pdf)

Figure A2

Generalized Anxiety Disorder 7 (GAD-7)



GAD-7

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

Total Score ___ = Add Columns ___ + ___ + ___

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Reference: (https://adaa.org/sites/default/files/GAD-7_Anxiety-updated_0.pdf)

Figure A3

COLUMBIA-SUICIDE SEVERITY RATING SCALE (C-SSRS)

Screen with Triage Points for Primary Care

Ask questions that are bold and underlined.	**Past month**	
Ask Questions 1 and 2	**YES**	**NO**
1) *Have you wished you were dead or wished you could go to sleep and not wake up?*		
2) *Have you had any thoughts of killing yourself?*		
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.		
3) *Have you been thinking about how you might do this?* e.g., "*I thought about taking an overdose, but I never made a specific plan as to when where or how I would actually do it….and I would never go through with it.*"		
4) *Have you had these thoughts and had some intention of acting on them?* as opposed to "*I have the thoughts, but I definitely will not do anything about them.*"		
5) *Have you started to work out or worked out the details of how to kill yourself? Did you intend to carry out this plan?*		
6) *Have you ever done anything, started to do anything, or prepared to do anything to end your life?* Examples: Took pills, tried to shoot yourself, cut yourself, or hang yourself, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump, collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, etc. **If YES, ask: *Was this within the past 3 months?***	**Lifetime** **Past 3 Months**	

Possible Response Protocol to C-SSRS Screening

Item 1 Behavioral Health Referral

Item 2 Behavioral Health Referral

Item 3 Behavioral Health Referral

Item 4 Behavioral Health Consultation and Patient Safety Precautions

Item 5 Behavioral Health Consultation and Patient Safety Precautions

Item 6 Behavioral Health Referral

Item 6 3 months ago or less: Behavioral Health Consultation and Patient Safety Precautions

Reference: (https://www.cms.gov/files/document/cssrs-screen-version-instrument.pdf)

Figure A4

C-SSRS SELF REPORT SCREEN

Please place a check mark in the box for the appropriate answers

Please answer questions 1 and 2	**In the past Month** YES	NO
1) Have you wished you were dead or wished you could go to sleep and not wake up?	___	___
2) Have you had any thoughts of killing yourself? **If <u>YES</u>, answer all questions 3, 4, 5, and 6.** **If <u>NO</u>, skip directly to question 6.**	___	___
3) Have you thought about how you might do this? *(For example, "I thought about taking an overdose, but I never worked out the details about when, where, and how I would do that, and I would never act on these thoughts.")*	___	___
4) Have you had any intention of acting on these thoughts of killing yourself, as opposed to you have the thoughts, but you would definitely not act on them? *(For example, "I had the thought of killing myself by taking an overdose and am not sure whether I would do it or not.")*	___	___
5) Have you started to work out, or worked out, the specific details of how to kill yourself and did you intend to carry out that plan? *(For example, "I am planning to take 3 bottles of my sleep medication this Saturday when no one is around to stop me.")*	___	___
6) Have you ever done anything, started to do anything, or prepared to do anything to end your life? *(For example: took pills, tried to shoot yourself, cut yourself, tried to hang yourself, took out pills but didn't swallow any, held a gun but changed your mind about hurting yourself or it was grabbed from your hand, went to the roof to jump but didn't, collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, etc.)* **If YES, did this occur in the past 3 months?**	___ ___	___ ___

Reference: (https://deploymentpsych.org/system/files/member_resource/CSSRS_fillable_0.pdf)

Figure A5

PRIORITY
FAMILY MEDICAL CLINIC
P: 928-277-0875 F: 608-716-2838

INITIAL COCM QUESTIONNAIRE

Collaborative Care Management/Behavioral Health

Patient's Name _____

Patient's Date of Birth _____

Patient's Phone Number_____

Last Office Visit _____

Last Psychiatric care visit (i.e., rehab/counseling/treatment)

_____

THESE QUESTIONS ARE PERSONAL AND CONFIDENTIAL

It is our pleasure to follow up with you and provide ongoing Behavioral Health at least once a month by phone or questionnaire to provide you with the best care possible.

1) Are you taking all your medications as directed? YES ____NO ____
2) Have you stopped or altered your medication regiment? YES ____ NO ____
3) Are you having any reactions/side effects from any of your medications? YES __ NO__
   If YES, please elaborate _____
4) Have you had any genetic testing done? YES ____ NO ____
5) Any personal history of physical abuse/relational (domestic) violence? YES ___ NO____
6) Do you have a personal history of: Sexual Abuse? YES ____ NO____
   Physical Abuse? YES ____ NO ____
   Emotional Abuse? YES ____ NO ____
   Financial Abuse? YES____ NO ____

   IF YES on any above questions in #6 and if comfortable, please elaborate:

_____
_____
_____

7) Are you CURRENTLY involved in any: Sexual Abuse? YES ___ NO____

Physical Abuse? YES ____ NO ____

Emotional Abuse? YES ____ NO ____

Financial Abuse? YES____ NO ____

IF YES on any above questions in #7 and if comfortable, please elaborate:

_____

_____

8) Are you currently in treatment? YES ____ NO ____
   If YES, what type of treatment: _____
9) Do you have any past behavioral health treatments? YES ____ NO ____

   If YES, what type of treatment: _____

10) Are you currently on probation or parole? YES ____ NO ____
11) Do you have any history of arrests or incarcerations? YES ____ NO ____
   If YES, and if comfortable, please elaborate: _____
   _____
12) Do you have any legal history? YES ____ NO ____
13) Do you have any history of HOMICIDAL concerns or ideations? YES ____ NO____

   If YES, and if comfortable, please elaborate: _____
   _____

14) Do you have any history of SUICIDAL concerns or ideations? YES ____ NO ____
   If YES, and if comfortable, please elaborate: _____
   _____
15) Do you have any CURRENT HOMICIDAL concerns or ideations? YES ____ NO____

   If YES, and if comfortable, please elaborate: _____
   _____

16) Do you have any CURRENT SUICIDAL concerns or ideations? YES ____NO ____
   If YES, and if comfortable, please elaborate: _____
   _____
17) Is alcohol and/or drugs CURRENTLY a problem for you? YES ____ NO ____
   If so, which drug/alcoholic beverage? _____
   When was your last use? _____
18) Do you have any PAST alcohol and/or drug abuse history? YES ____ NO ____

   If YES, and if comfortable, please elaborate: _____
   _____

19) Do you currently smoke (cigarettes/marijuana) and/or vape? YES ____ NO ____

   If yes, for how long and many packs per day? _____

20) Would you like education on quitting? YES ____ NO ____
21) Do you have your medical marijuana card? YES ____ NO ____
   How long have you had it? _____
22) Are you CURRENTLY experiencing any **depression** or **anxiety?** YES ____NO ____
   If YES on depression/anxiety, please elaborate: _____
   _____

If your symptoms are controlled, what types of things do you do to help control it? (i.e., supplements/exercise/medication/yoga/counseling) _____
_____

23) Do you own a gun or guns in your home? YES ____ NO ____
24) Please list a short term goal for your mental/behavioral healthcare: _____
_____
25) Please list a long term goal for you mental/behavioral healthcare: _____
_____

If after filling out this questionnaire and would like a call ASAP or would like a number or referral to a counselor or therapist, please write it down below: _____
_____

Here you can elaborate on any of the above questions and add any additional comments or concerns regarding your ongoing healthcare: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for taking the time to fill out this questionnaire. One of our team members from the collaborative care management group will contact you shortly.

Figure A6

PRIORITY
FAMILY MEDICAL CLINIC
P: 928-277-0875 F: 608-716-2838

FOLLOW UP COCM QUESTIONNAIRE

Collaborative Care Management/Behavioral Health

Patient's Name _____

Patient's Date of Birth _____

Patient's Phone Number_____

Last Office Visit _____

Last Psychiatric care visit (i.e., rehab/counseling/treatment)

_____

THESE QUESTIONS ARE PERSONAL AND CONFIDENTIAL

It is our pleasure to follow up with you and provide ongoing Behavioral Health at least once a month by phone or questionnaire to provide you with the best care possible.

1) Are you taking all medications as directed? YES ____ NO ____
   If not, please explain: _____
2) Are you currently experiencing any depression? YES ____ NO ____
3) Are you currently experiencing any anxiety? YES ____ NO ____
   If you answered YES to question #2 and/or #3, please elaborate: _____
   _____
   _____
4) If you experience any depression, anxiety, or insomnia, what exercises or activities do you do to try and help control it or help you calm down? _____
   _____
   _____
5) Do you have any suicidal concerns/ideations? YES ____ NO ____
   If you answered YES, and are comfortable, please explain _____
   _____
6) Do you have any homicidal concerns/ideations? YES ____ NO ____
   If you answered YES, and are comfortable, please explain _____
   _____

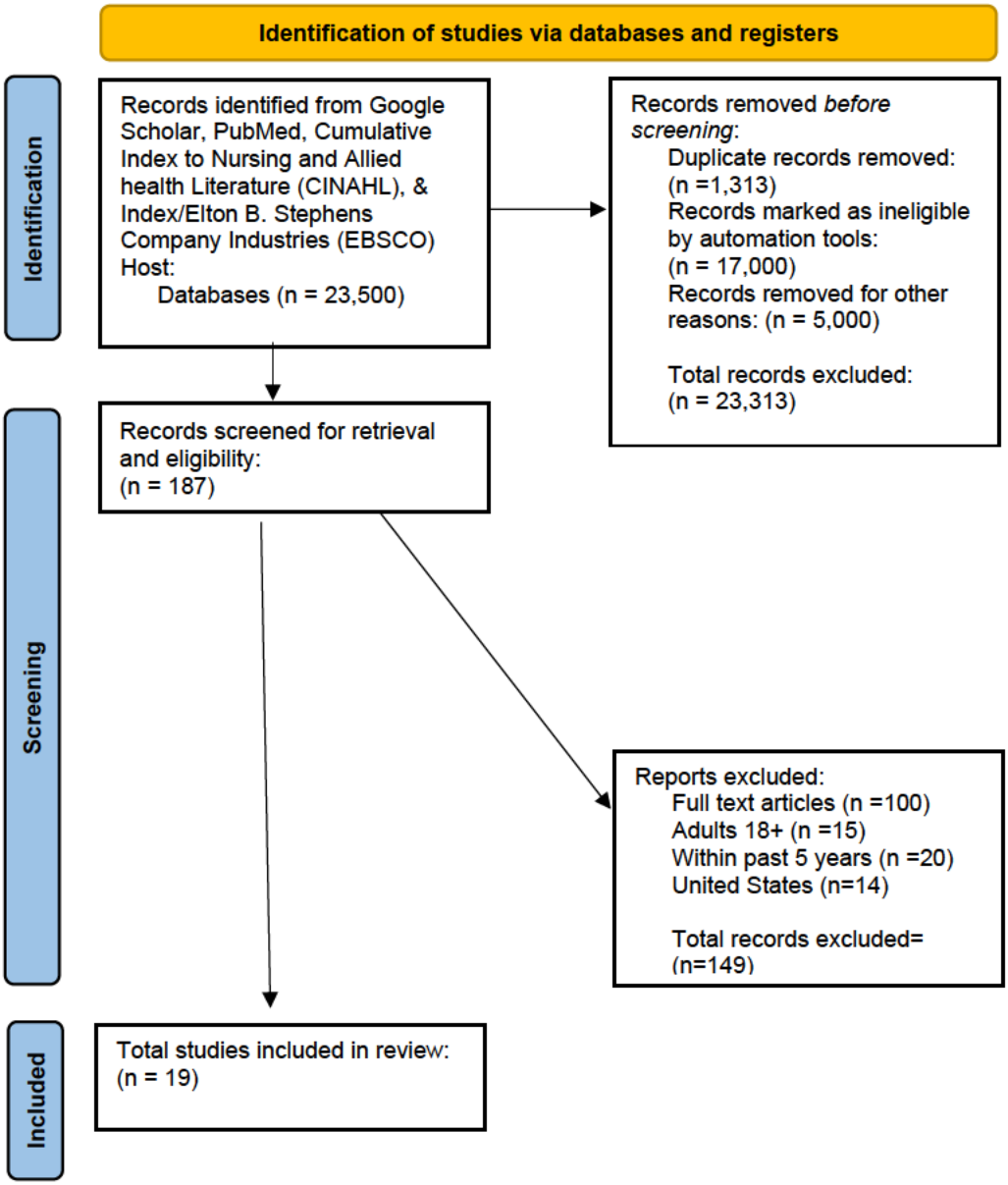
7) Do you have any current short term goals for your mental/behavioral health?
   _____
   _____
8) Do you have any current long term goals for your mental/behavioral health?
   _____
   _____

Here you can elaborate on any of the above questions and add any additional comments or concerns regarding your ongoing healthcare: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Thank you for taking the time to fill out this questionnaire. One of our members from the collaborative care management team will contact you in the next 1-3 business days to assist you further.

Appendix B

Evidence Evaluation Table: PRISMA Literature Search



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372: n71. doi: 10.1136/bmjn71

Appendix C

Literature Evidence Table

Purpose	Design & Framework	Sample & Setting	Measurement of Major Variables	Data Analysis	Study Findings	Level of Evidence
Arroll, B., Goodyear-Smith, F., Crengle, S., Gunn, J., Kerse, N., Fishman, T., Falloon, K., & Hatcher, S. (2010). Validation of PHQ-2 and PHQ-9 to screen for major depression in the primary care population. *American Family Medicine, 8*, 348-353. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2906530/pdf/0080348.pdf						
The researchers in this study intended to validate the patient health questionnaires (PHQ) 2 and 9 in the adult population at primary care settings. In the lack of assessing for mental health conditions, primary care providers miss at least 50% of cases of major depression.	Randomized Controlled Trial Study	The researchers in this study utilized a randomized controlled trial on 2,642 adult patients who completed this screening.	Participants were consented prior and completed 1 of 3 randomly assigned screening questionnaire. They were then administered a CIDI interview on the computer.	The study was conducted according to the STARD guidelines. The participants also used a CIDI software program that uses the DSM IV diagnoses.	The results from this study determined that a PHQ-2 maximum score of 2 or higher had excellent sensitivity but more specificity in identifying major depressive disorder. The PHQ-2 can be a valuable time saving tool to rapidly screen for depression. However, if patients score positive on the PHQ-2, they will then be asked to complete the PHQ-9 for additional explanation and analysis of clinical depression.	**Level II Randomized Controlled Trial**
Blackstone, S.R., Sebring, A.N., Allen, C., Tan, J.S., & Compton, R. (2022). Improving depression screening in primary care: A quality improvement initiative. *Journal of Community Health 47*(3), 400-407. https://link.springer.com/content/pdf/10.1007/s10900-022-01068-6.pdf						
The researchers' aim was to improve depression screening in five family	This initiative included 4 plan-do-study-act cycles that implemented a standardized	N= 23,745 clinical encounters with adult patients between September	Encounter data was collected monthly between September 2020 and	A multi-level systems regression model was constructed to determine	The researchers concluded that this study showed an improvement in depression screenings done over this 8 month quality	**Level IV Observational Study**

medicine clinics as a quality improvement initiative.	workflow for depression, collaboration with health information technology, and educational materials for providers and staff.	2020 and April 2021	April 2021 and the patient's depression screening status was the study outcome variable.	the changes in likelihood of a patient being up to date on screening during this period.	improvement initiative.	
Cuijpers, P., Quero, S., Dowrick, C., & Arroll, B. (2019). Psychological treatment of depression in primary care: Recent developments. *Current Psychiatry Reports 21*(129), 1-10. https://doi.org/10.1007/s11920-019-1117-x						
The researchers' aim was to give an overview of recent developments on psychological treatments of depression in primary care.	Randomized controlled trials in primary patients	A systematic review of 34 studies among different settings was conducted.	Several studies were investigated in low- and middle-income countries. Randomized controlled trials were performed across different settings.	. A growing number of randomized controlled trials (RCTs) across different settings. One recent meta-analysis of 8 RCTs on computerized cognitive behavioral therapies in primary care confirmed the general findings.	The researchers concluded that psychological treatments are effective in the treatment of depression in primary care, have longer lasting effects than drugs, and are preferred by most patients. They can also be applied with flexibility across different target groups. Combined treatment, however, is more effective than either psychotherapy or pharmacotherapy alone.	**Level II Randomized Controlled Trials**
Cuijpers, P., Van Straten, A., Van Schaik, A., & Andersson, G. (2009). Psychological treatment of depression in primary care: A meta-analysis. *British Journal of General Practice 59*(559), e51-e60. https://doi.org/10.3399/bjgp09X395139						
The researchers' aim was to integrate the results of randomized controlled trials of	A meta-analysis of studies examining the effects of psychological treatments of adult	15 studies were included and the standardized mean effect size of	An existing database of studies on psychological treatments of adult depression built on	Randomized trials were included in which the psychological treatments on adult	The researchers concluded that although the number of studies they used were low and the quality varied, psychological treatment of	**Level I Meta-Analysis Study**

psychological treatment of depression in adults in primary care settings and to compare these results to earlier treatments in other settings.	depression in primary care.	psychological treatment versus control group was 0.31 (95% Cl=0.17 to 0.45), which correspond with numbers needed to treat of 5.75.	systematic searches in PubMed, PsychInfo, EMBASE, and dissertation abstracts internationally was used.	primary care patients with depression were compared to a controlled condition.	depression was found to be effective in primary care, especially when general practitioners refer patients with depression for treatment.	
Dineen-Griffin, S., Garcia-Cardenas, V., Williams, K., & Benrimoj, S.I. (2019). Helping patients help themselves: A systematic review of self-management support strategies in primary health care practice. *PloS One 14*(8), e0220116. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0220116						
The purpose of this review was to examine self-management support interventions in primary care on health outcomes and to identify effective strategies.	A systematic review of randomized controlled trials evaluating self-management support interventions was conducted.	N= 6,510 records were reviewed. 58 studies were included in the final qualitative synthesis.	Studies were found in the Cochrane Database and PRISMA databases.	The systematic review synthesized data from 58 studies (randomized controlled trials) utilizing the Cochrane handbook and PRISMA guidelines.	The findings provided primary care providers with evidence-based strategies and structure to deliver self-management strategies in practice.	**Level I: Systematic Review**
Ettman, C. K., Abdalla, S. M., Cohen, G. H., Sampson, L., Vivier, P. M., & Galea, S. (2020). Prevalence of depression symptoms in U.S. adults before and during the COVID-19 pandemic. *JAMA network open*, *3*(9), e2019686. https://doi.org/10.1001/jamanetworkopen.2020.19686						
The purpose of this study was to estimate the prevalence and risk factors of depression among U.S. adults during	A cross-sectional survey	A total of 1,470 participants completed the survey	A probability-based panel that is representative of the U.S. population by design.	Households were randomly selected with a known non-zero probability from the	The researchers concluded that the prevalence of depression symptoms in the U.S. was	**Level IV cross-sectional study**

vs before the pandemic.				NORC National Frame covering 97% of households and a statistical analyses was performed.	more than 3-fold higher during the pandemic compared with before. Individuals with lower economic resources, and greater exposure to stressors reported a greater burden of depression symptoms.	
Gilbody, S., Richards, D., Brealey, S., & Hewitt, C. (2007). Screening for depression in medical settings with the Patient Health Questionnaire (PHQ): A diagnostic meta-analysis. *Journal of General Internal Medicine: JGIM*, *22*(11), 1596–1602. https://doi.org/10.1007/s11606-007-0333-y						
The researchers in this study intended to recap the psychometric properties of the PHQ 2 and PHQ 9 screening tools for depression. Screening for depression has been revealed to advance the acknowledgement and managing of depression.	A diagnostic meta-analyses study	There was a total of 5,026 participants with a sensitivity of 0.80, specificity of 0.92, and positive likelihood ratio of 10.12.	The researchers authenticated 17 studies conducted in primary care, outpatient, and specialty care services using a diagnostic meta-analysis.	The researchers sought studies using the PHQ 2 and PHQ 9 questionnaires. They searched databases from 1994 to 2007 in Medline, Embase, PsycInfo, & CINAHL.	The researchers determined that the PHQ 9 is a satisfactory instrument to screen for depression, however, additional research is needed to authenticate the PHQ 2.	**Level I Diagnostic Meta-Analyses**
Hidalgo, J. L., & Sotos, J. R., & DEP-EXERCISE Group (2021). Effectiveness of Physical Exercise in Older Adults with Mild to Moderate Depression. *Annals of family medicine*, *19*(4), 302–309. https://doi.org/10.1370/afm.2670						

The purpose of this study was to compare the effectiveness of physical exercise with that of anti-depressant drugs in terms of decreasing depression symptoms in adults.	A randomized clinical trial was conducted in a primary care setting	N= 347 patients aged >65 years with a clinically significant depressive episode were randomized to participation.	A supervised exercise program will consist of 2 weekly sessions in groups of 10-12 patients over a period of 6 months.	The statistical analyses strategy consisted of an initial study of the homogeneity of participant characteristics and variables in both groups. All analyses were performed using the SPSS version 19.0 (IBM Corp).	The researchers concluded that although initial improvement was similar in both groups, antidepressant treatment was superior in the medium term, despite the greater number of adverse effects.	**Level II Randomized Controlled Trials**
Kocalevent, R.D., Hinz, A., & Brahler, E. (2013). Standardization of the depression screener patient health questionnaire (PHQ-9) in the general population. *General Hospital Psychology 35*(5), 551-555. https://pubmed.ncbi.nlm.nih.gov/23664569/						
The researchers in this study wanted to produce standardizing information and further examine the authenticity and factor composition of the patient health questionnaire (PHQ) 9 in the general population.	Randomized Controlled Trials	5,018 adult participants including women and men were included in this study.	Normative data for the PHQ 9 were generated for all genders and different age levels. Women had significantly higher mean scores than men.	Face to face household surveys were conducted between 2003 and 2008. The survey questionnaire included the PHQ 9 screening tool.	The researchers determined that moderate to severe depressive symptoms occur in 5.6% of the general population. This study validated the PHQ-9 screening tool to use for screening patients for depression.	**Level II Randomized Controlled Trials**
Lowe, B., Decker, O., Muller, S., Brahler, E., Schellberg, D., Herzgog, W., Herzberg, P.Y. (2008). Validation and standardization of the generalized anxiety disorder (GAD-7) screener in the general population. *Medical Care* 46(3), 266-274. https://www.jstor.org/stable/40221654						

The purpose of this study was to investigate reliability, construct validity, and factorial validity of the GAD 7 in the general population.	Participants of the survey completed a self-reported questionnaire that included the GAD 7.	N= 5,030 subjects with 53.6% female and a mean age of 48.4 years.	A survey was administered face to face between May 5 and June 8, 2006.	Confirmatory factory analyses substantiated the one-dimensional structure of the GAD 7 and its factorial invariance for gender and age.	The researchers concluded that the GAD 7 screening tool is dependable and valid as a measure for screening anxiety in the general population.	**Level III Cohort Study**
Mulvaney-Day, N., Marshall, T., Downey-Piscopo, K., Korsen, N., Lynch, S. Karnell, L.H., Moran, G.E., Daniels, A.S., & Ghose, S.S. (2018). Screening for behavioral health conditions in primary care settings: A systematic review of the literature. ***Journal of General Internal Medicine 33*****(3), 335-346. https://pubmed.ncbi.nlm.nih.gov/28948432/**						
The aim of this systematic literature review was to identify and evaluate public availability and psychometrically tested tools available for primary care providers to use to screen patients for common mental disorders.	The researchers followed the Institute of Medicine systematic review guidelines	N= 24 total screening tools were used in this review.	24 screening tools met the inclusion criteria. 15 tools were subscales stemming from multiple disorder assessments and 9 were ultra-short single disorder tools.	PubMed, PsycINFO, Applied Social Sciences Index and Abstracts, Cumulative Index to Nursing and Allied Health Literature and Health and Psychosocial Instruments databases were utilized in this study.	The researchers concluded that tools stemming from the PHQ had the most testing and application in primary care settings.	**Level I: Systematic Review**
Olfson, M., Blanco, C., & Marcus, S.C. (2016). Treatment of adult depression in the United States. ***Journal of the American Medical Association International Medicine 176*****(10), 1482-1491. https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2546155**						
The researchers in this study wanted to examine the treatment of	An analysis was conducted using the Medical Expenditure	The participants included 46,417 adults in 2012-2013 who screened	Detailed data was collected directly from each household using 3	A logistic regression model was used to evaluate the effects of	The researchers concluded that many adults in the United States	**Level III Cohort Study**

depression in the U.S. on the adult population. Antidepressants are used often to help treat depression in adults, however, there have been concerns that many adults do not want to obtain treatment, and those who do obtain treatment, may not get the right type of treatment for their level of severity.	Panel Survey (MEPS) by the Agency for Healthcare Research and Quality (AHRQ).	positive for depression.	interviews in a survey year. Respondents indicated medication or counseling was used.	each sociodemographic variable level on odds of screening positive for depression.	who screened positive for depression did not obtain help, whereas most who were treated did not screen positive. It is of greatest concern to strengthen and improve attempts to help with depression treatment with specific patient's clinical needs.	
Park, L. T., & Zarate, C. A., Jr (2019). Depression in the primary care setting. ***The New England Journal of Medicine, 380*****(6), 559–568. https://doi.org/10.1056/NEJMcp1712493**						
The researchers recommended to have all adult patients in the primary care setting universally screened for depression.	Randomized Controlled Trials	N= 3,671 (adult outpatient setting with non-psychotic major depressive disorder)	Brief screening instruments for depression such as the PHQ 9 and the Ask Suicide Screening Questions may be effectively administered in the outpatient setting.	Information on real-world effectiveness was provided by the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) trials which used a 4-level algorithm to guide the selection of medication.	The researchers concluded that pharmacotherapy, psychotherapy, or both are all reasonable treatment options for moderate depression.	**Level II Randomized Controlled Trials**

Siniscalchi, K. A., Broome, M. E., Fish, J., Ventimiglia, J., Thompson, J., Roy, P., Pipes, R., & Trivedi, M. (2020). Depression screening and measurement-based care in primary care. *Journal of Primary Care & Community Health*, *11*, 2150132720931261. https://doi.org/10.1177/2150132720931261						
The researchers conducted a measurement-based care program to help improve depression screening and treatment of adult patients in the primary care setting.	A pre/posttest was used to determine the effectiveness of changes in screenings, outcomes, and satisfaction.	N= 1,200 adult patients (Only 95.4% received initial screening). Providers diagnosed and administered care to 236 patients. (Only 27.5% returned for follow up care)	Providers administered a measurement-based care screening (Vital Sign 6) to all adult patients in this project.	Vital Sign 6 was utilized during this study and was effective in improving identification and management of depression in primary care.	The researchers concluded that there was a statistically significant decrease in self-reported depression scores from baseline to follow-up.	**Level VI (case controlled study) Quality Improvement Project**
Sirey, J.A., Banaerjee, S., Marino, P., Bruce, M.L., Halkett, A., Turnwald, M., Chiang, C., Liles, B., Artis, A., Blow, F., & Kales, H.C. (2017). Adherence to depression treatment in primary care: A randomized clinical trial. *Journal of the American Medical Association Psychiatry* *74*(11), 1129-1135. https://pubmed.ncbi.nlm.nih.gov/28973066/						
The purpose of this study was to test the effectiveness of psychosocial intervention to improve early adherence among older adults whose primary care physician newly initiated an anti-depressant for depression.	This program was offered in a 2-site randomized clinical effectiveness study between January 2011 and December 2014 at primary care practices in New York. All participants were adults >55 years of age	N= 231 middle and older aged adults without significant cognitive impairment.	The primary outcome was self-reported adherence on the Brief Medication Questionnaire with adequate early adherence of taking medication.	The statistical analyses were conducted using the SAS software version 9.4 (SAS Institute Inc).	The researchers concluded that treatment initiation and participation program is an effective intervention to improve early adherence to pharmacotherapy.	**Level II Randomized Controlled Trials**

Thombs, B.D., Kwakkenbos, L., Levis, A.L., & Benedetti, A. (2018). Addressing overestimation of the prevalence of depression based on self-reported screening questionnaires. *Canadian Medical Association Journal, 190*(2), E44-E49. https://doi.org/10.1503/cmaj.170691						
Mental health conditions, which include depressive disorders, are characterized in studies using valid analytical discussions. The researchers in this study used self-reported screening questionnaires to estimate prevalence of depressive symptoms since it required less resources to complete.	The researchers in this study used self-reported screening questionnaires to estimate prevalence of depressive symptoms since it required less resources to complete.	Pub Med was used January to March 2017 for primary studies with titles that indicated the prevalence of depression or depressive disorders. Prevalence was based on screening questionnaire in 17 of 19 studies (89%).	The researchers utilized PubMed from January 2017 to March 2017 for primary articles with titles that specified the prevalence of depression. The researchers describe the problem of estimating prevalence and other strategies that require fewer resources than conducting diagnostic interviews for all patients.	Prevalence estimates should be based on appropriate methods. Systematic reviews and meta-analyses should be based on validated diagnostic interviews. Comparisons of scores should be continual rather than cut off scores.	The researchers concluded that prevalence approximations should be based on appropriate methods. Systematic reviews and meta-analyses of the prevalence of depression are recommended to be founded on results from validated analytical interviews.	**Level IV Case Control Studies**
Vahratian, A., Blumberg, S.J., Terlizzi, E.P., & Schiller, J.S. (2021). Symptoms of anxiety or depressive disorder and use of mental health care among adults during the COVID-19 pandemic-United States. *MMWR Morbidity Mortality Weekly Report 70*(13), 490-494. https://www.cdc.gov/mmwr/volumes/70/wr/mm7013e2.htm						
The purpose of this study was to rapidly monitor changes in mental health status and access to care during the pandemic. This report	A descriptive study	The study was done in the U.S. and used a probability-based sample design. An unweighted sample size consisted	A rapid response online survey (household pulse survey)	The online survey used a probability-based sample design to measure the social and economic impact of	The researchers concluded that there is an increase in mental health symptoms especially among young adults during the pandemic. The trends in symptoms of anxiety or a depressive disorder have	**Level VI single descriptive study**

describes trends in the percentage of adults with symptoms of anxiety or depression and those who sought mental health services.		of 431,565 for phase 2 and 358,977 for phase 3 for a total of 790,633.		the pandemic on U.S. households.	increased with trends of rising COVID cases.	
Vilagut, G., Forrero, C.G., Barbaglia, G., & Alonso, J. (2016). Screening for depression in the general population with the center for epidemiologic studies depression (CES-D): A systematic review with meta-analysis. *PLOS ONE, 1-17.* https://doi.org/10.1371/journal.pone.0155431						
The researchers in this study collected and meta-analyzed the current information regarding the performance of the Center for Epidemiological Studies Depression (CES-D) for identifying depression in the adult population in primary care settings.	Systematic Review with Meta-Analysis	The researchers performed a systematic literature search which had a total of 28 studies, or 10,617 participants that met standards.	The researchers in this study collected and meta-analyzed the current information regarding the performance of the Center for Epidemiological Studies Depression (CES-D) for identifying depression in the adult population in primary care settings.	Systematic literature search was conducted, and eligible studies included validation studies, samples from primary care settings, standardized diagnostic interviews, and English or Spanish language for publication.	The researchers determined that the CES-D has adequate assessment precision in the general population but should not be used as a single analytical measurement tool for depression. The average incidence of major depression was 8.8%, sensitivity was 0.87, and specificity was 0.70.	**Level I Systematic Review with Meta-Analysis**
Waitzfelder, B., Stewart, C., Coleman, K.J., Rossom, R., Ahmedani, B.K., Beck, A., Zeber, J.E., Daida, Y.G., Trinacty, C. Hubley, S., & Simon, G.E. (2018). Treatment initiation for new episodes of depression in primary care settings. *Journal of General Internal Medicine 33*(8), 1283-1291. https://pubmed.ncbi.nlm.nih.gov/29423624/						

The purpose of this study was to describe patient characteristics associated with depression treatment initiation and treatment choice.	A retrospective observational design was used to analyze electronic health records.	N= 241,251 adults newly diagnosed with depression in primary care settings.	ICD codes for depression following a 1-year period with no depression diagnosis or treatment were used to identify new depression episodes. Depression was measured using the PHQ 9 scores on the day of diagnosis.	Logistic regression models were used to analyze this data. All analyses were conducted using the SAS version 9.4 software.	The researchers concluded that screening for depression in primary care settings is optimal, but treatment initiation remains sub-optimal. A better understanding of patient factors that influence treatment initiation is still needed.	**Level IV Observational Study**

Appendix D

Synthesis Matrix: Adult Mental Health Screenings

	Increasing screenings	*Validation of tools*	*Psychological Treatment*	*Impact of screenings*
Arroll et al. (2010)		**X**		
Blackstone et al. (2022)	**X**			**X**
Cuijpers, Quero, Dowrick, & Arroll (2019)			**X**	
Cuijpers, Van Straten, Van Schaik & Andersson (2009)			**X**	
Dineen-Griffin et al. (2019)				**X**
Ettman et al. (2020)	**X**			
Gilbody et al. (2007)		**X**		
Hidalgo & Sotos (2021)				**X**
Kocalevent et al (2013)	**X**			**X**
Lowe et al. (2008)		**X**		
Mulvaney-Day et al. (2018)		**X**		
Olfson, Blanco & Marcus (2016)			**X**	
Siniscalchi et al. (2020)		**X**		
Sirey et al. (2017)			**X**	
Thombs et al. (2018)		**X**		
Vahratian et al. (2021)	**X**			
Vilagut et al. (2016)		**X**		
Waitzfelder et al. (2018)	**X**			**X**

Appendix E

Resources for Patients

CONTACT INFORMATION FOR PSYCHIATRIC CARE

Inpatient Care:

Polara Health Inpatient Crisis Stabilization Unit
Phone # 928-445-5211 extension 1 (open 24/7)
Toll Free Crisis Helpline # 877-756-4090
8655 E. Eastridge Dr. Prescott Valley, AZ 86314
If your life or someone else's life is in danger, please call 911
If you are in crisis and need help now, please call or text 988
https://www.polarahealth.com
*Telehealth Zoom***:** https://zoom.us (Meeting ID: 954 0369 1857) (Passcode: 946460)

Outpatient Care:

Optima Medical Psychiatric Care
Phone # 928-777-9600 (Prescott) or 928-772-2582 (Prescott Valley)
743 Miller Valley Road Prescott, AZ 86301
3251 N. Windsong Dr. Prescott Valley, AZ 86314
www.optimamedicalaz.com
Services provided: MAT for opioid dependence, alcohol use disorder, smoking cessation, consultations, diagnostics, medication optimization, aftercare, resources

Southwest Behavioral & Health Services (Outpatient)
Phone #602-265-8338 or 928-772-1610
7600 E. Florentine Rd. Ste 201 Prescott Valley, AZ 86314
Services provided: individual/group/family counseling, medication services, psychiatric care, skills training, case management, DUI education, DV education
https://www.sbhservices.org/prescott-valley-outpatient

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P: 928-277-0875 F: 608-716-2838

PSYCHIATRY & COUNSELING SERVICES

NAME	SERVICES PROVIDED	PHONE NUMBER	ADDRESS
Abstract Psychiatry& Wellness PLLC	Psychiatric Services & Medication Management	928-719-0770	510 E. Moeller St. Prescott, AZ 86301
Ann Chavez, MSW, LCSW	Counseling Services (EMDRIA Certified Therapist)	928-830-3884	240 S. Montezuma St. #205 Prescott, AZ 86303
Anthony J. Stanisci, LCSW	Counseling Services	928-848-7456	1129 W. Iron Springs Rd. Prescott, AZ 86305
Brooke Miller Coaching	Therapist & Holistic Life Coach	971-226-9180	Prescott Valley, AZ 86314
Grace Peace & Counseling	Counseling Services (faith-based)	844-384-7223	240 S. Montezuma St. #206 Prescott, AZ 86303
Honeybee Healing & Counseling Services, LLC	Counseling Services	928-756-0906	1745 Rustic Timbers Ln., Ste 1 &2 Prescott, AZ 86305
Marylyn A. Clark, Ph.D., LMFT, LISAC	Counseling Services	928-778-1806	1129 W. Iron Springs Rd. Prescott, AZ 86305
Optima Medical	Behavioral Health Services	Prescott: 928-777-9600 Prescott Valley: 928-772-2582	743 Miller Valley Rd. Prescott, AZ 86301 3251 N. Windsong Dr. Prescott Valley, AZ 86314
Pathways Counseling, LLC	Neuropsychology, Psychiatry & Counseling Services	928-385-3747	1000 Ainsworth Dr., C320 Prescott, AZ 86305
Polara Health Crisis Stabilization Unit	Primary Care & Psychiatry & In Patient Care	928-445-5211	8655 E. Eastridge Dr. Prescott Valley, AZ 86314
Pronghorn Psychiatry/Stoneridge Center	Neuroscience brain-focused mental health support	928-583-7799	5940 E. Copper Hill Dr. Prescott Valley, AZ 86314
Psychiatric Services of Prescott	Psychiatric Care & Assessment	928-776-7400	143 Merritt St. Prescott, AZ 86301
Serene Life	Psychiatric Care & Medication Management	928-362-0268	143 N. McCormick St. #103 Prescott, AZ 86301
Southwest Behavioral & Health Services	Counseling & Psychiatric Care	928-772-1610	7600 E. Florentine Rd. #201 Prescott Valley, AZ 86314
Start Moving On	Counseling &Trauma Center	928-910-5245	914 E. Gurley St. #200 Prescott AZ 86301

3165 Stillwater Drive Prescott, AZ 86305

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ONLINE RESOURCES FOR PATIENTS

Phone Apps available for mental health and well-being:

++***Online Therapists/Medication Management***: www.cerebral.com

++ ***Noom*** (promotes healthy eating patterns and exercise patterns)

++ ***Mood Kit*** (promotes effective strategies of professional psychology in your everyday life—helps you engage in mood engaging activities, identify and change unhealthy thinking, rate, and chart mood across time, and create journals to promote well-being)

++ ***Talk Space*** (promotes online mental health therapy with a licensed therapist)

++ ***Head Space*** (promotes mindful meditation—guided meditation and mindfulness and helps promote more restful sleeping patterns)

Phone Apps available for physical health:

++ Fit On (workouts to strengthen the mind, body, and soul)

++ Strong (easy to use workout trainer and strength training planner)

++ My Fitness Pal (an app that tracks nutrition, water, fitness, and weight loss goals)

3165 Stillwater Drive Prescott, AZ 86305

PRIORITY
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P: 928-277-0875 F: 608-716-2838

HANDOUTS FOR PATIENTS

ANXIETY HANDOUTS

Generalized Anxiety Disorder: When Worry Gets Out of Control
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/generalized-anxiety-disorder-gad/generalized_anxiety_disorder.pdf

How Stress Affects Your Health
https://guides.library.kumc.edu/ld.php?content_id=48334431

I'm So Stressed Out: Fact Sheet
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/so-stressed-out-fact-sheet/Im-So-Stressed-Out.pdf

I'm So Stressed Out: Is It Stress or Anxiety
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/so-stressed-out-infographic/so-stressed-out-infographic.pdf

DEPRESSION HANDOUTS

Depression
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/depression/21-mh-8079-depression_0.pdf

Depression in Women: 5 Things You Should Know
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/depression-in-women/depression-in-women-5-things-you-should-know.pdf

Men & Depression
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/men-and-depression/men-and-depression.pdf

MENTAL HEALTH HANDOUTS

Mental Wellness Action Plan
https://guides.library.kumc.edu/ld.php?content_id=48332020

My Mental Health: Do I Need Help?
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/my-mental-health-do-i-need-help/my_mental_health.pdf

Tips for Talking with A Health Care Provider About Your Mental Health
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/tips-for-talking-with-your-health-care-provider/tips-for-talking-with-a-health-care-provider-about-your-mental-health_1.pdf

What is Telemental Health?
https://www.nimh.nih.gov/sites/default/files/health/publications/what-is-telemental-health/what-is-telemental-health.pdf

PHYSICAL ACTIVITY HANDOUTS

Health Care Providers: Talk to Your Patient About Physical Activity
https://health.gov/sites/default/files/2022-09/PAG_MYW_FactSheet_HCP_091322_0.pdf

Move Your Way: What's Your Move? (Adults)
https://health.gov/sites/default/files/2021-02/PAG_MYW_FactSheet_Adults_508c.pdf

Move Your Way: What's Your Move? (Older Adults)
https://health.gov/sites/default/files/2021-02/PAG_MYW_FactSheet_OlderAdults_508c.pdf

SLEEP HANDOUTS

Be Your Best Slept Self
https://www.thensf.org/wp-content/uploads/2022/11/NSF-2022-BSS-Infographic.pdf

SUICIDE HANDOUTS

Frequently Asked Questions About Suicide
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/suicide-faq/suicide-faq.pdf

Warning Signs of Suicide

https://www.nimh.nih.gov/sites/default/files/documents/health/publications/warning-signs-of-suicide/Warning_Signs_of_Suicide.pdf

5 Action Steps for Helping Someone in Emotional Pain
https://www.nimh.nih.gov/sites/default/files/documents/health/publications/5-action-steps-for-helping-someone-in-emotional-pain/5-action-steps.pdf

VIDEO RESOURCE LIBRARY (National Alliance on Mental Illness)

https://www.nami.org/Support-Education/Video-Resource-Library?category=MentalHealthConditions

HANDOUTS FROM PATIENT EDUCATION TEMPLATES ON KAREO

file:///C:/Users/sarah/Downloads/PriorityFamilyNutritionHandouts.pdf

file:///C:/Users/sarah/Downloads/PriorityFamilyPatientEducationalHandouts.pdf

PriorityFamilyPatientEducationalHandouts.pdf

PriorityFamilyNutritionHandouts.pdf

Appendix F

Project Timeline

Tasks	Spring 2023	Summer 2023	Fall 2023	Spring 2024
1.Collect information and gather resources from the community. **Completed 2022**	Complete an algorithm for providers to use for patients who test positive for SI in primary care. Increase utilization tools for patients. **Completed January 2023**	Continue to gather data regarding mental health and update information as needed. **Completed January 2023**	Continue to gather data and update information as needed. **Completed January 2023**	**Completed 2023**
2. Complete scholarly project proposal paper and get approval from nursing faculty. **Completed November 2023**	Get paper ready for IRB approval. Continuing meeting with mentors monthly. **Completed November 2023**	Continuing meeting with mentors monthly. (Faculty & Clinical) **Completed Spring 2023**	Continuing meeting with mentors monthly. (Faculty & Clinical) **Completed Fall 2023**	Final meeting with mentors. (Faculty & Clinical) **Completed Spring 2024**
3. Implement project and collect data on at least 50 patients. **Completed November 2023**	Creation and implementation of intervention (a simple algorithm for suicidal patients in the primary care setting) **Completed November 2023**	Data collection on at least 50 patients **Completed March 2024**	Conclude the evaluation by using statistical method to measure findings and share findings with the stakeholders **Completed March 2024**	Disseminate data and conclude paper findings. **Completed Spring 2024**
4. Evaluate data on performance improvement project **Completed March 2024**	IRB approval on project. **Completed March 2024**	Collecting data on at least 50 patients. **Completed March 2024**	Evaluation of data on patients and concluded findings. **Completed March 2024**	Dissemination of data in final project. **Completed Spring 2024**
5. Utilize project in future clinical settings. **Completed Fall 2023**	Continue screening all adult patients in follow up visits. **Completed Fall 2023**	Continued use of S/I algorithm information. **Completed Fall 2023**	Continued utilization of CoCM Model. **Completed Fall 2023**	Continued mental health screenings with adult patients. **Completed Fall 2023**

Appendix G

SWOT Analysis

	Strengths	Weaknesses
Internal	1) The three nurse practitioners in the office (including myself) are all able to work together and share the same mindset when treating patients. We genuinely care about our patients and want them to receive the best care possible all while listening to their needs and concerns. We also practice the same way and are always using evidence-based practice guidelines while treating patients. 2) Everyone in the office gets along well with each other and employee morale is excellent! 3) Patients and staff both say it feels like a family-oriented atmosphere. 4) The workflow is not overwhelming, and providers are able to spend quality time with each patient. 5) The facility is very well kept and in pristine condition. Many of the patients who come in always compliment the décor and cleanliness.	1) Our office has a total of nine employees (three nurse practitioners, two full time front office, one full time medical assistant, two part time medical assistants, and the office manager who comes in as needed). This can cause an issue when someone calls off sick and the provider must do two jobs in one (medical assistant and provider role). 2) Two of the nine employees are brand new and are still in training, which slows down the check in process for patients. 3) The office only has three patient rooms and on days with three providers in the office this can make for long wait times for patients. 4) Phone messages may be delayed to providers since there are only two staff members checking and multiple voicemails daily. 5) There is only one office room that is shared by three providers and three desks which can be a little crowded at times.
	Opportunities	Threats

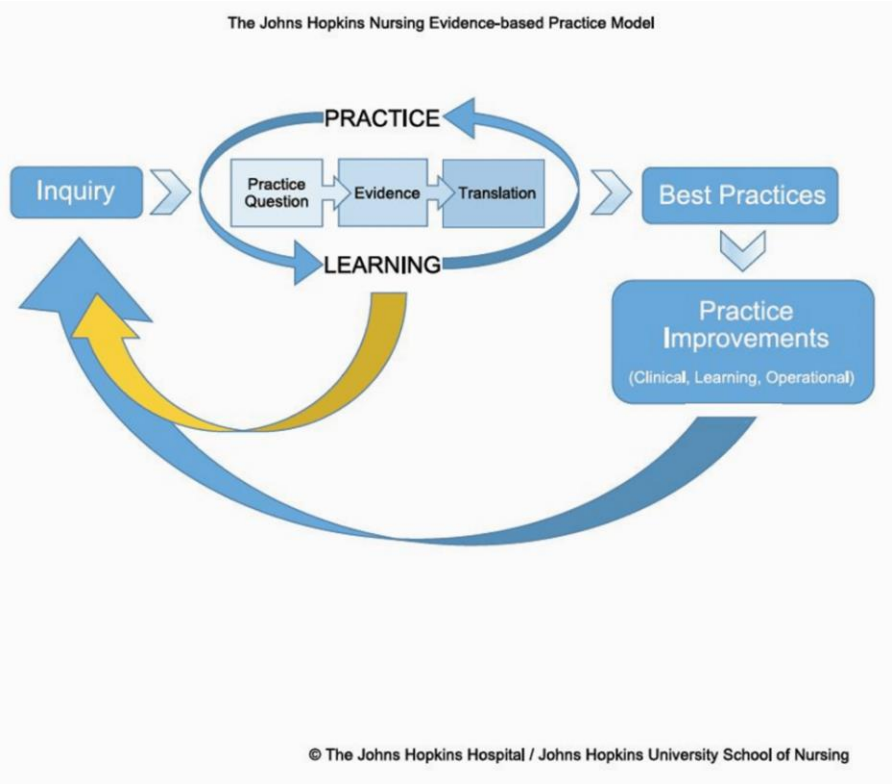
E X T E R N A L	1) The building next door is available for rent and our office staff will be moving into this suite as well by the end of January 2022. This will give our office more space and more patients' rooms. 2) By increasing our advertising on social media and by word of mouth, we will be able to grow exponentially and take on more patients in the future. 3) Many patients will establish with our office due to our numerous 5/5 google ratings online. 4) Our software program for our patient database (Kareo) is very user friendly and there is an opportunity to link this up with online patient database monitoring for patients with chronic conditions. This will be a wonderful opportunity for patients who may not be able to travel out of their homes and be able to connect with their provider remotely for their follow up visits. 5) There will be more training opportunities in the future for the providers in the office to get more educated on hormone therapy and other evidence-based practice guidelines. With more patients and revenue coming into the office, this will mean more educational funding for providers.	1) Prescott, AZ is a smaller town in Arizona and has numerous primary care offices in a 10-mile radius. As a result, many people in this town have already established other practices already. 2) As a result of the pandemic, few patients have been going to see their primary care provider which makes for low census some days. If the census is low on certain days, then hours may be cut for employees. 3) Due to the current pandemic, office and medical supplies have increased in cost. Some supplies are also in low or limited stock, which makes it harder for us to have it on hand. This can be a threat to the office since we may not have the supplies needed to do our job efficiently. 4) Insurance companies do not always pay for PCR testing which can check a patient for exactly what type of virus or bacteria they have. This is a shame since this is extremely helpful when treating a patient in the office. 5) Rapid COVID tests have been on back order lately. When we have a patients coming in for these tests, we may have to turn them away if we run out of our supply.

Appendix H

Concept Maps and Collaborative Care Models

Figure H1

The John Hopkins Nursing Evidence-Based Practice Model



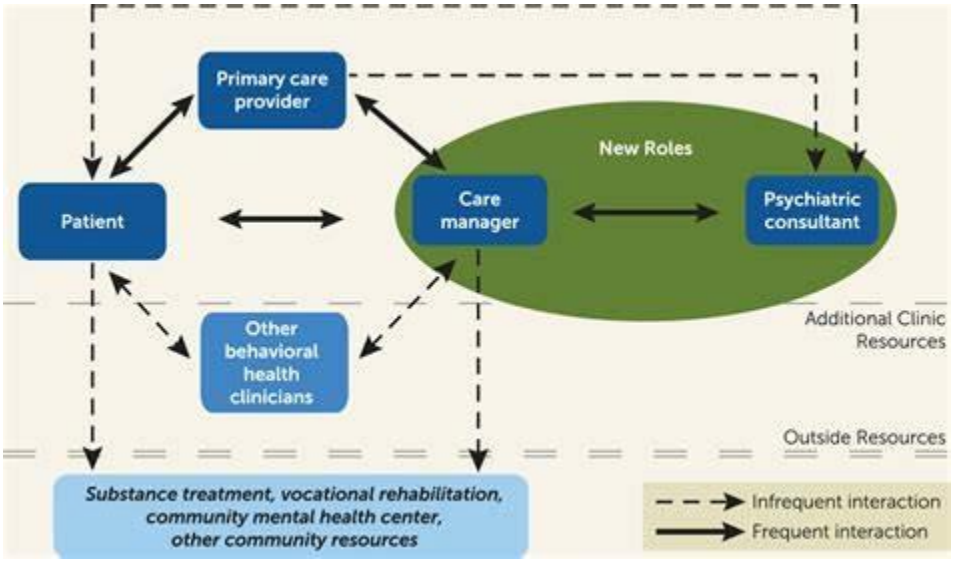
https://www.hopkinsmedicine.org/sebin/v/d/2017%20EBP%20Model.png

Figure H2

COLLABORATIVE CARE MODEL

Figure H3

EXAMPLE OF THE COMMUNICATION PROCESS



Appendix I

DNP Project Team Agreement

Full Title of DNP Project: Behavioral Health Integration in Primary Care: A Quality Improvement Project
DNP Student Information: Name **Sarah Claussen** Email: **sarah_claussen@yahoo.com** Phone [X] I have reviewed the NAU DNP Project Requirements and understand my responsibilities. Signature:
Other Team Member Information: Name: **Dr. Judith O'Haver** Credentials: **PhD, RN, CPNP-PC** Email: **Judith.Ohaver@nau.edu** Phone: [X] I have reviewed the NAU DNP Project Requirements and understand my responsibilities Signature:
Name: **Dr. Beth McManis** Credentials: **PhD, CNM, MS, FACNM** Email: **Beth.McManis@nau.edu** Phone: [X] I have reviewed the NAU DNP Project Requirements and understand my responsibilities Signature:
Comments:

Appendix J

NAU IRB Determination and Closeout Letter

NAU NORTHERN ARIZONA UNIVERSITY
Office of Research Compliance

Institutional Review Board for the Human Research Protection Program

525 S Beaver St
PO Box: 4062
Flagstaff AZ 86011
928-523-9551
https://www.nau.edu/IRB

To: Sarah Claussen, MSN, FNP-C
From: NAU IRB Office
Date: March 1, 2024

Project: Behavioral Health Integration in Primary Care: A Quality Improvement Project
Project Number: 2157369-1
Submission: New Project
Review Level: Administrative Review
Action: NOT RESEARCH
Project Status: NOT RESEARCH

The project listed above does not require oversight by the Northern Arizona University Institutional Review Board because the project does not meet the definition of 'research' and/or 'human subject'.

- **Not Research as defined by 45 CFR 46.102(d):** As presented, the activities described above do not meet the definition of research as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "research means a systematic investigation, including research development, testing and evaluation, designed to contribute to generalizable knowledge".
- **Not Human Subjects Research as defined by 45 CFR 46.102(f):** As presented, the activities described above do not meet the definition of research involving human subjects as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains data through intervention or interaction with the individual, or identifiable private information".

Note: Modifications to projects not requiring human subjects review that change the nature of the project should be submitted to the Human Research Protection Program (HRPP) for a new determination (e.g. addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the research question). Please contact the HRPP to consult on whether the proposed changes need further review.

Northern Arizona University maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #0000357).

Important

The principal investigator for this project is responsible for obtaining all necessary approvals before commencing project activities. Please be sure that you have satisfied applicable external and University requirements, for example (but not limited to) listserv permission, records request, data use agreement, conducting University surveys, data security, HIPAA, FERPA, sponsor approval, or tribal consultation.

The IRB determination does not convey approval to commence activities in the event that other requirements have not been satisfied.

Appendix K

Agency Agreement Letter

PRIORITY
FAMILY MEDICAL CLINIC

Thomas Gann FNP-C
Phone: 928-277-0875
Fax: 608-716-2838
NPI: 1073866406
TAX ID: 83-2963704

01/30/2024

Dear Institutional Review Board at Northern Arizona University,

I am writing on behalf of Sarah Claussen, FNP-C, an employee of Priority Family Medical Clinic, allowing approval to complete a retrospective review of previously collected data for a quality initiative that has taken place at our office. This project focuses on behavioral health integration in the primary care setting. Patients have been filling out anxiety and depression screening tools during all of their follow up visits, which has now become a standard part of care going forward in this practice. I am pleased to support and endorse this request once she obtains approval from the IRB at Northern Arizona University.

The research plan has been thoroughly reviewed and I am confident that this retrospective review aligns with ethical standards and guidelines set forth by our institution and the IRB. I trust that Sarah Claussen, FNP-C, will continue to uphold the highest level of integrity and responsibility while completing her doctoral study once approved by the IRB.

For further information, please contact Sarah Claussen, FNP-C at or 928-499-2771.
Thank you for your prompt attention to this manner.

Sincerely,

Thomas Gann, FNP-C

Appendix L

Data Analyses Tables

Table L1

Gender

			Female	Male	Total
Month					
	November 2023	Count	66	34	100
		Expected Count	65.0	35.0	100.0
		Percentage within month	66.0%	34.0%	100.0%
	October 2023	Count	64	36	100
		Expected Count	65.0	35.0	100.0
		Percentage within month	64.0%	36.0%	100.0%
Total		Count	130	70	200
		Expected Count	130.0	70.0	200.0
		Percentage within month	65.0%	35.0%	100.0%

Table L2

Chi-Square Tests (Gender)

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.088 [a]	1	.767		
Continuity Correction [b]	.022	1	.882		
Likelihood Ratio	.088	1	.767		
Fisher's Exact Test				.882	.441
N of Valid Cases [c]	200				

[a] 0 cells (0.0%) have expected count less than 5. The minimum expected count is 35.00.

[b] Computed only for a 2x2 table

[c] The proportions of males and females in pre-intervention and post-intervention groups were not significantly different, $\chi(1) = .088$, $p = .767$.

Table L3

Average age range (Group statistics)

		N	Mean	Std. Deviation	Std. Error Mean
Month					
October 2023	Count	100	60.12	16.948	1.695
November 2023	Count	100	64.12	84.154	8.415

Table L4

Average age range (Independent Samples Test)

	Levene's Test for Equality of Variances		Significance			t-test for Equality of Means		95% Confidence Interval of the Difference	
	F	Sig.	t	df	One-sided p	Two-sided p	Mean Diff.	Std. Diff.	Lower	Upper
Equal Variances										
Assumed	1.336	.249	-.466	198	.321	.642	-4.00	8.584	-20.929	12.929
Not Assumed			-.466	107.017	.321	.642	-4.00	8.584	-21.018	13.018

Table L5

GAD-7 Severity Categories

		Minimum	Mild	Moderate	Severe	Total
Month						
November 2023	Count	67	16	8	6	97
	Percentage within month	69.1%	16.5%	8.2%	6.2%	100.0%
October 2023	Count	28	4	1	2	35
	Percentage within month	80.0%	11.4%	2.9%	5.7%	100.0%
Total	Count	95	20	9	8	132
	Percentage within month	72.0%	15.2%	6.8%	6.1%	100.0%

Table L6

PHQ-9 Severity Categories

			Minimum	Mild	Moderate	Severe	Total
Month							
	November 2023	Count	62	20	9	6	97
		Percentage within month	63.9%	20.6%	9.3%	6.2%	100.0%
	October 2023	Count	29	2	2	2	35
		Percentage within month	82.9%	5.7%	5.7%	5.7%	100.0%
Total		Count	91	22	11	8	132
		Percentage within month	68.9%	16.7%	8.3%	6.1%	100.0%

Table L7

Independent-Samples Mann-Whitney U Test GAD-7

			N	Mean Rank
Month				
	October 2023	Count	35	61.23
	November 2023	Count	97	68.40

Table L8

Independent-Samples Mann-Whitney U Test PHQ-9

			N	Mean Rank
Month				
	October 2023	Count	35	58.11
	November 2023	Count	97	69.53

Table L9

GAD-7 Completed Screenings

			Not Done	Done	Total
Month					
	November 2023	Count	3	97	100
		Expected Count	34.0	66.0	100.0
		Percentage within month	3.0%	97.0%	100.0%
	October 2023	Count	65	35	100
		Expected Count	34.0	66.0	100.0
		Percentage within month	65.0%	35.0%	100.0%
Total		Count	68	132	200
		Expected Count	68.0	132.0	200.0
		Percentage within month	34.0%	66.0%	100.0%

Table L10

PHQ-9 Completed Screenings

			Not Done	Done	Total
Month					
	November 2023	Count	3	97	100
		Expected Count	34.0	66.0	100.0
		Percentage within month	3.0%	97.0%	100.0%
	October 2023	Count	65	35	100
		Expected Count	34.0	66.0	100.0
		Percentage within month	65.0%	35.0%	100.0%
Total		Count	68	132	200
		Expected Count	68.0	132.0	200.0
		Percentage within month	34.0%	66.0%	100.0%

Table L11

Frequencies of GAD-7 Positive Screenings

			Negative	Positive	Total
Month					
	November 2023	Count	83	14	97
		Percentage within month	85.6%	14.4%	100.0%
	October 2023	Count	32	3	17
		Percentage within month	91.4%	8.6%	12.9%
Total		Count	97	35	132
		Percentage within month	100.0%	100.0%	100.0%

Table L12

Frequencies of PHQ-9 Positive Screenings

			Negative	Positive	Total
Month					
	November 2023	Count	82	15	97
		Percentage within month	84.5%	15.5%	100.0%
	October 2023	Count	31	4	19
		Percentage within month	88.6%	11.4%	14.4%
Total		Count	97	35	132
		Percentage within month	100.0%	100.0%	100.0%

Table L13

Referrals Initiated

			COCM Program	Psych Therapy	Med Initiation	Total
Month						
	November 2023	Count	26	19	39	84
		Percentage within month	100.0%	86.4%	56.5%	71.8%
	October 2023	Count	0	3	30	33
		Percentage within month	0%	13.6%	43.5%	28.2%
Total		Count	26	22	69	117
		Percentage within month	100.0%	100.0%	100.0%	100.0%