IMPROVING DEPRESSION SCREENING AND FOLLOW-UP IN PRIMARY CARE SETTINGS

by

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DEDICATION

This work is dedicated to the people of my community who suffer the torment of the monotone monster of depression. If, through the efforts represented here, even one of you finds new joy in life, I will be amply repaid.

ACKNOWLEDGEMENTS

A project like this can never succeed as a lone venture. Even though my name is listed as author on the title page, this work represents the efforts of so many professionals whose wisdom and commitment to the health of the people of our community moved the project forward. While I cannot list the names of the leaders, providers, and support staff of my target facility for confidentiality reasons, you are at the top of my list. Your commitment to providing individualized, quality care to an often-complex patient population inspired me and made the success of this venture possible.

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Lastly, I am grateful for the faith, hope, and love provided by my Creator Who strengthens me to fight for life, goodness, and redemption.

TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUED

TABLE OF CONTENTS CONTINUED

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

ABSTRACT

Background: Depression is a serious problem globally and locally. It not only impacts work productivity and the costs of healthcare, but it also directly reduces quality of life and increases the burden of chronic illness. In addition, depression increases the risk of death by suicide. Depression is thought to be one of the most treatable of mental health disorders, yet it remains underdiagnosed and undertreated. The primary care setting provides the ideal location to identify individuals with depression and to initiate treatment.

Objective: The objective of this quality improvement initiative was to meet or exceed the target rate of depression screening and follow-up in a federally qualified health center in northwest Montana.

Method: Following a review of relevant literature, an extensive organizational assessment was conducted. A clinical practice guideline was written which recommended a standardized workflow and written standard operating procedure. Measures to educate and engage staff were employed. Staff feedback was solicited through an online survey. The clinical practice recommendation was appraised by the organization's quality team using the AGREE II appraisal tool.

Results: Staff expressed support of change as evidenced by verbal responses to manager and anonymous online survey. The quality team approved the practice recommendations for implementation which was initiated on March 1, 2023. Preliminary data indicate that screening and follow-up rates have improved.

Conclusion/Implications: It is feasible to improve depression screening and follow-up in primary care settings by studying the current state thoroughly and implementing key facilitators.

Keywords: screening for depression, standardized workflow, staff engagement, patient health questionnaire (PHQ-2, PHQ-9)

CHAPTER ONE

A SYSTEMATIC REVIEW OF BARRIERS AND FACILITATORS TO DEPRESSION SCREENING AND FOLLOW-UP IN PRIMARY CARE

Part 1: The Problem

"Depression is such a cruel punishment. There are no fevers, no rashes, no blood tests to send people scurrying in concern, just the slow erosion of self, as insidious as cancer. And like cancer, it is essentially a solitary experience; a room in hell with only your name on the door." Martha Manning, Undercurrents (Manning, 1995).

Background

Depressive disorders include disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication induced depressive disorder, depressive disorder due to another medical condition, other specified depressive disorder, and unspecified depressive disorder (APA. DSM-5 Task Force., 2013). They occur on a continuum from a single mild episode to recurrent severe states.

Depression differs from the usual mood fluctuations that are normal responses to the challenges of everyday life. Those who suffer from it report often feeling down, depressed, or hopeless. They might lose interest in things they normally enjoy or find it difficult to experience pleasure. They struggle with fatigue and low energy, changes in sleeping habits, and feeling worthless or guilty. Their appetite may change, and they may experience unplanned weight gain or loss. They may lose their ability to concentrate and make even small decisions. They may find

themselves restless and fidgety – unable to sit still – or the opposite – find it hard to get moving at all. Most concerning of all is that suicidal ideation is common with depression. It can range from transient death wishes to active planning with intent to end one's own life (APA. DSM-5 Task Force., 2013; National Alliance on Mental Illness, 2021b; World Health Organization, 2021).

Suicide has surpassed car accidents as the number one cause of injury-related death in the United States. There has been a 30% increase in the number of suicides in the United States since 1998 (Centers for Disease Control and Prevention, 2021). Up to 45% of individuals who die by suicide visit their primary care provider within a month of their death, with 20% of those having visited their primary care provider within 24 hours of their death (Rosston, 2022). Depression is a common illness worldwide, with an estimated 3.8% of the population affected, including 5.0% of all adults and 5.7% of adults older than 60 years. Approximately 280 million people in the world have depression (World Health Organization, 2021). In the United States, the National Epidemiologic Survey on Alcohol and Related Conditions III identified an annual major depressive disorder (MDD) prevalence rate of 10 percent and a lifetime rate of 21 percent (Hasin et al., 2018).

Montana: In 2018, almost 8% of Montana adults reported having ever been diagnosed with depression and experiencing frequent mental distress (defined as reporting poor mental health on 14 or more of the past 30 days) (Koeppen, 2018). For all age groups, Montana has ranked in the top five for suicide rates in the nation, for the past thirty years. In a report for 2020 in the National Vital Statistics Report, Montana had the third highest rate of suicide in the nation. Studies show that for every completed suicide, there are an average of six close friends and

family who survive the victim. Given there are approximately 300 suicides in Montana every year, that means there are about 1,800 new survivors every year in Montana. The risk of completing suicide is three times higher for survivors of suicide attempts (Rosston, 2022). A diagnosed mental illness was reported in a third of those who died by suicide, with depression being reported most often. Almost two-thirds of decedents were in a "depressed mood" at the time their death. Nearly 75% of all deaths had history of suicide, either by expressing suicidal thoughts or actions (Public Health in the 406, 2019). Common risk factors in Montana for depression and suicide are vitamin D deficiency, altitude, lower socioeconomic status, being a veteran, American Indian, middle-age white man, social isolation, lack of mental health services, alcohol, stigma, and access to lethal means (Rosston, 2022).

Flathead County: The 2021 Community Health Needs Assessment for Flathead County reports that a total of 25.0% of Flathead County adults have been diagnosed by a physician as having a depressive disorder at some point in their lives. In addition, a total of 29.6 % of Flathead County adults reports two or more years in their lives when they felt depressed or sad on most days, although they may have felt okay sometimes (symptoms of chronic depression). This trend is higher among adults age 45-64 (PRC, 2021).

Impact of Depression: Depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease (World Health Organization, 2021). It accounts for $30-50 billion in lost productivity and direct medical costs annually in the U.S. (Agency for Healthcare Research, 2022). Previous research demonstrates that every one-point increase in PHQ-9 (Patient Health Questionnaire-9) score results in a 1.65% mean loss of productivity among currently employed patients with depression. Further, even minor levels of

depression symptoms were associated with decrements in work function (Beck et al., 2011). Similarly, high school students with depression are more than twice as likely to drop out school compared to their peers (National Alliance on Mental Illness, 2021a).

Over half (56%) of adults who reported having ever been diagnosed with depression and experiencing frequent mental distress also reported having been diagnosed with two or more chronic conditions. The odds of reporting having ever been diagnosed with two or more chronic conditions was nearly five times higher among adults ever diagnosed with depression and experiencing frequent mental distress than among adults never diagnosed with depression and not experiencing frequent mental distress. Research suggests that a bidirectional relationship exists between depression and chronic disease including associations between depressive disorders and the prevalence of cardiovascular disease, diabetes, obesity, asthma, and arthritis (Beurel et al., 2020; Koeppen, 2018; Li et al., 2023; Moussavi et al., 2007).

Untreated depression is associated with decreased quality of life (Daly et al., 2010), and poor physiological outcomes when depression co-occurs with chronic medical conditions (Moussavi et al., 2007). Compared with non-depressed persons, patients with depression have an increased risk of mortality (relative risk [RR] 1.52) (Cuijpers et al., 2014). Each year lived with depression has been calculated to detract approximately 20 to 40 percent from a quality-adjusted life year (QALY) (Jia et al., 2015; Lave et al., 1998; Unützer et al., 1997).

The effects of depression extend beyond the individual patient, with negative impact on patients' employers (Stewart et al., 2003), spouses (Benazon & Coyne, 2000; Fadden et al., 1987), and children (Olfson et al., 2003; Sills et al., 2007). Half of those with a mood disorder

say they have experienced negative impacts on relationships with family or friends (National Alliance on Mental Illness, 2021b).

Vulnerable Populations: Populations in Montana that experience increased vulnerability to depression include women, military personnel, and Native Americans. Native Americans are 10% less likely than white, non-Hispanic citizens to report "good mental health status" (Koeppen, 2018). The prevalence of recent major depression among currently deployed U.S. military personnel is estimated at 12.0%, 13.1% among previously deployed, and 5.7% among those never deployed (Gadermann et al., 2012). Women experience a lifetime prevalence of 21% and a female-to-male ratio of approximately 2:1.5 (Agency for Healthcare Research, 2022). Depression is also common in postpartum and pregnant women and affects not only the woman but her child as well (Siu et al., 2016).

Problem

Although symptoms of depression are prevalent among primary care patients, few patients discuss these symptoms directly with their primary care clinicians. Instead, two-thirds of primary care patients with depression present with somatic symptoms (eg, headache, back problems, or chronic pain), making detection of depression more difficult (Simon et al., 1999; Tylee & Gandhi, 2005; Williams & Nieuwsma, 2022). Major depression is a treatable cause of pain, suffering, disability, and death, yet primary care clinicians detect major depression in only one-third to one-half of their patients with major depression (Trangle et al., 2016).

To address this problem, the United States Preventive Services Task Force recommends screening for depression in the general adult population, including pregnant and postpartum

women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up. It does not specify screening frequency (Siu et al., 2016).

Translating this recommendation into actual practice has been slow. Akincigil and Matthews (2017) analyzed data from the 2012 and 2013 National Ambulatory Care Survey and found that overall rates of screening for depression were 4.2%.

Objectives

The object of this review is to learn from the relevant literature what are common barriers and facilitators to increasing the rates of screening for depression with subsequent treatment in preparation for conducting a quality improvement project at a nearby federally qualified health center.

Part 2: The Evidence for Solutions

Methods

Two systematic searches were conducted. The first was conducted by the author alone followed by a second search a week later in conjunction with the Montana State University College of Nursing librarian. The search process is outlined in the decision tree included in Appendix A. Google Scholar, Web of Science, PsycInfo, Cumulative Index to Nursing and Allied Health Literature, and PubMed were searched for peer-reviewed articles relating to interventions implemented to increase the rates of screening for depression with subsequent initiation of treatment in federally qualified health centers (FQHC). Few interventions

specifically addressed FQHCs and so the search was broadened to include primary care settings as these interventions are generally applicable to the FQHC setting.

The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 statement was used as a guide for reporting this review (Page et al., 2021). See appendix B. Results were narrowed by limiting the time frame to articles published in 2016 and up to the present time. Interventions conducted outside of the United States were excluded. Other records were excluded because they focused on depression in the setting of specific medical comorbidities or populations other than a general adult population. A total of 19 records were selected for this review.

Among those selected, one systematic review was included. It is presented as a fact sheet and provides a good starting place for thinking about the problem (Agency for Healthcare Research, 2022). Four controlled/quasi-experimental studies and four Doctor of Nursing Practice Project manuscripts were included because the processes they discussed demonstrated pertinence to the author's designated clinical site (Blackstone et al., 2022; Crenshaw, 2019; Eubanks, 2018; Fowler, 2019; Gorman et al., 2021; Hargraves et al., 2017; Laham, 2018; Last et al., 2021).

One cohort study (Goldman et al., 2020) was included as it is based on the implementation of the Continuum-based Framework presented in the expert reports by Chung et al. (2016) and Chung et al. (2019). Three single descriptive articles were included as they report individual quality improvement projects similar to the one here proposed [43-45](Dannenberg et al., 2019; Lindsay & Decker, 2022; Schaeffer & Jolles, 2019).

Finally, six level 7 records were included (Chung et al., 2016; Chung et al., 2019; Ferenchick et al., 2019; Ramanuj et al., 2019; Smithson & Pignone, 2017; Trangle et al., 2016). These reports by experts in the field provide a broad perspective that is useful to the project.

Results

Settings

Practice settings that implemented interventions included in this review include a primary care clinic with four satellite practices in Charlottesville, VA (Blackstone et al., 2022), an urban academic clinic (Gorman et al., 2021), ten primary care practices including FQHCs (Hargraves et al., 2017), 90 primary care practices associated with Penn Medicine (Last et al., 2021), 11 small primary care sites in New York state (Goldman et al., 2020), an urban family medicine practice in south central TX (Crenshaw, 2019), an urban private primary care practice (Fowler, 2019), a rural free clinic in South Carolina (Eubanks, 2018), and 3 rural FQHCs in North Carolina (Laham, 2018).

Common Barriers to Improvement

The barrier cited most often was time constraints experienced by busy clinicians who must address a multiplicity of issues with each patient within a limited amount of time (Agency for Healthcare Research, 2022; Blackstone et al., 2022; Chung et al., 2019; Crenshaw, 2019; Lindsay & Decker, 2022; Ramanuj et al., 2019). This was sometimes compounded by poor inter-professional communication (Blackstone et al., 2022; Dannenberg et al., 2019). In some sites, the Medical Assistants performed the screening but didn't report the results to the provider. In other instances, no clear communication pathway was set up for the referral process and providers

either didn't have time to follow-through or the response was delayed, and the patient was lost to follow-up (Agency for Healthcare Research, 2022; Blackstone et al., 2022; Chung et al., 2019; Goldman et al., 2020).

Several articles cited inadequate training for both staff and providers as an important barrier to address (Agency for Healthcare Research, 2022; Crenshaw, 2019; Goldman et al., 2020). Goldman et al. (2020) also identified a lack of clearly defined roles within a practice. Crenshaw (2019) and Goldman et al. (2020) reported that staff turnover complicated process improvement. Crenshaw (2019) also reported initial resistance from the providers for referring patients to behavioral health services because of a concern of loss of revenue. From a financial standpoint, Chung et al. (2019) also reported problems with regulatory demands related to billing and reimbursement as well as quality reporting.

The Agency for Healthcare Research (2022) identified deficits in several other areas: improvement tools, leadership support, technical support, a system for tracking patients, appropriate staff to assist providers, and adequate training for both staff and providers. Negative attitudes by leadership, providers and/or staff can pose significant impediments to improvement (Chung et al., 2019; Crenshaw, 2019).

Dannenberg et al. (2019) initiated a process of screening for depression using either a patient portal accessed before the appointment, or a tablet used in the waiting room. A barrier identified was patient discomfort with electronic devices and preference for paper forms. Finally, physical space size and arrangement challenged a smooth workflow and some electronic health record software programs lacked the robustness and flexibility to support the needed tools for improvement (Chung et al., 2019; Laham, 2018).

Facilitators of Success

Each quality improvement project began with identifying and understanding the current process and barriers to progress. This clear picture provided the beginning of a road map that led to the goal of identifying depressed patients and getting them the treatment follow-up that they needed. The facilitators were those factors that addressed the barriers and set the stage for continuous forward movement.

Organizational Culture: Organizational culture is a group of internal values and behaviors in an organization that includes experiences, ways of thinking, beliefs, and future expectations. Culture is intuitive, with repetitive habits and emotional responses (Market Business News, 2021). Key characteristics of organizational culture that were identified as conditions of success included leadership buy-in and support of improving depression identification and treatment (Chung et al., 2019). Leadership support helps ensure that resources and tools necessary for improvement will be provided. In addition, on-site champions specific to the process contribute to its success (Chung et al., 2019; Hargraves et al., 2017).

Leaders should foster team engagement at every level of the organization and at every stage of the process (Chung et al., 2019; Laham, 2018; Lindsay & Decker, 2022; Schaeffer & Jolles, 2019). Planning meetings should include diverse staff who represent the various roles required for the process to succeed. Feedback should be sought from all staff and regular updates should be provided to the entire team (Chung et al., 2019; Hargraves et al., 2017). Last et al. (2021) described using an innovation tournament – a crowdsourcing method that invited stakeholders to submit ideas to address a workplace challenge. After gathering ideas, a panel of stakeholders and scientists deliberated over and ranked the ideas. A runoff was held to select the

winning idea. This rapid participatory method engaged and amplified the voices of diverse stakeholders.

Education: A key component to success was training and ongoing supervision for providers and staff (Blackstone et al., 2022; Chung et al., 2019; Crenshaw, 2019; Eubanks, 2018; Fowler, 2019; Hargraves et al., 2017; Ramanuj et al., 2019). This support helped ensure that individuals were not being asked to function outside their scope of expertise and helped to prevent burnout.

Well-trained staff was one component of successful patient education. In addition, educational handouts and tools were developed to educate patients and their families about depression and its treatment – especially self-management strategies (Agency for Healthcare Research, 2022; Chung et al., 2019; Goldman et al., 2020; Ramanuj et al., 2019; Smithson & Pignone, 2017; Trangle et al., 2016). Education was an important piece of engaging patients in the process which was key to ensuring adherence to treatment and adequate follow-up.

Health Information Technology: Health information technology may function in the background of the process, but in many ways, it is the fulcrum for success. It reminded staff when it was time to screen for depression (Blackstone et al., 2022; Laham, 2018; Lindsay & Decker, 2022), facilitated treatment by setting up order sets and macros (Fowler, 2019; Laham, 2018), and coordinated collaborative care by integrating communication between PCPs and BH providers (Blackstone et al., 2022; Eubanks, 2018; Hargraves et al., 2017). Integrating clinical tracking tools facilitated the process of appropriate support for depressed and/or at-risk patients (Chung et al., 2019; Eubanks, 2018; Goldman et al., 2020; Gorman et al., 2021; Trangle et al., 2016).

The Electronic Health Record (EHR) must provide the means to enter the depression screening. Some clinical sites used electronic screening methods – either with a patient portal that patients can access anywhere or with a tablet in the waiting room (Dannenberg et al., 2019; Smithson & Pignone, 2017). Others provided a paper form for patients to complete while waiting for their provider. These were scanned or otherwise entered into the EHR (Smithson & Pignone, 2017). Other practices utilized the medical assistant or nurse to conduct the screening during the rooming-in process and others assigned that task to the provider. Each method had advantages and drawbacks, but all required support by the ability to record results in the EHR (Dannenberg et al., 2019; Smithson & Pignone, 2017).

Collaboration: Collaboration refers to the coordination of services between primary care and behavioral health services. Some sites housed both disciplines in the same building while others did not. In either case, establishing developing a referral network and collaborative agreements was identified as a key component of success (Agency for Healthcare Research, 2022; Chung et al., 2019; Crenshaw, 2019; Goldman et al., 2020; Hargraves et al., 2017; Ramanuj et al., 2019). In addition, Hargraves et al. (2017) stressed the importance of defining and communicating the details of every step of the screening, brief intervention, and referral for treatment (SBIRT) process. Chung et al. (2019) discussed the value of condensed behavioral health notes being accessible to PCPs.

The Patient Visit: The Agency for Healthcare Research (2022) recommends developing practice patterns to improve patient management. These include a standardized workflow that systematically identifies when and how screening should take place and what will happen with the results (Blackstone et al., 2022; Crenshaw, 2019; Eubanks, 2018; Fowler, 2019; Goldman et

al., 2020; Laham, 2018; Trangle et al., 2016). Standardized tools for screening combined with treatment algorithms to refer to in the case of a positive screen are viewed as invaluable (Crenshaw, 2019; Eubanks, 2018; Goldman et al., 2020; Laham, 2018; Lindsay & Decker, 2022; Ramanuj et al., 2019; Schaeffer & Jolles, 2019; Smithson & Pignone, 2017; Trangle et al., 2016). Trangle et al. (2016) emphasized the value of patient-centered care that engages patients in the process of deciding on a course of action. This involves educating the patient and guiding them in a program of self-management that can include medication adherence, participation in psychotherapy, sleep hygiene, exercise, stress management and other lifestyle interventions (Chung et al., 2019). Goldman et al. (2020) discussed the value of warm hand-offs when a patient is referred to a behavioral health provider.

Outcomes

Several approaches to improving depression screening and referral processes were reviewed. The outcomes of these interventions are listed in Table 1.

Table 1: Summary of Improvements

Author	Setting	Intervention	Outcome
Blackstone et al., 2022	Family Medicine department in Charlottesville, NC	• Incorporated EHR workflow with collaborative care models • 4 PDSA cycles	Depression screening and follow-up rates increased from 61% to 82%
Gorman et al. (2021)	Urban academic clinic	• Medical assistant conducting screening instead of providers	Screening rates increased from 18% to 57%

Author	Setting	Intervention	Outcome
Lindsay and Decker (2022)	An adult primary care practice	• Emphasized staff engagement • "Health Watcher" reminder system • Standardized workflow • Treatment algorithm • Multiple PDSA cycles over 6 weeks	Screening and treatment rates increased from 23% to 90%
Schaeffer and Jolles (2019)	Multicultural health center	• PHQ in 6 languages • Option Grid • "Right care" tracking log • Team meetings • 4 PDSA cycles in 90 days	Provision of care increased from 9.1% to 71.4%
Chung et al. (2019)	10 primary care practices in New York state	• Continuum-based behavioral health integration framework to advance patient care	Global mean score increased from 22 at baseline to 34 at 12 months.
Crenshaw (2019)	Single primary care clinic where no screening was conducted at baseline	• 8-week intervention • Standardized workflow • Treatment algorithm	PHQ-2 screening rates 97%; Follow-up PHQ-9 screening rates 94% followed by an 81% rate of appropriate clincal assessment. Adherence to suicide protocols 100%. Referral rates to behavioral health 26%.

Author	Setting	Intervention	Outcome
Eubanks (2018)	Rural free clinic	• Multilevel intervention • Algorithm for screening for and managing depression • Continuing education for providers • 2 PDSA cycles to optimize workflow • Customizing the clinic's EHR for efficient data entry	PHQ-2 screening increased from 0% to 67% PHQ-9 screening if warranted was 100%. EHR documentation improved from 50% to 87.5%
Fowler (2019)	Urban primary care clinic	• Implemented depression screening and treatment protocol over 4 weeks	Screening with appropriate follow-up increased from 38.3% to 60.6%
Laham (2018)	3 FQHC in rural North Carolina	• Standardized workflow • Customization of EHR	Improved overall from 0% to 14% with one clinic reaching a screening rate of 60%

Discussion

Various frameworks for change were discussed within the quality improvement projects included in this review. Lindsay and Decker (2022) used the Donabedian model as their framework for examining health services and evaluating the quality of healthcare. Eubanks (2018) utilized the Institute of Healthcare Improvement's Model for Improvement in conjunction with Roger's Diffusion of Innovation Theory. Fowler (2019) adopted Lewin's change model and Pender's Health Promotion Model as frameworks for designing change. Laham (2018) referred to the Triple Aim Initiative and the model for change to evidence-based practice published by Rosswurn and Larrabee (1999).

One of the most useful frameworks for this review is the Continuum-Based Framework for advancing the integration of behavioral health into primary care. First published in 2016 by Chung et al. (2016), it was later tested and evaluated by Chung et al. (2019) in several primary care settings including several FQHCs. Goldman et al. (2020) continued the evaluation of the framework and added a domain to address sustainability of changes made.

The framework consists of 9 domains and 13 components organized into four main roles. See Appendix D. Each of the 13 components is described at four levels along the integration continuum from preliminary to intermediate to advanced. The framework provides a tool to assess the current state of an organization in relation to behavioral health integration, to set goals for improvement, and to measure that improvement.

The facilitators described above can be used to inform the actual interventions devised to move the organization along the integration continuum. This framework was found by the authors to be flexible enough to be utilized by small practices with limited resources.

Implications for Practice

Improving rates of detection for depression and responding with appropriate treatment is an achievable goal. In spite of the barriers discussed above, a team with a dedicated leader who intentionally applies common facilitators to their unique practice situation can effect change that results in better patient care

CHAPTER TWO

A PROJECT PROPOSAL

Introduction and Problem

Depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease (World Health Organization, 2021). It accounts for $30-50 billion in lost productivity and direct medical costs annually in the United States (Agency for Healthcare Research, 2022) and is a major risk factor for suicide (APA. DSM-5 Task Force., 2013; National Alliance on Mental Illness, 2021; World Health Organization, 2021). Up to 45% of individuals who die by suicide visit their primary care provider within a month of their death, with 20% of those having visited their primary care provider within 24 hours of their death (Rosston, 2022).

Based on these and other data, the United States Preventive Service Task Force recommends screening for depression in the general adult population. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up. The frequency for this screening was not specified (Siu et al., 2016). Translating this recommendation into actual practice has been slow. Akincigil and Matthews (2017) found that overall rates of screening for depression were 4.2%.

Problem Statement

According to the 2020 National Vital Statistics Report, Montana has the 3rd highest rate of suicide in the nation. Studies show that for every death by suicide, there are an average of 6 family members and/or friends left behind. The risk of completing suicide is three times higher

for these individuals left behind (Rosston, 2022). Given there are approximately 300 suicides in Montana every year, that means there are about 1,800 new individuals at risk every year in Montana from this factor alone. The 2021 Community Health Needs Assessment for Flathead County reports that a total of 25.0% of Flathead County adults have been diagnosed with a depressive disorder at some point in their lives. In addition, a total of 29.6 % of Flathead County adults reports two or more years in their lives when they felt depressed or sad on most days (PRC, 2021).

Depression and suicide are significant problems among the population that the target organization serves yet rates for screening and follow-up are low. This project plans to improve processes for identifying and treating depression in adult patients who present to the designated clinical site. It begins with an assessment of the organization's current performance, improvement culture, and processes. Barriers and facilitators to improvement as found in relevant scholarly literature will be compared with those at this organization. Based on this assessment, a plan will be formulated and implemented through several PDSA cycles with the object of reaching standardization and the longer-range goals for reducing depression and suicide rates in the target population.

Organizational Microsystem Assessment

The organization implementing this process improvement project is a federally qualified health center (FQHC) in western Montana. Their purpose is to "provide exceptional patient-centered care regardless of ability to pay". They serve over 7,000 patients within a 100-mile radius that is primarily rural in character.

The organization's rate for depression screening and follow-up for the trailing year of October 2022 is 54.8%. Of the 13 FQHCs in Montana, it ranks ninth in this measure. The best center's score is 91% and the lowest score is 33%. The network average is 59%. The facility's score of 54.8% is an improvement over the score of 47% in September of 2021.

DRVS by Azara healthcare provides data and metrics on core quality measures for all of the FQHC facilities in Montana. For the measure called Screening for Depression and Follow-Up Plan (CMS 2v11), the HRSA SAC (Service Area Competition) target rate is 83% with a secondary target of 75%. The measure is met only if both screening and a follow-up plan for positive screens are addressed.

The following table compares common organizational barriers and facilitators to improving depression screening and follow up as described in scholarly literature with those found at the target organization.

Table 2: Comparison of Organizational Barriers

Barriers identified in the Literature	**Target Organization Examples**
Time constraints	• New patient visits are scheduled for 40 minutes while established patient visits are 20 minutes long. During this time, the provider must address the chief complaint and all of the pertinent measures being tracked including depression. • Following the visit, the provider must find time to document care. Several reported that when they are there late in the evening completing their documentation, making sure they check all the boxes so that their care of the patient is measured in DRVS becomes low priority.

Barriers identified in the Literature	Target Organization Examples
Poor interprofessional communication	• Some providers check in with the staff rooming the patient and some do not. • Behavioral health (BH) staff formerly practiced in the same office. However, due to space limitations, they recently moved to another building. Staff reports that this has decreased interprofessional communication. • The patient's visit encounter lists include both provider notes and BH notes so that each can review what is happening at the other's visits.
Inadequate training	• Management has requested additional training for their care managers who provide brief interventions for patients in mental health crisis while waiting for on-call BH provider to arrive for warm hand-off.
Lack of clearly defined roles	• Roles are clearly defined – process is not clearly defined
Lack of improvement tools	• Lack of clearly defined written policy and procedure • Lack of diagnostic and treatment algorithms • Providers can see on their EHR dashboard what their performance measures are if they look at them.
Lack of leadership support	• Leadership is supportive of improving the process.
Lack of appropriate staff to assist providers	• Medical staff comprised of RNs, LPNs, and MAs appear to appropriately assist providers
Negative attitudes by leadership, staff, and/or providers	• Overall, leadership, staff, and providers are invested in the mission of the organization and display positive attitudes. • Because of the many challenges they have recently navigated, they are change weary. • They are also very busy, so adding another process can seem overwhelming.
Physical space limitations	• This does not seem to be a problem.

Barriers identified in the Literature	Target Organization Examples
Electronic Health Record (EHR) limitations	• IT manager states that the EHR can be customized to meet the needs of the organization and its users. • Finding time to sort out what changes need to be made is difficult. • The current medical director just started his new position and is beginning to work with the IT manager. • Staff need education on the use of the EHR. Some have more proficiency than others. • It appears that appropriate care is being provided that is sometimes not captured in the EHR.

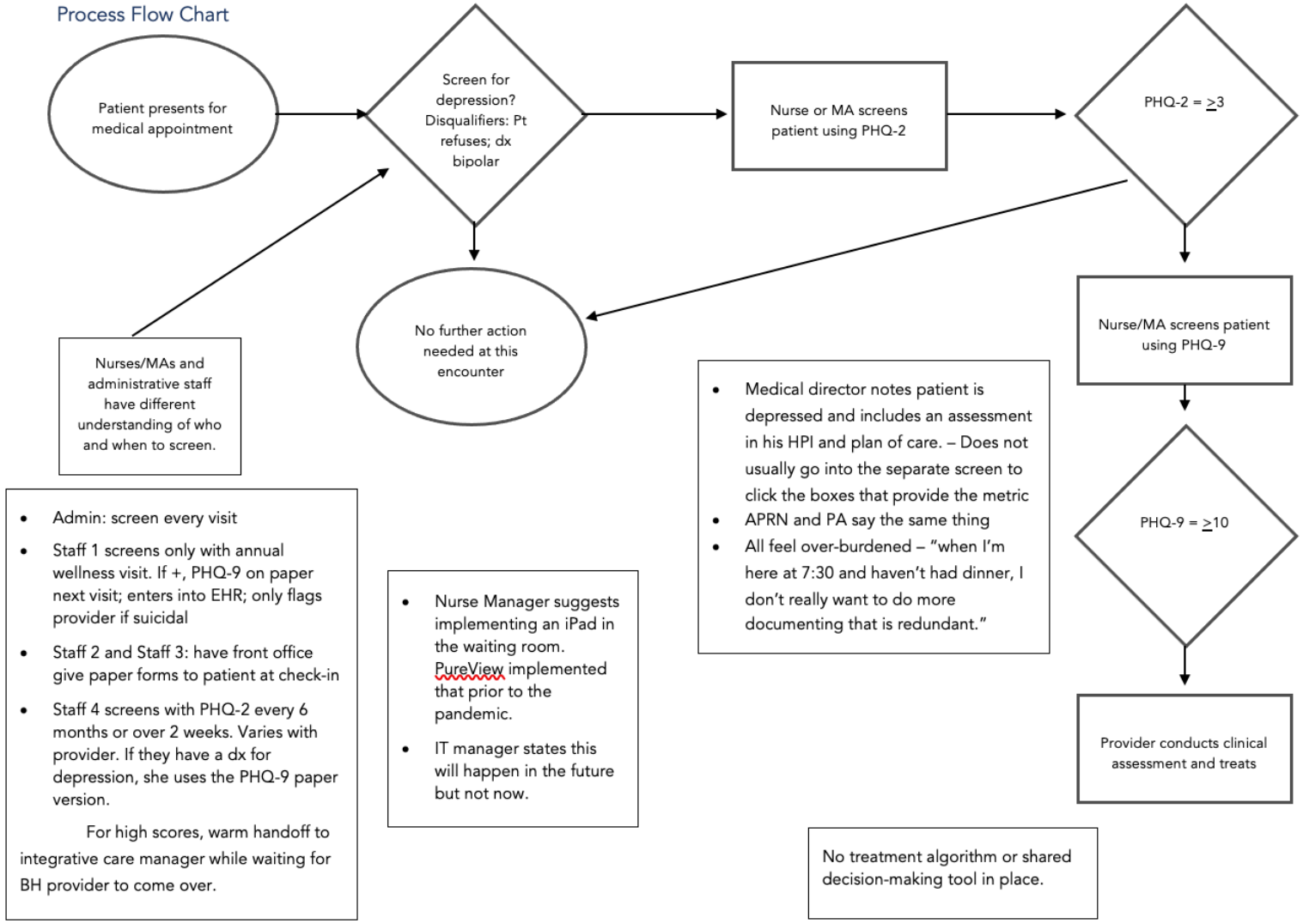
Table 3: Comparison of Organizational Facilitators

Facilitators identified in the Literature	Target Organization Examples
Leadership buy-in and support that translates to the provision of resources and tools	• Leadership verbalizes recognition of the need to improve depression screening and treatment. • Leadership verbalizes support of improvement process. • Leadership has made time to meet with student to discuss the project and is supportive of the ongoing process.
On-site champions specific to the process	• Need to be identified.
Team engagement at every level and at every stage	• This is anticipated and will be built into the project
Training staff and ongoing supervision	• The clinic director verbalizes openness to participate in this process
Educational handouts and tools for patients	• Medical director reports that these are available but could use improvement
EHR order sets and macros	• Partly built into the EHR • Can be improved to facilitate ease of use
Integrated medical and behavioral health records	• This is present.
Tracking tools integrated within EHR	• This is present. • Providers need education on how to document so that their care is tracked.

Facilitators identified in the Literature	Target Organization Examples
Referral network and collaborative agreements	• The organization has a robust BH department and providers can make referrals within the organization • BH providers are booked out for several months • BH manager suggested devising a system for triaging BH referrals.
Standardized workflow	• Workflow varies with every medical staff and every provider
Standardized tools for screening	• Organization uses PHQ-2 and PHQ-9
Treatment algorithms	• None identified by any of the providers met with so far
Patient-centered care that engages the patient in deciding the course of action	• Patient-centered care is valued and practiced • A shared decision-making tool for the management of depression might be useful by streamlining the shared decision-making process and providing patient education.

The following flowchart represents the process in place for depression screening and follow-up at the beginning of this project with some of my observational notes.

Figure 1: Baseline Process



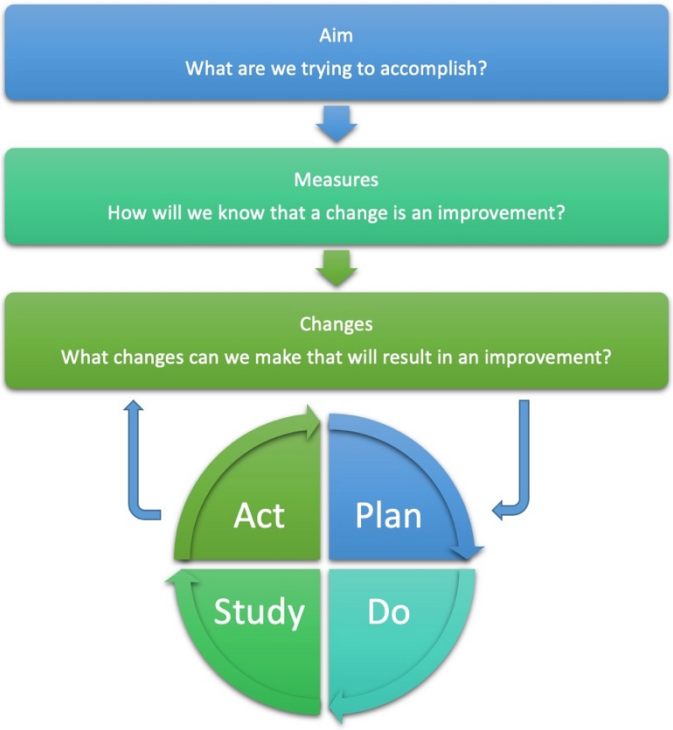
Rationale

This project will utilize two frameworks. The Continuum-Based Framework for Advancing the Integration of Behavioral Health with Primary Care (Framework 2.0) (Chung et al., 2016; Chung et al., 2019; Goldman et al., 2020) was designed to address the practice gap of integrating behavioral health care into primary care. See appendix D. First published in 2016 by Chung et al. (2016), it was later tested and evaluated by Chung et al. (2019) in several primary care settings including FQHCs. Goldman et al. (2020) continued the evaluation of the framework and added a domain to address sustainability of changes made.

The framework consists of 9 domains and 13 components organized into four main roles. Each of the 13 components is described at four levels along the integration continuum from preliminary to intermediate to advanced. The framework provides a tool to assess the current state of an organization in relation to behavioral health integration, to set goals for improvement, and to measure that improvement on a broad scale.

The Model for Improvement will be used to test change ideas that are expected to make improvements (Nelson et al., 2007). Beginning with three questions to focus the improvement work, it leads to repetitive running tests of change using the plan-do-study-act (PDSA) method.

Figure 2: The Model for Improvement



During the *plan* phase, we will describe the objective and the specific change to be tested while considering possible upstream and downstream impacts. We will clarify

- People's roles and functions during the test
- When the test will occur
- The education and training to be conducted before the test
- The data to be collected to determine if the test has been a success
- Who will observe and collect data during the test
- How long the test will be conducted
- What we expect to happen

The *do* phase is the actual test based on the planning step. The improvement leader will be prepared to document unexpected events, hear member feedback, have an eye for measured results, and provide an open ear to listen to the pilot participants' feedback as they run the pilot.

The *study* phase is the period of time used to analyze the data, to reflect on the results, and to debrief the microsystem members about the pilot test experience.

The *act* phase focuses on determining whether or not the idea being tested should be modified or abandoned in light of the results achieved. This decision launches the next PDSA cycle until best practice is achieved which will then launch a standardization process to help the organization maintain progress as well as be prepared for further improvements as conditions warrant.

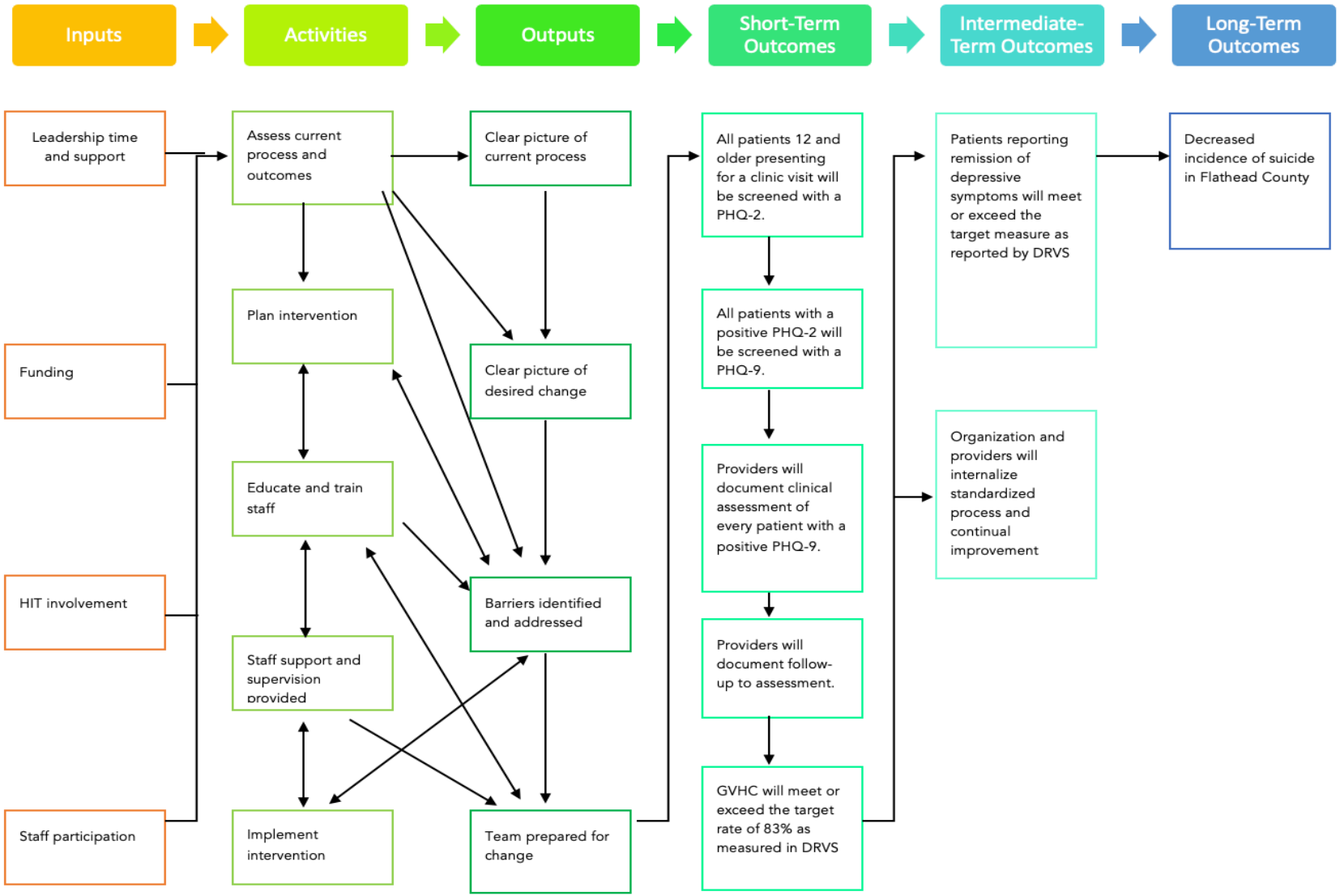
Specific Aims

The short-term aims of this project are to meet or exceed the target rate of 83% for depression screening and follow-up for all patients aged 12 and above presenting to the clinical site. For those who screen positive, a clinical assessment will be conducted which may or may not lead to a diagnosis of depression. Regardless of the etiology of symptoms that triggered a positive screen, follow-up appropriate to the patient's needs will be documented including referral to behavioral health therapy. All of these measures must be documented appropriately in the EHR so that the data can be captured.

These short-term goals will serve two intermediate goals. The first is that the number of patients with a diagnosis of depression who report remission after twelve months will meet or exceed the target measure of 10%. The second is that the organization will standardize the improvement so that patient outcomes continue to improve.

Meeting these intermediate goals will contribute to the long-term aim of reducing the incidence of suicide among the organization's patient population. See Logic Model on next page.

Figure 3: Logic Model



Context

Patients: The leading diagnosis prompting visits in 2021 was hypertension followed by diabetes mellitus, overweight/obesity, heart disease, and lower respiratory disease. Patient descriptors as documented in the 2021 UDS report are described in the following table.

Table 4: Patient Demographics

Age		**Sex**	
0 -17	1,017	Male	2,972
18 - 29	1,258	Female	4,147
30 – 49	1,954		
50 – 69	2,225		
70 +	665		
Race		**Gender Identity**	
White	87%	Male	23%
Unreported	5%	Female	38%
Native American	2%	Transgender male	1%
African American	<1%	Transgender female	<1%
Hispanic	3%	Unknown	38%
Asian	1%		
More than one race	2%		
Income as % of Poverty Guideline		**Sexual Orientation**	
100% and below	868 / 10%	Heterosexual	56%
101-150%	586 / 9%	Bisexual	2%
151-200%	448 / 7%	Lesbian or Gay	1%
Over 200%	1,365 / 20%	Unknown	41%
Unknown	3,852 / 54%		

Professionals: The organization provides primary medical care in two locations in addition to behavioral health, dental, case management, and school-based clinics. They are an educational facility and partner with the Family Medicine Residency of Western Montana and local nursing programs. They recently purchased a pharmacy with two locations which was voted best pharmacy in the county in 2022.

Staff have experienced a great amount of upheaval in the past 2 years including the pandemic and multiple leadership changes. The federally qualified health center was established in 2007 and later became an independent, nonprofit health center, but continued to be nested within the county governing structure as part of the City-County Health Department. In July of 2021, they exited from the umbrella of county control and were rebranded. The facility continues to occupy its same space. The behavioral health staff have moved to a separate location because of overcrowding in the original clinic.

Administrative staff have their offices on the second floor of the building. The medical and dental clinics are located on the third floor and share the same waiting room. Exam rooms are located along hallways that extend from a centralized nurses' station. The nurses and MAs occupy the nurses' station. Providers are assigned desk space and computers in shared offices.

The team is supported by the electronic health record software eClinicalWorks 11e which integrates all services that the patient is receiving into one record. Medical providers can review documentation by behavioral health providers or dental services or school-based services. They can also track which location the patient is utilizing and view records from the other locations. While this is definitely a strength of the program, some providers have reflected that the interface is awkward and difficult to use.

Leadership for the organization is provided by a Chief Executive Officer; a Strategy, Communications, and Compliance Director; a Quality and Operations Manager; a Human Resource and Finance Manager; a Patient Access and Billing Manager; and an IT and Information Systems Manager.

The Chief Medical Director (new to this position as of October 2022) oversees the medical providers which are comprised of three MDs, 2 FNPs, and 2 PMHNPs. An additional MD serves as the Resident Faculty and manages six residents (4 DOs and 2 MDs) under the oversight of the Chief Medical Director.

The Clinic Director is an RN who manages the clinic's medical staff which is comprised of 5 RNs, 3 LPNs, 4 MAs, and 3 front desk staff. One nurse functions as a case manager and is involved in quality work. An additional unlicensed staff who has a bachelor's degree in Community Health Education provides integrative case management.

The Dental Director oversees 3 dentists and 3 dental hygienists. The Behavioral Health Director manages 7 clinic-based therapists and 5 school-based therapists. The Pharmacy Director leads a team of 8 pharmacists.

All-staff meetings are held on the third Tuesday of the month at 8 am. Peer group staff meetings for providers, medical staff, and the front desk staff are held on the second Tuesday of the month at 8 am.

Patterns: The organization is funded, in part, by the Health Resources and Services Administration (HRSA) Health Center Program. HRSA programs provide health care to people who are geographically isolated, economically, or medically vulnerable. HRSA also supports the training of health professionals, the distribution of providers to areas where they are needed most, and improvements in health care delivery. 40.5% of reimbursement for services in 2021 came from Medicaid; 18.1% from Medicare; 25.4% from private insurance; and 20.5% of patients were uninsured.

The organization is also recognized by the National Committee for Quality Assurance as a Patient-Centered Medical Home and is a grantee under 42 U.S.C. 254b, and a deemed Public Health Service employee under 42 U.S.C. 233(g)-(n) with deemed status with respect to certain health or health-related claims, including medical malpractice claims for itself and its covered entities.

Data on patient characteristics, services provided, clinical processes and health outcomes, patients' use of services, staffing, costs, and revenues are reported by the National Health Center Program Uniform Data System (UDS) Awardee Data. The 2021 UDS report for the organization was provided to the author by the Quality and Operations manager.

Areas of Focus on the Continuum-Based Framework

As described above, this framework provides a model of improvement on a broad scale specifying 4 roles, 9 domains, and 13 components. For this project, we will focus on the role of "clinical workflow". Within that role, we will address domains 1, 2, and 5. See table below. Cells with red borders indicate the current standard of care along the integration continuum. This project will specifically focus on components 1.a, 2.a, 2.b, and 5a. See appendix E.

Intervention and Implementation

Description of the Proposed Practice Change

The organization will increase depression screening and follow-up to meet the target metric of 83% and to improve patient outcomes. Depression is one of the most dangerous mental health conditions. It is also the most treatable with potentially the best outcome (Morrison, 2014).

Strategies

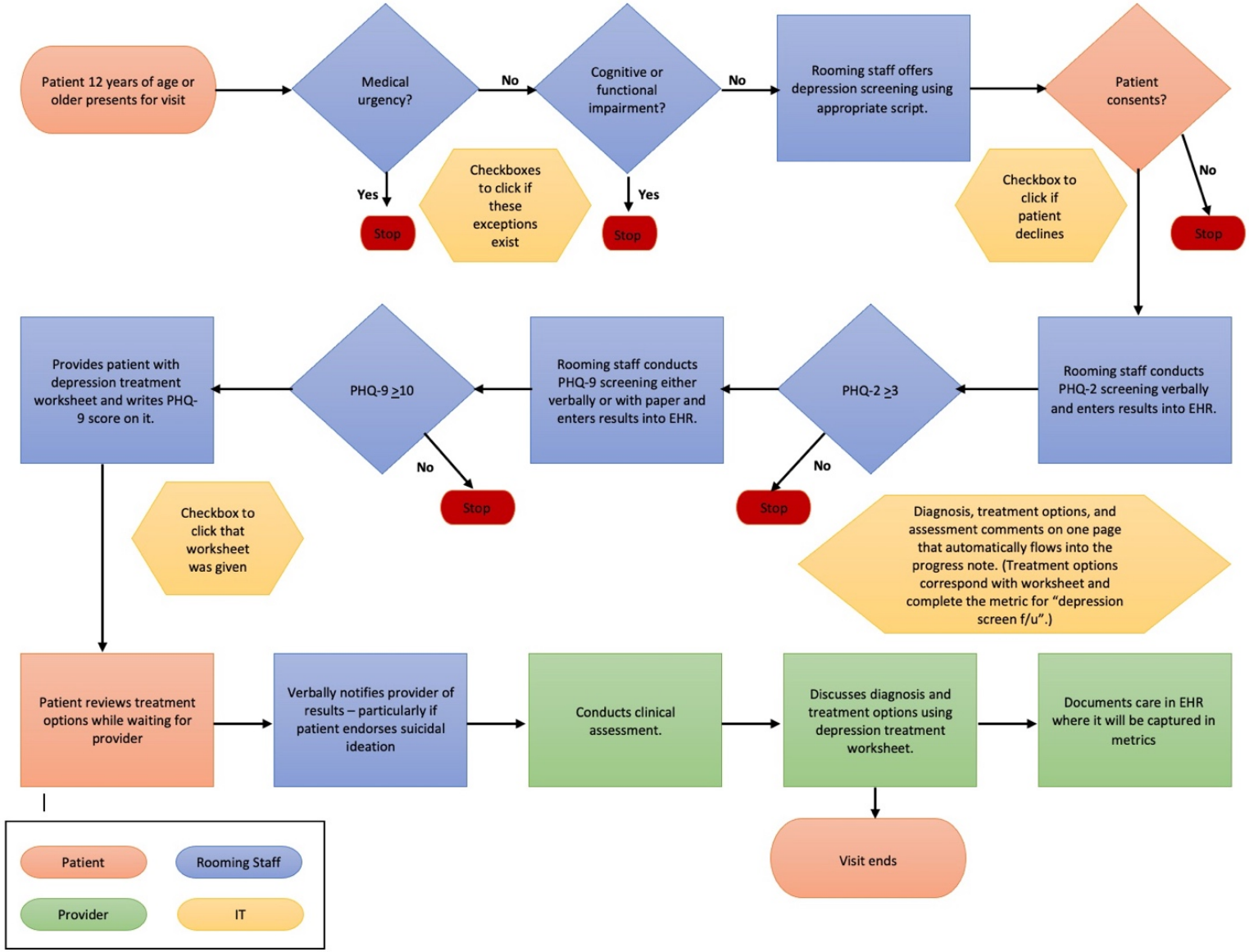
Staff Engagement

- Meet staff personally during the assessment and preparatory phases to listen to their perspectives and share knowledge.
- Work with clinic director to coordinate meetings with staff. They have a brief huddle every morning before the first appointments, an all-staff meeting once a month, and a peer-group meeting once a month.
- Work with medical director about best way to engage providers in the process. They also have a peer group meeting monthly in addition to the all-staff monthly meeting.
- May utilize one-on-one or small group meetings.
- Utilize a process improvement bulletin board to post goals and progress.
- Use food and/or prizes to increase incentives to come to meetings and to engage in the process.
- Consider crowdsourcing

Standardized Workflow

- Standardized tasks are fundamental for continuous improvement and employee empowerment (Blackstone et al., 2022; Crenshaw, 2019; Eubanks, 2018; Fowler, 2019; Goldman et al., 2020; Laham, 2018; Nelson et al., 2007; Trangle et al., 2016).
- Update the policy/procedure and educate all staff about it
- Use a process flowchart to illustrate the expected workflow.

Figure 4: Proposed Flowchart



Standardized Tools for Screening

- Continue to use the PHQ-2 and PHQ-9 for screening
- Consider CSSRS for patients endorsing suicidal ideation

Diagnostic Decision Tree

- Consider providing this tool to guide providers through clinical assessment (Morrison, 2014).

Treatment Algorithm

- Standardized tools for screening combined with treatment algorithms to refer to in the case of a positive screen are viewed as invaluable (Crenshaw, 2019; Eubanks, 2018; Goldman et al., 2020; Laham, 2018; Lindsay & Decker, 2022; Ramanuj et al., 2019; Schaeffer & Jolles, 2019; Smithson & Pignone, 2017; Trangle et al., 2016)
- Shared decision treatment algorithm that providers can use with patients to help them understand their illness and choose from available treatment options
- Patient education handouts and tools for self-care

EHR Customization

- Work with IT to customize EHR for efficient data entry.
- Educate all staff on the appropriate and efficient use of the EHR.

Proposed Project Tasks and Timeline

Table 5: Proposed Timeline

Phase		Month	Oct		November				December				January				February			
		Week	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	Action Item																			
Assessment	Assess current policy & procedure																			
	Assess staff views																			
	Assess provider views																			
Planning/Preparation	Present project proposal to leadership																			
	Attend staff meetings																			
	Attend huddles																			
	Plan workflow																			
	Designate project champions																			
	Design and post bulletin board																			
	Prepare decision tree/ algorithms																			
	EHR customization																			
Implementation	Staff Education																			
	PDSA Cycle 1																			
	PDSA Cycle 2																			
	PDSA Cycle 3																			
	PDSA Cycle 4																			
	SDSA Cycle 1																			

Budget

Table 6: Expense List

Date	**Expense**	**Description**
1/11/2023	$102.89	Breakfast for staff
2/12/2023	$175	Graphic design of process flowchart poster
2/13/2023	$50.49	Printing of process flowchart poster
2/14/2023	$179.93	Food for peer group meeting
2/23/2023	$44.84	Food for meeting with front office staff
TOTAL	**$553.15**	

These expenses were funded by the author's personal resources.

Confidentiality of Data and Findings

Name of the institution and all staff will be de-identified. Each staff member will be assigned a code that will be used to track their performance throughout the project and its dissemination.

Interventions

Table 7: Interventions to Address Barriers

Time constraints	• Optimize workflow and efficiency so that results improve without substantially increasing visit time. • Customize EHR to reduce documentation time and effort
Inadequate training	• Provide "bite-sized" training about depression, screening, treatment, and follow-up. • Provide training for use of EHR.
Lack of improvement tools	• Define policy and procedure • Implement standardized workflow • Implement depression treatment worksheet
Negative attitudes by leadership, staff, and/or providers	• Present the process change as a way to make staff's work more effective with less effort. • Utilize current staff meetings and one-on-one/small group interactions to move project forward. • Utilize bulletin board to keep all abreast of progress • Reward engagement with food and/or prizes. • Appoint process champions
Electronic Health Record (EHR) limitations	• Work with IT manager and medical director to customize EHR to optimize effective and efficient documentation • Support facilities efforts already in process to optimize EHR

Evaluation

Table 8: SMART Goal #1

SMART Goal #1: All patients 12 and older presenting for a clinic visit will be assessed for appropriateness of depression screening.		
• Patients presenting with medical urgency, cognitive impairment, or functional impairment are disqualified for depression screening. • Results entered into EHR are tracked by DRVS.		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of clinic visits by patients aged 12 and older Number of exceptions to depression screening documented	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of clinic visits for patients aged 12 and older will be the denominator. Number of exceptions to screening will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

Table 9: SMART Goal #2

SMART Goal #2: All appropriate patients 12 and older presenting for a clinic visit will be offered screening with a PHQ-2.		
• Rooming staff offers depression screening to patient using appropriate script. • Rooming staff asks PHQ-2 questions while conducting pre-visit assessment and enters results into EHR. • Results entered into EHR are tracked by DRVS.		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of clinic visits by patients aged 12 and older Number of PHQ-2 screens documented	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of clinic visits for patients aged 12 and older will be the denominator. Number of PHQ-2 screens will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

Table 10: SMART Goal #3

SMART Goal #3: All patients with a PHQ-2 score ≥3 will be screened with a PHQ-9.		
• Screening will be conducted by the medical staff rooming the patient by one of the methods below. • Paper PHQ-9 offered to patient by rooming staff, reviewed and entered into EHR by rooming staff. • Rooming staff asks PHQ-9 questions while conducting pre-visit assessment and enters results into EHR. • Results entered into EHR are tracked by DRVS.		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of patients twelve and older with PHQ-2 scores ≥3 Number of completed PHQ-9 screens	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of patients twelve and older with PHQ-2 scores ≥3 will be the denominator. Number of PHQ-9 screens completed will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

Table 11: SMART Goal #4

SMART Goal #4: All patients with a PHQ-9 ≥10 will be offered a depression treatment worksheet.		
• Rooming staff will write patient's PHQ-9 score on the depression treatment worksheet. • Rooming staff will provide a brief description of the worksheet and leave it with the patient to read while waiting for the provider. • Rooming staff will document that worksheet was provided.		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of patients 12 and older with a PHQ-9 ≥10 Number of those patients who received a treatment worksheet	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of adult patients with PHQ-9 scores ≥10 will be the denominator. Number of worksheets provided will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

Table 12: SMART Goal #5

SMART Goal #5: Providers will clinically assess every patient with a positive PHQ-9.		
• Provider notes positive PHQ-9 documented in the current visit. • Provider conducts a clinical assessment and documents the results. • Provider documents follow-up		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of patients 12 and older with a PHQ-9 ≥10 Number of those patients with a documented clinical assessment and follow-up plan	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of adult patients with PHQ-9 scores ≥10 will be the denominator. Number of assessments documented will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

Table 13: SMART Goal #6

SMART Goal #6: Providers will document follow-up.		
• Using shared decision-making algorithm, providers will discuss appropriate treatment options with patient. • Providers will document patient's choice of treatment (including treatment refused) according to protocol that captures care provided.		
Data to be collected	Method of Collection and who is responsible	Planned data analysis
Number of patients with a PHQ-9 >10 and number of patients with documented follow-up.	Data will be counted by the project lead (PL) using DRVS database on a weekly basis.	Number of patients with a PHQ-9 >10 will be the denominator. Number of these patients with documented follow-up will be the numerator. The percentage rate will be recorded at baseline and on a weekly basis throughout the intervention.

CHAPTER 3

QUALITY IMPROVEMENT PROJECT

Introduction

Background

Depression is a leading cause of disability worldwide and is a major contributor to the overall global burden of disease (World Health Organization, 2021). It accounts for $30-50 billion in lost productivity and direct medical costs annually in the U.S.(Agency for Healthcare Research, 2022). The odds of reporting having ever been diagnosed with two or more chronic conditions is nearly five times higher among adults ever diagnosed with depression and experiencing frequent mental distress than among adults never diagnosed with depression and not experiencing frequent mental distress (Koeppen, 2018). Compared with non-depressed persons, patients with depression have an increased risk of mortality (relative risk [RR] 1.52) (Cuijpers et al., 2014).

The 2021 Community Health Needs Assessment for Flathead County reports that a total of 25.0% of Flathead County adults have been diagnosed by a provider as having a depressive disorder at some point in their lives. In addition, a total of 29.6 % of Flathead County adults report two or more years in their lives when they felt depressed or sad on most days (PRC, 2021).

Suicidal ideation is common with depression. It can range from transient death wishes to active planning with intent to end one's own life (APA. DSM-5 Task Force., 2013; National Alliance on Mental Illness, 2021b; World Health Organization, 2021). In the 2020 National

Vital Statistics Report, Montana had the third highest rate of suicide in the nation. Studies show that for every completed suicide, there are an average of six close friends and family who survive the victim. Given there are approximately 300 suicides in Montana every year, that means there are about 1,800 new survivors every year in Montana. The risk of completing suicide is three times higher for survivors of suicide attempts (Rosston, 2022).

Up to 45% of individuals who die by suicide visit their primary care provider within a month of their death, with 20% of those having visited their primary care provider within 24 hours of their death (Rosston, 2022). Although symptoms of depression are prevalent among primary care patients, few patients discuss these symptoms directly with their primary care clinicians. Instead, two-thirds of primary care patients with depression present with somatic symptoms (e.g., headache, back problems, or chronic pain), making detection of depression more difficult. Major depression is a treatable cause of pain, suffering, disability and death, yet primary care clinicians detect major depression in only one-third to one-half of their patients with major depression (Trangle et al., 2016).

Based on these and other data, the United States Preventive Services Task Force (USPSTF) recommends routine screening for depression in patients aged 12 and older. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (Siu et al., 2016; U. S. Preventive Services Task Force et al., 2022). A practice site in western Montana identified a need to establish best practices in depressing screening and referral to services to address the mental health care needs of their patient. This project utilizes the Continuum-Based Framework for Advancing the Integration of Behavioral Health with Primary Care and Appraisal of Guidelines for REsearch & Evaluation

Instrument to establish clear clinical practice guidelines for improved screening and treatment of patients experiencing depression.

Literature Review

A comprehensive review of literature was conducted using Google Scholar, Web of Science, PsycInfo, Cumulative Index to Nursing and Allied Health Literature, and PubMed for articles relating to barriers and facilitators to depression screening and follow-up in primary care settings between 2016 and 2022. The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 statement was used as a guide for selecting relevant articles (Page et al., 2021). A total of 19 records were selected for review (Houghtelling, 2022) and a list of barriers and facilitators to depression screening and follow-up was identified. (See Tables 2 and 3).

Project Site and Problem Description

The target facility is a federally qualified health center (FQHC) in western Montana that serves over 7,000 patients within a 100-mile radius that is primarily rural in character. It is staffed by physicians, medical residents, physician assistants, family nurse practitioners, a psychiatrist, and psychiatric mental health nurse practitioners. In addition to primary care services, it offers dental, behavioral health, pharmacy, and school-based services.

The organization's rate for depression screening and follow-up for the trailing year of October 2022 is 54.8%. Of the FQHCs in Montana, it ranks ninth out of thirteen in this measure. The best center's score is 91% and the lowest score is 33%. The network average is 59%. The facility's score of 54.8% is an improvement over the score of 47% in September of 2021.

Objective

The short-term aims of this project were to meet or exceed the target rate of 83% for depression screening and follow-up for all patients aged 12 and above presenting to the clinical site. Intermediate and long-term aims include increased rates of depression remission and decreased rates of suicide in Flathead County.

Project Framework

The Continuum-Based Framework for Advancing the Integration of Behavioral Health with Primary Care (Framework 2.0) (Chung et al., 2016; Chung et al., 2019; Goldman et al., 2020) was designed to address the practice gap of integrating behavioral health care into primary care. First published in 2016 by Chung et al., (Chung et al., 2016), it was later tested and evaluated by Chung et al., (Chung et al., 2019) in several primary care settings including FQHCs. Goldman et al., (Goldman et al., 2020) continued the evaluation of the framework and added a domain to address sustainability of changes made.

The framework consists of 9 domains and 13 components organized into four main roles. (See Appendix A). Each of the 13 components is described at four levels along the integration continuum from preliminary to intermediate to advanced. The framework provides a tool to assess the current state of an organization in relation to behavioral health integration, to set goals for improvement, and to measure that improvement on a broad scale.

Methods

Organizational Assessment

Initial data were collected by reviewing organizational metrics, observing processes, and interviewing leaders, providers, and support staff. Information gathered was compared with common barriers and facilitators identified in the literature review (Houghtelling, 2022) and are summarized in Tables 1 and 2. In addition, this data was used to locate the organization's level of integration on the above-named framework.

Table 14: Comparison of Organizational Barriers

Barriers Identified in the Literature	**Target Organization Assessment**
Time constraints	New patient visits are scheduled for 40 minutes while established patient visits are 20 minutes long. Providers report barriers to timely and appropriate documentation of clinical assessment and treatment of depression.
Poor interprofessional communication	Some providers check in with the staff rooming the patient and some do not. Behavioral health (BH) staff formerly practiced in the same office. However, due to space limitations, they recently moved to another building.
Inadequate training	Management has requested additional training for their care managers who provide brief interventions for patients in mental health crisis while waiting for on-call BH provider to arrive for warm hand-off.
Lack of clearly defined roles	Roles are clearly defined.
Lack of improvement tools	Lack of clearly defined written policy and procedure Lack of diagnostic and treatment algorithms Providers can see on their EHR dashboard what their performance measures are if they look at them.
Lack of leadership support	Leadership is supportive of improving the process.

Barriers Identified in the Literature	Target Organization Assessment
Lack of appropriate staff to assist providers	Medical staff comprised of RNs, LPNs, and MAs appear to appropriately assist providers
Negative attitudes by leadership, staff, and/or providers	Overall, leadership, staff, and providers are invested in the mission of the organization and display positive attitudes. Because of the many challenges they have recently navigated, they are change weary. They are also very busy, so adding another process can seem overwhelming.
Physical space limitations	This does not seem to be a problem.
Electronic Health Record (EHR) limitations	IT manager states that the EHR can be customized to meet the needs of the organization and its users. Finding time to sort out what changes need to be made is difficult. The current medical director just started his new position and is beginning to work with the IT manager. Staff need education on the use of the EHR. Some have more proficiency than others. It appears that appropriate care is being provided that is sometimes not captured in the EHR.

Table 15: Comparison of Organizational Facilitators

Facilitators Identified in the Literature	Target Organization Assessment
Leadership buy-in and support that translates to the provision of resources and tools	Leadership verbalizes recognition of the need to improve depression screening and treatment. Leadership verbalizes support of improvement process. Leadership has made time to meet with student to discuss the project and is supportive of the ongoing process.
On-site champions specific to the process	Need to be identified.
Team engagement at every level and at every stage	This is anticipated and will be built into the project
Training staff and ongoing supervision	No formal process
Educational handouts and tools for patients	Medical director reports that these are available but could use improvement
EHR order sets and macros	Partly built into the EHR Can be improved to facilitate ease of use

Facilitators Identified in the Literature	Target Organization Assessment
Integrated medical and behavioral health records	The patient's visit encounter lists include both provider notes and BH notes so that each can review what is happening at the other's visits.
Tracking tools integrated within EHR	This is present. Providers need education on how to document so that their care is tracked.
Referral network and collaborative agreements	The organization has a robust BH department and providers can make referrals within the organization
Standardized workflow	Workflow varies with every medical staff and every provider
Standardized tools for screening	Organization uses PHQ-2 and PHQ-9 which are reliable and valid tools for depression screening (New York State Department of Health, 2016; Pfizer, 2022)
Treatment algorithms	None identified by any of the providers met with so far
Patient-centered care that engages the patient in deciding the course of action	Patient-centered care is valued. Tools for practical application could be useful.

Following the organizational assessment, the author and the facility's quality improvement team chose to focus on the Clinical Workflow role of the Continuum Framework. We narrowed the focus further to Domain 1: Case finding, screening, referral to care and then targeted item a which is "systematic behavioral health screening of all patients, with follow-up for assessment and engagement". We assessed the organization to be attempting to function at the high intermediate level but not achieving that goal.

The author met with the facility leadership in early December of 2022 to begin laying the foundation for the project implementation to begin in January. At that time, it was decided that more knowledge about the actual process for depression screening and follow-up was needed. To gain this in-depth practice knowledge, the author then focused on specific processes of the patient visit where depression screening and follow-up is expected to take place. This was done

by shadowing staff for 34 hours over five days within a two-week period and writing down starting and ending times for every activity of the patient visit. The author initially spent four hours at the front office and logged the check-in and check-out process for 35 patient visits. Next, 17 visits were shadowed specifically through the rooming process. Finally, 13 visits were shadowed through the entire patient encounter including following the rooming staff and providers into the exam room. In all, eleven rooming staff and four providers were shadowed.

The data reflected that a 20-minute visit required an average of 32.9 minutes of direct patient care and an average total visit time of 47.9 minutes. A 40-minute visit averaged 45.3 minutes of direct patient care and a total visit time of 62.5 minutes. This validates the concerns of staff regarding time constraints.

In addition, the variations in practice that emerged highlighted the ineffectiveness of the current workflow for depression screening and follow-up. Each support staff followed their own pattern for screening with two out of eleven staff not screening at all. Results of the screening were effectively communicated to the provider for only about 27% of the visits. Of the 6 positive screens out of the 25 visits shadowed, only two of them were addressed (33%). See Table 16.

Table 16: Summary of Variations in Practice (11 rooming staff, 8 providers and 25 visits)

VITALS		100% WT/VS
Verify DOB	1/11	9%
Weigh patient unless refused	11/11	100%
Measure temperature, HR, O2 at start of rooming process and BP at the end	4/11	100%
Measure all vital signs at start of rooming	3/11	
Measure all vital signs at end of rooming	4/11	
UPDATE RECORDS		

Review reason for visit	11/11	100%
Update medication list	11/11	100%
Update medical and surgical history	11/11	100%
Verify allergies	7/11	64%
Update family history	7/11	64%
Update social history	11/11	100%
Verify gender ID/sexual orientation	1/11	9%
SCREEN FOR DEPRESSION USING PHQ		73%
PHQ-2	4/11	36%
"Any issues with depression or anxiety?"	1/11	9%
Paper PHQ-9 provided at start of visit	1/11	9%
Paper PHQ-9 left in room at end of visit if PHQ-2 positive	3/11	36%
Paper PHQ-9 left in room at end of visit (no PHQ-2)	3/11	27%
PHQ-9 retrieved before provider visit	0/11	0
PHQ not addressed	2/11	18%
DEPRESSION SCREENING RESULTS COMMUNICATED TO PROVIDER BEFORE VISIT		~27%
PHQ-9 entered into ECW after visit	4/11	36%
PHQ results communicated electronically with provider	1/11	9%
PHQ results communicated verbally with provider before visit	2/11	18%
PHQ-9 left in room for provider visit	5/11	45%
FOLLOW-UP OF POSITIVE DEPRESSION SCREENING RESULTS		~33%
Number of +PHQ-9	6/25	24%
Provider addressed + PHQ-9	2/6	33%

Interventions

Written Standard Operating Procedure

Standardized tasks are fundamental for continuous improvement and employee empowerment (Blackstone et al., 2022; Crenshaw, 2019; Eubanks, 2018; Fowler, 2019; Goldman et al., 2020; Laham, 2018; Nelson et al., 2007; Trangle et al., 2016). Three variations of a possible Standard Operating Procedure (SOP) were designed and presented to the quality team. The quality improvement team opted for the workflow that reflected best practices identified by the New York State Department of Health (New York State Department of Health, 2016; Pfizer, 2022). The chosen SOP was then illustrated by a process flowchart to illustrate the expected workflow. (See Appendix F.)

Major changes include presenting the patient with a PHQ-9 on a clipboard during the check-in process with the expectation that it will be completed in the waiting room. It is then handed to the rooming staff who is expected to enter it into the EHR before the rooming process is complete. Results should be communicated to the provider before they see the patient. This can be done verbally, by electronic message, or a with a sticky note on the exam room door.

Modified Presentation of Patient Health Questionnaire

The facility used a PHQ-9 form that included a GAD-7 on the same page. The author redesigned the form to make it larger print with the GAD-7 on the reverse side of the paper. The form also includes a box for patients to decline screening. It separates the first two questions (PHQ-2) from the last seven (PHQ-9) with instructions that if responses to the first two questions are “not at all”, the remaining questions do not need to be answered. In addition, the columns for

scoring are eliminated to further simplify the form. As staff enters the patient's responses into the EHR smart form, the score is automatically calculated.

Staff Engagement and Education

The facility granted the author the use of one regularly scheduled hour-long peer group meeting held monthly for providers and rooming staff. The author led with a PowerPoint presentation that was supplemented with handouts summarizing the results of shadowing the staff. She then presented the proposed standardized workflow on a 2'x3' poster. A 10-minute breakout session was held so that the clinic manager could meet separately with the rooming staff to hear their immediate feedback on the proposed workflow. During this time, the author discussed diagnosis and treatment of depression with the providers and offered a shared decision-making tool and an antidepressant treatment algorithm. In addition, the quality director demonstrated on screen the exact documentation process required to capture the care provided in the quality metric. The author facilitated open discussion among the providers about the process.

When the rooming staff returned, the clinic manager reported an enthusiastic response to the recommended process. All present were invited to continue discussion about the proposed change and to communicate their thoughts via a feedback form provided, adding sticky notes to the poster, or verbally communicating them to the clinic manager or to the author. The feedback over the following week was supportive and staff indicated they would like to trial the new process.

Clinical Practice Guideline

The week following the first meeting, the author provided a brief summary of the project and the results of the feedback at the all-staff meeting. A clinical practice guideline was provided that included a rationale for depression screening and follow-up, a list of facilitators already present, barriers to be addressed, a standard operating procedure, a process flowchart, and references.

Measures

Qualtrics Staff Survey

A Qualtrics survey comprised of 4 multiple choice questions followed by three open-ended questions was designed for all staff. The clinical practice guideline and the survey link were emailed to all clinic staff by the clinic manager. Responses were traceable by clinic role but were otherwise anonymous. The purpose of the survey was two-fold: 1) to gain insights into potential unintended consequences to the change; 2) to further engage staff in the change.

AGREE II Appraisal Tool

Clinical practice guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. The Appraisal of Guidelines for REsearch & Evaluation (AGREE) Instrument was developed to address the issue of variability in guideline quality. The AGREE instrument is a tool that assesses the methodological rigour and transparency in which a guideline is developed (The AGREE Next Steps Consortium, 2017). The AGREE II instrument was formatted within Qualtrics and individualized to this project. A survey link was emailed with the clinical practice

guideline attached to four members of the quality improvement team to provide structured feedback regarding the clinical practice guideline.

DRVS Quality Measure Reporting System

DRVS by Azara healthcare provides data and metrics on core quality measures for all of the FQHC facilities in Montana. For the measure called Screening for Depression and Follow-Up Plan (CMS 2v11), the HRSA SAC (Service Area Competition) target rate is 83% with a secondary target of 75%. The measure is met only if both screening and a follow-up plan for positive screens are addressed. Data and metrics can be tracked by trailing year, year, quarter, or month.

Results

Qualtrics Staff Survey

Nineteen staff responded to the survey link including 2 front office staff, 8 rooming staff, 7 providers, and 2 care navigators. 73% feel that the current process for identifying patients with depression is working “not well at all” or “slightly well”. 73% reported that their initial reaction to the proposed workflow is either extremely or somewhat positive. 66% feel that the new workflow is “very likely” or “highly likely” to improve the identification of patients with depression. The two front office staff who responded feel that the new workflow will “take a little more time”. The remaining 87% of staff feel that it will either save a little time or make no difference in the amount of time required of them.

AGREE II Appraisal Tool

Three members of the quality team completed the AGREE II Instrument within the Qualtrics platform. Their scores were aggregated according to the instructions provided by the AGREE II Instrument and are provided below. A score above 70% is considered to be favorable. One score fell below 57%. This domain was assessed using two questions relating to funding and competing editorial interests. As these concerns did not apply to this project, reviewers selected "neither agree nor disagree" which resulted in the low score. All of the reviewers recommended the implementation of the measures described in the clinical practice guideline. The facility rolled out the process on March 1, 2023, utilizing the recommended standardized workflow. The roll-out was supported by use of the poster and the new PHQ-9 form.

Table 17: Results of AGREE II Appraisal

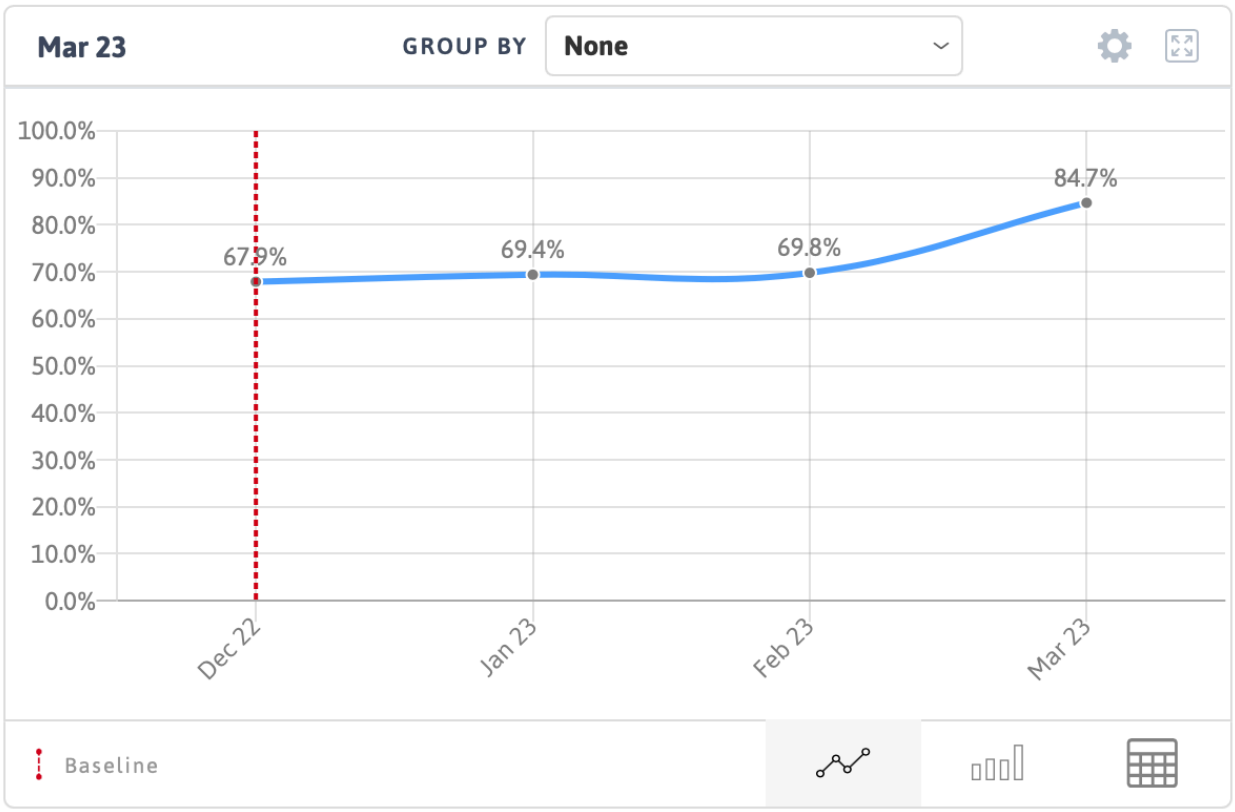
Domain		Score
1	Scope and Purpose	89%
2	Stakeholder Involvement	82%
3	Rigour of Development	91%
4	Clarity of Presentation	91%
5	Applicability	89%
6	Editorial Independence	57%
	OVERALL RATING	94%

DRVS Quality Measure Reporting System

Data from the DRVS by Azara healthcare quality measure reporting system is reported monthly. The facility reported an increase of depression screening and follow-up during the

month following the author's formal involvement with the project that exceeded the target rate of 83%. See figure below.

Figure 5: Post-Project Depression Screening and Follow-up Rates



Discussion

This project for improving depression screening and follow-up in primary care resulted in a written standard operating procedure and the implementation of a standardized workflow. Staff and leadership report support of this change as evidenced by survey results. A robust foundation for this change was built by a thorough assessment process which provided detailed knowledge of current practice. The stage was set for success by staff engagement and education. The change

was further supported by tools such as a 2'x3' flowchart illustrating the change and a modified mood questionnaire.

Limitations

The initial plan for this project included utilizing the Institute for Healthcare Improvement's Model for Improvement and implementing the change over three plan-do-study-act (PDSA) cycles followed by standardization of the process. This was to take place over the last six weeks the author was available to the facility for quality improvement work. At a meeting with the quality improvement team prior to roll-out of the proposed change, it was decided that more detailed knowledge of the current process would be essential to success. This precluded the author's involvement in the actual change. However, the facility is making the change and reporting results to this author.

Conclusions

This project illustrates the value of gaining detailed knowledge of a facility and its current processes in relation to depression screening and follow-up. The process of gaining that knowledge can be utilized to engage and educate staff which builds buy-in for the change process. The knowledge gained facilitated the recommendation of a new process that aids staff to work "smarter and not harder". In other words, the proposed standardized workflow is not expected to take more time for rooming staff or providers but is expected to identify patients with depression more consistently. It will take a little more time for the front office staff as they must now present the PHQ on a clipboard to every patient they check in. The clinical practice guideline with a written SOP eliminates the variability of practice that results in ineffective

detection and failure to follow-up of patients who have depression while setting the groundwork for further improvement.

CHAPTER FOUR

THE ESSENTIALS OF DOCTORAL NURSING PRACTICE: ONE NURSE'S JOURNEY

All eight DNP essentials came together during my final year scholarly project (American Association of Colleges of Nursing, 2006). My project required the ability to synthesize these skills into a synergistic whole. Meeting with leadership and interacting with the staff of the target facility necessitated leadership and collaborative skills (DNP essentials II and VI). Researching the background and evaluating the literature relevant to the project called on my ability to integrate scientific knowledge with clinical scholarship and evidence-based practice (DNP essentials I and III). Designing a clinical practice guideline focused my skills of synthesizing concepts to develop care policy to improve the health of an identified patient population (DNP essentials V and VII). Gathering and analyzing data was necessary at every stage of the project – from the initial assessment to the detailed evaluation, to planning an intervention and evaluating outcomes. I integrated a variety of technologies to meet the needs of the project (DNP essentials IV). My development in advanced nursing practice (DNP essential VIII) paralleled and informed my scholarly project.

Specific lessons I learned from my quality improvement project that I will take with me into my future practice include the value of extensive and detailed knowledge of personnel and current processes as a prerequisite to crafting effective change. I will continue to use strategies of gaining staff buy-in to change by listening to them, educating them, providing tools for change, playing to their strengths, and supporting their best efforts.

Every class leading up to N675 and my final project prepared me to a greater or lesser extent in each of the eight essentials. The following provides a summary of my experience during the past four academic years.

Essential I: Scientific Underpinnings for Practice

As a nurse, I have always based my actions on a clear rationale grounded in nursing science. The DNP experience has enabled me to develop more advanced skills in utilizing critical thinking skills to make decisions that affect patients and populations. These critical thinking skills involve integrating data from psychosocial, biophysical, ethical, and analytic sciences to inform clinical decisions.

Classes that particularly developed these skills include Statistical Applications for the Graduate Nurse, Evidence-Based Practice 1 and 2, Advanced Pathophysiology, Advanced Pharmacology, Advanced Health Assessment, Diagnostic Reasoning, Vulnerability and Health Care in Diverse Populations, the Scholarly Project, and all of the clinical courses/rotations.

As exemplars, I refer to the Master of Psychopharmacology certificate I earned from the Neuroscience Education Institute, the case study I wrote for Advanced Pathophysiology about a patient I cared for at my current workplace with alcoholic liver disease, and all twenty-three of the Advanced Integrative Professional Logs I have written over the course of four clinical rotations.

As I prepare to graduate, my personal model for practice will include not only diagnosing mental illness and prescribing medications but will also place a high value on integrating psychotherapy and helping my patients develop habits of wellness.

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

My development as a leader through the DNP program began during the first semester when the leadership class prompted a deep dive into various leadership styles while building awareness of my strengths and deficits as a leader. An exemplar of this is the final paper I wrote for that class called "Analysis of My Leadership Style: Strengths, Weaknesses, and Goals". My instructor requested permission to use this paper as an exemplar for future classes. I applied what I learned in my professional role as a relief charge nurse on an acute inpatient psychiatric unit and continued to develop aspects of leadership through Financing and Budgeting of Healthcare Systems, Translational Research, Program Planning, and Program Design.

Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

One of the reasons I decided to pursue a Doctor of Nursing Practice is that I have a passion for providing direct patient care. This degree focuses on translating research into practice and applies new knowledge to solve problems for patients and patient populations. Classes that have helped me specifically develop the ability to use analytic methods to critically appraise literature and other evidence and determine the best evidence for practice include Statistical Applications for Graduate Nursing, Evidence-Based Practice I and II, Translational Research for Advanced Practice, Program Planning, and Program Design.

One exemplar of this essential is "Organizational Self-Assessment for Trauma-Informed Care" coauthored with Cheyenne Feltz and submitted as the final project for Translational Research for Advanced Practice. This project was designed for implementation by the facility

where the author is currently employed. It was presented to the unit council and leadership and received a favorable response. However, the pandemic put this project on the back burner where it remains at present.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

As a practicing registered nurse and Meditech super-user, I have been skilled at utilizing electronic health records within inpatient care settings. The Health Care Informatics class helped me understand the development of Information Technology systems for patient benefits at a deeper level and prepared me for my DNP project. One exemplar from that class is the two-part group project that I participated in. We designed IT solutions to address patient problems and improve outcomes.

Essential V: Health Care Policy for Advocacy in Health Care

My project during Ethics, Law, & Policy led to presenting an advocacy letter and policy change proposal to the chief nursing officer at Logan Health Medical Center. I brought forward evidence for implementing psychiatric care in the emergency department rather than waiting to refer the patient for inpatient or outpatient services. I also shared my proposal with the leadership of the emergency department and behavioral health department. Many in those positions reflected that this was a change they had wanted to make for some time and the data I organized and presented provided them with a clear path forward. Unfortunately, frequent changes of administrative leadership combined with the COVID-19 pandemic prevented its implementation.

Still this experience proved valuable in finding my voice as an advocate for my patients at the policy level.

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

As a practicing registered nurse, I have always placed a high value on interprofessional collaboration for improving patient outcomes. This educational journey has further developed that ability to recognize needs in my patient that may be better addressed by collaborating with other professionals – both in nursing and from other disciplines – to coordinate comprehensive care. Ethics, Law, & Policy, Financing & Budgeting for Healthcare Systems, Translational Research, Health Care Informatics, Program Planning, Program Design, and Vulnerability and Health Care in Diverse Populations all developed interprofessional collaboration. This skill, of course, was essential at every stage of my population-focused DNP project.

It remains, however, a key to my care of individual patients. For instance, one of my patient's this semester is a 65-year-old homeless woman with a serious and disabling mental health condition who lost connection to family and friends. We worked with case management, pharmacy, and social services to optimize housing, food, and transportation services. When she was acutely suicidal, we coordinated transport to the emergency department with subsequent admission to the inpatient unit and then were involved with her discharge back to the community with outpatient follow-up. Her case is written in AIPL #2 of N634.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

Multiple projects called on the ability to analyze epidemiological, biostatistical, and environmental data to identify the health needs of individuals and populations. All classes in this program provided the opportunity to develop this skill whether through developing literature appraisal skills (Evidence-Based Practice 1 & 2, Statistical Applications for Graduate Nursing), evaluating Ethics, Law, & Policy and developing programs (Translational Research, Program Planning, Program Design, DNP project) or developing infrastructure to meet patient and population needs (Financing and Budgeting of Healthcare Systems and Health Care Informatics). Core practice classes incorporated this skill through case studies and clinical classes integrated it through the 23 Advanced Integrative Professional Logs.

One memorable exemplar is the group project in the Vulnerability and Health Care in Diverse Populations class. I was part of the group that focused on the needs of veterans in Montana. I was profoundly impacted – both personally and professionally – by the time I spent immersing myself in the veteran culture. The veterans I talked to are deeply committed warriors who were willing to share their experiences of active military duty and their subsequent transition to civilian life. Their passion for service is palpable and the challenges they face are as complex as their varied stories. I collaborated with providers who care for veterans and with the members of my group to form plans to address the needs of this vulnerable population and we summarized our recommendations as a PowerPoint presentation to the class.

Essential VIII: Advanced Nursing Practice

The background for my development as an advanced practice nurse comes from my many years of experience as a registered nurse combined with the foundation of the advanced classes in health assessment, pathophysiology, and pharmacology. Since I am specializing in the care of individuals with psychiatric/mental health needs, I further focused on the body of knowledge that specifically pertains to psychiatry and mental health. I observed expert practitioners conducting comprehensive and systematic assessments of health and illness parameters in complex situations and then developed the ability to conduct those assessments myself. I practiced these skills in inpatient and outpatient settings, via in-person and telehealth formats. I learned to incorporate various approaches to meet the diverse needs of my patients. Based on my assessments, I am growing in my proficiency at designing, implementing, and evaluating therapeutic interventions based on nursing science and other sciences. Exemplars of my work will be found in all of my Advanced Integrative Professional Logs.

I regard my ability to develop and sustain a therapeutic relationship and partnership with my patient to be of prime importance. As the literature reports and Dr. Todd Shumard (inpatient psychiatrist at Logan Health Behavioral Health and my first preceptor) emphasized, “your relationship with your patient is the most important therapeutic modality you have.” Building rapport with my patients has always been integral to my nursing practice and I have further developed this ability as I have grown into the role of advanced practice nursing.

As an advanced practice nurse, I take seriously the opportunity and privilege I have to come alongside other nurses to help them achieve excellence in nursing care. I have been able to do this as a relief charge nurse in my current employment. In addition, I mentor novice nurses

and support experienced nurses who are endeavoring to initiate change in the workplace. In my DNP project, I engaged the rooming staff (MAs, LPNs, and RNs) to support them in improving their practice for depression screening. As I work with the rooming staff as a student PMHNP, I support them in developing excellence in patient care and collaborate with them to provide the patient with a cohesive visit experience.

Summary

All in all, these eleven semesters have provided a challenging, engaging, sometimes arduous, and always rewarding experience that has facilitated my development as an individual and a professional nurse. My learning is not over. In many ways, it has only begun. When I first graduated with my associate degree in nursing in 1982, I felt that I had only touched the available knowledge with my fingertips and that I would continue to integrate more knowledge into my nursing practice. Forty-one years later at the end of my Doctor of Nursing Practice degree, I still feel the same way. I will never stop pursuing knowledge and self-development for the purpose of providing the best care that I can for my patients.

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APPENDICES

APPENDIX A

DECISION TREE FOR SEARCH TERMS

Decision Tree for Search Terms

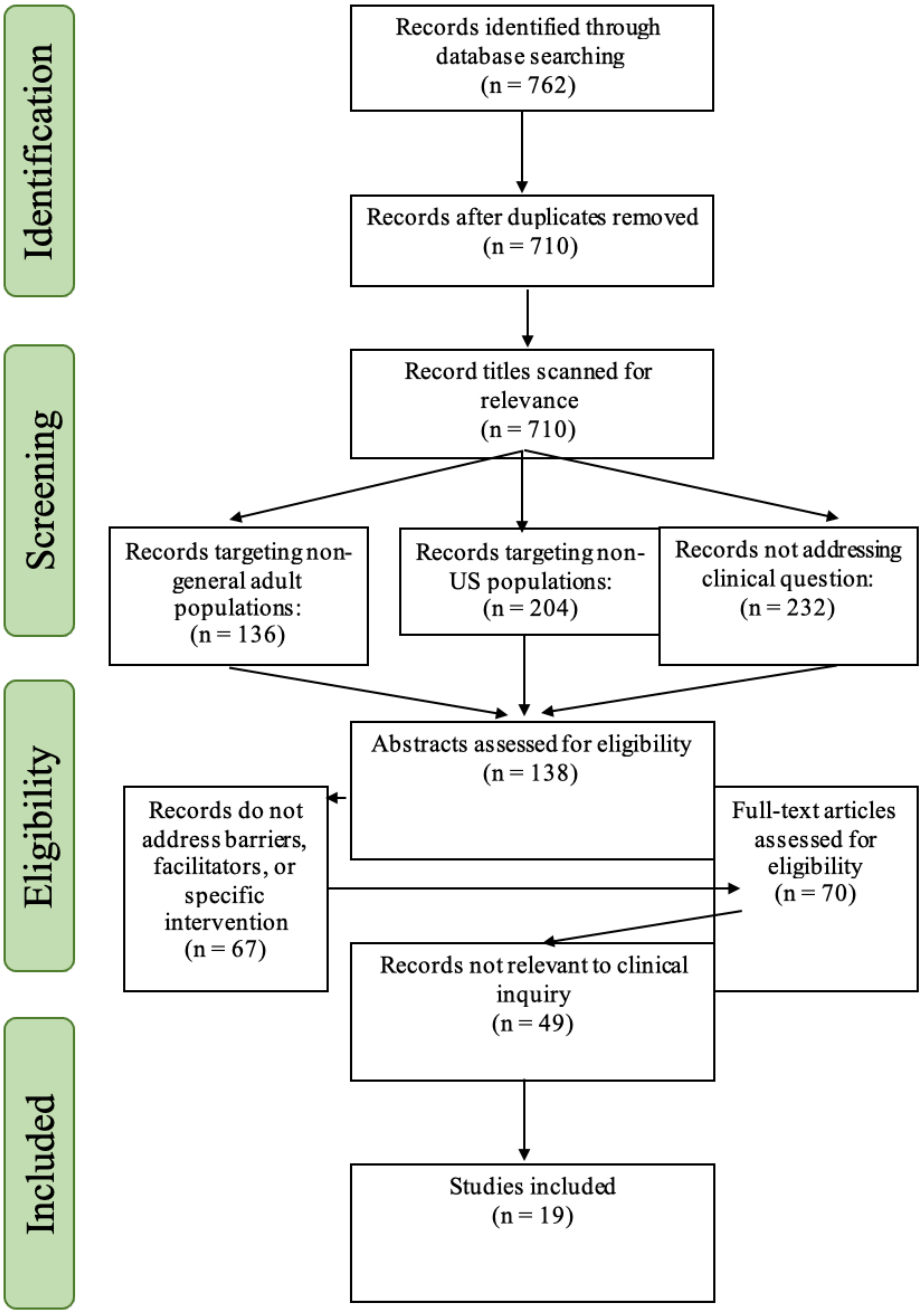
Decision tree for search terms: First search						
		Results				
Inclusion criteria	Key Search Terms	Google Scholar	PsycInfo	Web of Science	PubMed	Total
Time frame: January 1, 2012 to September 16, 2022 Language: English Peer-reviewed articles General adult population in the US	Barriers, screening, depression, anxiety, federally qualified, primary care	266	8	35	1	310
	"Depression screening" AND ["community health" OR "primary care"]	~6,500				
	"Depression screening" AND "primary care" *searched in titles only*	172	61	140	52	425
Decision tree for search terms: Second search conducted with MSU librarian						
		Results				
Inclusion criteria		Google Scholar	PsycInfo	Web of Science	CINAHL	Total
Peer-reviewed publications	Key Search Terms	federal* ("depression screening" or "screening for depression") (barriers or facilitat* or accessib*)	Depression AND screen* AND (federal* OR "primary care")	federal* ("depression screening" or "screening for depression") (barriers or facilitat* or accessib*)	Depression AND screen* AND federal* or "primary care" AND adults	
		437	2,686	12	698	3833
Publications 2016 to the present		240	942	6	274	1462

Decision tree for search terms: First search						
		NOT adolescen*	Limited to “adulthood”, “Human”, AND “Outpatient”	"primary care" ("depression screening" or "screening for depression") (barriers or facilitat* or accessib*)	NOT adolescen* or pregnan* or diabetes or cardi*	
				NOT pedia* OR teen* OR adoles*	Limit “depression” and “screening” to MH Exact Subject Heading	
		127	49	23	138	337
Total records for review:						762

APPENDIX B

PRISMA FLOWCHART

PRISMA Flow Chart

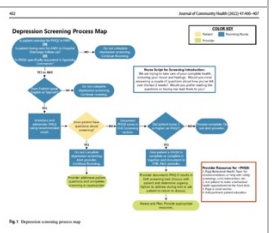


APPENDIX C

TABLE OF EVIDENCE

Table of Evidence

Citation: Author, Date of Publication	**Type of article**	**Title**	**Conceptual Framework/ Setting**	**Barriers**	**Facilitators**	**Intervention**	**Outcomes/ Findings**	**Worth to Project:**
(Agency for Healthcare Research, 2022)	LOE1	Healthier pregnancy: Tools and techniques to best provide ACA-covered preventive services: Provider Fact Sheet	Fact sheet based on USPSTF recommendations	Lack of improvement tools Lack of time and support Lack of organization for tracking patients, encouraging f/u, and assigning appropriate people to assist the physician Clinicians may have perceived barriers including inadequate training and lack or resources for f/u	Establish referral networks Develop practice patterns to improve patient management Develop educational programs and tools ACA insurance plans must cover depression screening	Conduct focus groups of mental health providers to determine relative awareness of these barriers, followed by education sessions of the greater community mental health provider network regarding potential solutions	CoCM→ ↑ med adherence / ↓ depressive sxs Collaborative care interventions involve multifaceted care team approaches. Programs with improved outcomes were both self-contained within primary care and included specific follow-up, management, and tpy	3 of the variables has statistically significant impacts on depression outcomes: Recruitment by systematic identification (p=.061) Case managers having a specific mental health background (p = .004) Provision of regular supervision for case managers (p = .033) Depression care managers: Provide psychotherapy Track patient treatment response, medications, compliance Distribute written educational materials Problem-solving treatment = effective as antidepressants CoCM typically include team management, tracking systems, and weekly structured case reviews with a psychiatrist, depression care manager, and site clinician. Conduct focus groups of mental health providers to determine relative awareness of these barriers, followed by education sessions of the greater community mental health provider network regarding potential solutions Establish referral networks Develop practice patterns to improve patient management Develop educational programs and tools

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
(Blackstone et al., 2022)	LOE3	Improving depression screening in primary care: A quality improvement initiative	Charlottesville, VA; family medicine department. One primary clinic with 4 satellite practices. Aim: Complete annual depression screenings of at least 75% of English and Spanish-speaking patients age ≥18 years. Questions: 1. Which initiatives were associated with the greatest increase in screening? 2. What are the gaps in depression screening in the patient population?	limited visit time lack of referral resources results not being readily available to providers the need to do repeat screenings	incorporating EHR workflow with collaborative care models	PDSA 1 RCA with informal interview of nursing Standardized workflow introduced: PHQ2→ referral See process map PDSA 2 Worked with EHR builders to include depression screening as part of routine and automatically enroll adult patients in annual screening PDSA 3 Educational campaign about COVIDs effects and importance of early screening and referral Providers added reminders	standardized workflow for depression screening collaborative efforts with health information technology to prompt providers to perform screening via the medical record delivering educational materials for providers and clinic staff conducting follow-up education. Over the five practices, average screening rates at the beginning of implementation were 61.03%. Post-interventi	

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
						to note template PDSA 4 Series of email updates sent to providers	on, they were 82.33%	
(Gorman et al., 2021)	LOE3	Medical Assistant Protocol Improves Disparities in Depression Screening Rates	Quasi-experimental study of adult PC visits at an urban academic clinic to assess screening rates by PCP only vs MA protocol		Integration of PC with BH	Passive alert system in EHR Screen patients for annual visit, current dx, previous +screen Verbally administered PHQ-2 +screen → paper PHQ-9 Critical BPA flagged in EHR PCP reviews PHQ-9 with pt and enters results into EHR	Screening rates increased from 18% (PCP only) to 57% (MA protocol)	Implementation of a medical assistant protocol in a primary care setting may significantly increase depression screening rates while mitigating or removing sociodemographic disparities.
(Hargraves et al., 2017)	LOE3	Implementing SBIRT (Screening, Brief Intervention and Referral to Treatment) in primary care: lessons learned from a	SBIRT 10 PC practices including FQHC Each practice chose the conditions for which they would screen and					Best practices include: Have a practice champion Utilize an interprofessional team Define and communicate the details of each SBIRT step Develop relationships with referral partners Institute ongoing SBIRT training

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
		multi-practice evaluation portfolio	the screening tools. Collected quantitative and qualitative data					Align SBIRT with the primary care office flow Consider using a pre-screening instrument when available Integrate SBIRT into the electronic health record.
(Last et al., 2021)	LOE3	A pilot study of participatory and rapid implementation approaches to increase depression screening in primary care	3-phased study at Penn Medicine – 90 PC practices			Solicited ideas from stakeholders using an innovation tournament Panel of stakeholders and scientists deliberated Research team piloted the winning idea	Tournament yielded 31 ideas and 32 barriers Voted for patient self-report Tested in 1 practice Most patients, physician, and MA liked using tablet Mas struggled with workflow	Innovation tournaments increase buy-in and invite collaboration Web-based platform "Your Big Idea" https://www.innovationtournaments.com http://darwinator.com
(Goldman et al., 2020)	LOE4	A novel continuum-based framework for translating behavioral health integration to primary care settings Original research Pilot field test	11 small PC sites in NY state Looks like the same framework presented in Chung, 2016 and 2019 This one is revised to include 9 domains and 13 components organized into 4 main roles.	Staff turnover Lack of familiarity with BH integration concepts Undefined roles Weak external referral partnerships Lack of pt f/u High no-show rates		Implementing depression screening Standardizing workflows for positive screens Integrating patient tracking tools for follow-up behavioral health visits Warm hand-offs Referral networks	Use of the framework continuum help sites translate integrated behavioral health interventions into their unique practice setting	Updating the Continuum-Based Framework presented earlier by Chung in 2016 and 2019 Consider this framework for my project

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
						with collaborative agreements		
(Dannenberg et al., 2019)	LOE6	End-user views of an electronic encounter decision aid linked to routine depression screening	Aim: gather stakeholder input to inform the development of a digital system linking depression screening to decision support Methods: 6 Focus groups with 15 participants, 7 clinician interviews, 10 usability sessions	Technology – some patients more comfortable with paper Might miss guidance from the clinician	Efficiency – patient can use their time in the waiting room Capacity to link results with the EHR Consumers felt it gave them time to prepare for the provider's visit by seeing the DA ahead of time	Patients complete electronic PHQ-9 in the waiting room, see the results and subsequent eDA on a tablet	Patients with and without depression, and clinicians, viewed linking the PHQ-9, results, and eDA positively. Patients were comfortable completing these in the waiting room	Patients complete PHQ-9 in the waiting room and get the results The tablet then presents a decision aid that helps the patient choose the next step.
(Lindsay & Decker, 2022)	LOE6	Improving depression screening in primary care	QI project in an adult PC practice Donabedian model – framework for examining health services and evaluating quality of healthcare Structure, Process, Outcomes	Time		HealthWatcher reminder for depression screening PHQ-9 Treatment algorithm Met with staff to brainstorm Multiple PDSA cycles	Post-intervention rate was significantly higher than pre-intervention 6-week intervention 23% → 90% 100% referred to treatment	Table 1 includes depression treatment and followup algoright MBC Most efficient was having MA complete the screener and hand It to the provider who was required to enter the data to ensure they saw the results Treatment algorithm

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
(Schaeffer & Jolles, 2019)	LOE6	Not missing the opportunity: Improving depression screening and follow-up in a multicultural community	Increase the efficacy of SBIRT to 75% 4 PDSA cycles in 90 days		Team engagement Use of standardized tools	PHQ, Option Grid for +screens, "right care" tracking log for +clients, team meetings and in-services, Use a POC notebook that created a physical reminder and trigger for use of the intervention tools	Provision of evidence-based care increased to 71.4%	Team engagement Use of standardized process
(Chung et al., 2019)	LOE7	Evaluation of a continuum-based behavioral health integration framework among small primary-care practices in New York: Practice and policy findings and recommendations		Workflow difficulty r/t space Time for QI Lack of technical assistance Difficulty with f/u and outreach between visits Regulatory demands r/t billing, reimbursement, quality reporting	Onsite champions Leadership buy-in Engagement of staff at every level Including diverse staff at planning meetings Regular updates to the entire team Asking all staff for		Baseline: global scores ranged from 14 to 36 with a median score of 22. At 12 months, scores ranged from 22 – 51 with a median score of 34 – a mean change of 10.5 points overall	The Framework lays out key components of integrated care found across integration models, grouped, in the original version, into eight broad domains: 1. Case finding, screening, and referral to care; 2. Use of a multidisciplinary professional team—including patients—to provide care; 3. Ongoing care management; 4. Systematic quality improvement; 5. Decision support for measurement-based, stepped care; 6. Culturally adapted self-management support; 7. Information tracking and exchange among providers;

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
					feedback Provide ongoing training to PCPs Clinical tracking tools most effective when integrated into EHR Condensed BH notes Integrated visits Collaborative agreements Self-management supports			8. Linkages with community/social services. Utilized at FQHCs in addition to other PC settings that served from 900 – 9000 patients/year
(Chung et al., 2016)	LOE7	Advancing integration of behavioral health into primary care: A continuum-based framework						Addresses the "how" of integrating BH with PC using a series of steps Includes a checklist for implementing behavioral health integration Provides a roadmap for a wide array of practices including FQHCs See Appendix C for the full working model (pg 30-31) Can use it to conduct initial assessment of strengths and needs Pages 10-11: applying the framework step by step
(Ferenchick et al., 2019)	LOE7	Depression in primary care: Part 1 – screening and diagnosis	Epidemiological framework for depression and review current evidence on				PCP must consider somatic complaints as possible indicators of	Two step screening with PHQ-2 and PHQ-9 has high specificity but low sensitivity. Screening tools enhance but don't replace clinical interview

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
		NOTE part 2 is (Ramanuj et al., 2019)	how to screen and diagnose depression				depression	Consider alternate diagnoses and assess severity Page 6 has a great graphic for diagnosis
(Ramanuj et al., 2019)	LOE7	Depression in primary care: Part 2-management Note: Part 1 is (Ferenchick et al., 2019)		Time constraints Conflicting demands Diverging priorities	Provider training Additional guidelines for responding to diagnosis management based care CoCM Establish referral network			Reviews various tpy approaches Reviews psychopharmacologic options Lifestyle interventions: physical activity, sleep, social connection Sequenced, stepwise approach Referral to specialists Pg 9: STAR*D algorithm Helpful table of Summary of Recommendations at the end
(Smithson & Pignone, 2017)	LOE7	Screening adults for depression in primary care	Dr. Pignone is a member of the USPSTF					Includes treatment algorithm by week of treatment
(Trangle et al., 2016) Institute for Clinical Systems Improvement	LOE7	Health care guideline: Depression in primary care	Primary care Based on systematic reviews Healthcare guideline				Examines cost-effectiveness impact of Collaborative Care Models Workplace impact of CoC Models	Algorithm for management Pg. 13 Recommendation highlights: Detection / diagnosis – standardized system Pt-centered care, education, self-management program Mental health specialist involvement Outcomes measurement systems to coordinate care, ensure continuity, and keep clinicians informed of status Risk Factors: Family or personal history of major depression and/or substance abuse Recent loss Chronic medical illness

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
								Stressful life events Traumatic events Major life changes Domestic abuse/violence
(Crenshaw, 2019)	DP	Improving Provider Adherence to Guidelines and Screening for Adult Depression in Primary Care ICSI 2016 guidelines for adult depression in primary care for the screening, diagnosis, treatment, and management of patients with MDD	Urban family medicine practice in south central TX	Providers lack of awareness of clinical standards Staff resistance to change time constraints high staff turn-over PCP resistance to referring patients r/t loss of revenue	Providers enthusiasm to implement change Staff's willingness to change collaboration with mental health clinic electronic portal for scheduling same-day appointments at mental health clinic	Provider training diagnostic criteria laminated. treatment algorithms laminated Implemented a standardized plan that involved receptionist giving PHQ-2 to complete; patient returns it and LVN/MA carries it back with the pt and reviews. Administers PHQ-9 if indicated. Results evaluated by provider and algorithm followed in response. Referral system established	Actual outcomes met or exceeded goals in all measures except for referral to behavioral health specialist 8 week intervention Baseline – no screening After intervention: screening rate HQ-2 97%; PHQ-9 94%; Routine assessment 81%; Provider adherence to suicide protocol 100%; Referral rates to BH 26%.	Provider training diagnostic criteria laminated. treatment algorithms laminated Implemented a standardized plan
(Eubanks, 2018)	DP	Screening and managing adult	Multilevel intervention designed from the			Screening and managing adult	PHQ-2 Screening improved	This project started with no screening going on at all

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
		depression at a free clinic University of South Carolina	Institute for Healthcare Improvement's Model for Improvement and Roger's Diffusion of Innovation theory			depression algorithm involving the PHQ-2 Continuing ed for providers PDSA cycles to optimize workflow Customization of EHR for efficient data entry PDSA 1: Providers administered the screening and discussed results and guided treatment according to the algorithm PDSA 2: MA offered the PHQ-2. If score >3, page flipped over and pt completed PHQ-9. Provider would f/u.	from 0% to 67% PHQ-9 screening if warranted was 100% EHR documentation improved from 50% to 87.5 %	Conducted a SWOT analysis The FNP student was the project lead – she had already done 2 clinical semesters there Appendix D: Treatment algorithm Appendix E: PDSA cycle template Appendix F: PDSA cycle worksheets Appendix H: audit worksheet – evaluating screenings over time
(Fowler, 2019)	DP	Improving depression screening and follow-up in primary	Implementation of protocol in an urban primary care clinic			Developed protocol Educational meeting	Implementation of the protocol in an urban	Clinical question: does the implementation of a protocol for depression screening and management in a small, urban, primary care clinic

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
		care through implementation of an evidence-based protocol Grand Valley State University	Lewin's change model Pender's Health Promotion Model SWOT analysis			EHR updated with order sets and macros Correct billing codes Reviewed final protocol with staff Pre-implementation data collected Data collected during implementation	primary care clinic resulted in a significant improvement in rates of use of the PHQ tools, supported consistent accurate documentation of depression management plans, and significantly improved accurate billing for the service provided. 38.3% → 60.6% screened with f/u	improve the rate of depression screening and follow-up management of adults, aged 18 and older? Limitation: 4-week test period where she collected all her data No data on follow-up care to PHQ-9 positives Pender's Health Promotion Model – look into
(Laham, 2018)	DP	Improving Depression Screening in the Adult Rural Primary Care Setting East Carolina University	3 rural FQHC in NC Triple Aim Initiative Model for Change to Evidence-Based Practice by Rosswurm and Larrabee (1999)	EHR limited	Staff enthusiasm Clinics not too busy	Education Integration of screening tools Treatment algorithms Front office → PHQ-2; Reviewed by nurse → PHQ-9 if indicated	Pre-implementation data for depression screening revealed a screening rate of 0-1.4% in the organization's clinics over the previous	Check CMS and Healthy People 2020 for data on screening rates Model for Change to Evidence-Based Practice by Rosswurm and Larrabee (1999)

Citation: Author, Date of Publication	Type of article	Title	Conceptual Framework/ Setting	Barriers	Facilitators	Intervention	Outcomes/ Findings	Worth to Project:
						→ provider notified → clinical assessment → CSSRS if indicated → treatment. LCSW available by phone Forms scanned into EHR; reviewed and shredded by project leader	three years. Following implementation of the quality improvement project, depression screening rates improved to an overall rate of 14%, with one clinic reaching a 60% screening rate.	

Legend:
ACA = Affordable Care Act
CoCM = Collaborative Care Model/s
DP = Doctoral Project
EHR = electronic health record
F/U = follow-up
LOE1 = Systematic review of all relevant RCTs or evidence-based clinical practice guidelines based on systematic reviews of RCTs
LOE2 = Evidence obtained from at least one well-designed RCT
LOE3 = Evidence obtained from well-designed controlled trials without randomization, quasi-experimental
LOE4 = Evidence from well-designed case-control and cohort studies
LOE5 = Evidence from systematic reviews of descriptive and qualitative studies
LOE6 = Evidence from a single descriptive or qualitative study
LOE7 = Evidence from the opinion of authorities and/or reports of expert committees
MBC = measurement-based care
MC = Medicare
MHS = Mental Health Specialist
PC = Primary Care
PDSA = Plan-Do-Study-Act
SBIRT = Screening, Brief Intervention and Referral to Treatment
SCM = Stepped Care Model
SES = socioeconomic status
Sxs = Symptoms
Tpy = Therapy and/or Psychotherapy

APPENDIX D

CONTINUUM-BASED FRAMEWORK FOR ADVANCING THE INTEGRATION OF BEHAVIORAL HEALTH WITH PRIMARY CARE

Continuum-Based Framework for Advancing the Integration of Behavioral Health with Primary Care

Role	Key elements of integrated care		Integration continuum			
	Domains	Components	Preliminary	Intermediate		Advanced
Clinical Workflow	1. Case finding, screening, referral to care	Screening, initial assessment, follow-up for BH conditions	Patient/clinician identification of those with BH symptoms—not systematic	Systematic BH screening of targeted patient groups (e.g., those with diabetes, CAD), with follow-up for assessment	Systematic BH screening of all patients, with follow-up for assessment and engagement	Analysis of patient population to stratify patients with high-risk BH conditions for proactive assessment and engagement
		Facilitation of referrals, feedback	Referral only, to external BH provider(s)/ psychiatrist	Referral to external BH provider(s)/psychiatrist through a formal agreement detailing engagement, with feedback strategies	Enhanced referral to internal/ co-located BH provider(s)/ psychiatrist, with assurance of "warm handoffs" when needed	Enhanced referral facilitation with feedback via EHR or alternate data-sharing mechanism, and accountability for engagement
	2. Decision support for measurement-based stepped care	Evidence-based guidelines/ treatment protocols	None, with limited training on BH disorders and treatment	PCP training on evidence-based guidelines for common behavioral health diagnoses and treatment	Standardized use of evidence-based guidelines for all patients; tools for regular monitoring of symptoms	Systematic tracking of symptom severity; protocols for intensification of treatment when appropriate
		Use of psychiatric medications	PCP-initiated, limited ability to refer or receive guidance	PCP-initiated, with referral when necessary to prescribing BH provider(s)/psychiatrist for medication follow-up	PCP-managed, with support of prescribing BH provider(s)/ psychiatrist as necessary	PCP-managed, with care management (CM) supporting adherence between visits and BH prescriber(s)/ psychiatrist support
		Access to evidence-based psychotherapy with BH provider(s)	Supportive guidance provided by PCP, with limited ability to refer	Referral to external resources for counseling interventions	Brief psychotherapy interventions provided by co-located BH provider(s)	Range of evidence-based psychotherapy provided by co-located BH provider(s) as part of overall care team, with exchange of information
	3. Information exchange among providers	Sharing of treatment information	Minimal sharing of treatment information within care team	Informal phone or hallway exchange of treatment information, without regular chart documentation	Exchange of treatment information through in-person or telephonic contact, with chart documentation	Routine sharing of information through electronic means (registry, shared EHR, shared care plans)
	4. Ongoing care management	Longitudinal clinical monitoring and engagement	Limited follow-up of patients by office staff	Proactive follow-up (no less than monthly) to ensure engagement or early response to care	Use of tracking tool to monitor symptoms over time and proactive follow-up with reminders for outreach	Tracking integrated into EHR, including severity measurement, visits, CM interventions (e.g., relapse prevention techniques, behavioral activation), proactive follow-up; selected medical measures (e.g., blood pressure, A1C) tracked when appropriate
Clinical Workflow (continued)	5. Self-management support that is culturally adapted	Use of tools to promote patient activation and recovery with adaptations for literacy, language, local community norms	Brief patient education on BH condition by PCP	Brief patient education on BH condition, including materials/handouts and symptom score reviews, but limited focus on self-management goal-setting	Patient education and participation in self-management goal-setting (e.g., sleep hygiene, medication adherence, exercise)	Systematic education and self-management goal-setting, with relapse prevention and CM support between visits
Workforce	6. Multi-disciplinary team (including patients) used to provide care	Care team	PCP, patient	PCP, patient, ancillary staff member	PCP, patient, ancillary staff member, CM, BH provider(s)	PCP, patient, ancillary staff member, CM, BH provider(s), psychiatrist (contributing to shared care plans)
		Systematic multidisciplinary team-based patient care review processes	Limited written communication and interpersonal interaction between PC-BH provider(s), driven by necessity or urgency, or patient as conduit	Regular written communication (notes/consult reports) between PCP and BH provider(s), occasional information exchange via ancillary staff or labs, on complex patients	Regular in-person, phone, or e-mail meetings between PCP and BH provider(s) to discuss complex cases	Weekly team-based case reviews to inform care planning and focus on patients not improving behaviorally or medically, with capability of informal interaction between PCP and BH provider(s)
Manage-ment Support	7. Systematic quality improvement	Use of quality metrics for program improvement	Informal or limited use of BH quality metrics (limited use of data, anecdotes, case series)	Use of identified metrics (e.g., depression screening rates, depression response rates) and some ability to regularly review performance	Use of identified metrics, some ability to respond to findings using formal improvement strategies	Ongoing systematic quality improvement (QI) with monitoring of population-level performance metrics, and implementation of improvement projects by QI team/champion
	8. Linkages with community/ social services	Linkages to housing, entitlement, other social support services	Few linkages to social services, no formal arrangements	Referrals made to agencies, some formal arrangements, but little capacity for follow-up	Screening for social determinants of health (SDOH), patients linked to community organizations/ resources, with follow-up	Developing, sharing, implementing unified care plan between agencies, with SDOH referrals tracked
	9. Sustainability	Build process for billing and outcome reporting to support sustainability of integration efforts	Limited ability to bill for screening and treatment, or services supported primarily by grants	Billing for screening and treatment services (e.g., SBIRT, PHQ screening, BH treatment, care coordination) under FFS, with process in place for tracking reimbursements	FFS billing, and revenue from quality incentives related to BHI	Receipt of global payments that reference achievement of behavioral health and general health outcomes

APPENDIX E

AREAS FOR PROJECT FOCUS: CONTINUUM-BASED FRAMEWORK FOR ADVANCING THE INTEGRATION OF BEHAVIORAL HEALTH WITH PRIMARY CARE

Areas for Project Focus: Continuum-Based Framework for Advancing the Integration of Behavioral Health with Primary Care

	Key elements of integrated care		Integration continuum			
Role	Domains	Components	Preliminary	Intermediate		Advanced
Clinical Workflow	1. Case finding, screening, referral to care	a. Screening, initial assessment, follow-up for BH conditions	Patient/clinician identification of those with BH symptoms – not systematic	Systematic BH screening of targeted patient groups (e.g. those with diabetes, CAD) with follow-up for assessment	Systematic BH screening of all patients, with follow-up for assessment and engagement	Analysis of patient population to stratify patients with high-risk BH conditions for proactive assessment and engagement
		b. Facilitation of referrals	Referral only to external BH provider/ psychiatrist	Referral to external BH provider/ psychiatrist through a formal agreement detailing engagement, with feedback strategies	Enhanced referral to internal/co-located BH provider / psychiatrist, with assurance of "warm handoffs" when needed	Enhanced referral facilitation with feedback via EHR or alternate data-sharing mechanism and accountability for engagement

	Key elements of integrated care		Integration continuum			
Role	Domains	Components	Preliminary	Intermediate		Advanced
	2. Decision support for measurement-based stepped care	a. Evidence-based guidelines/ treatment protocols	None, with limited training on BH disorders and treatment	PCP training on evidence-based guidelines for common BH diagnoses and treatment	Standardized use of evidence-based guidelines for all patients; tools for regular monitoring of symptoms	Systematic tracking of symptom severity, protocols for intensification of treatment when appropriate
		b. Use of psychiatric medications	PCP-initiated, limited ability to refer or receive guidance	PCP-initiated, with referral when necessary to prescribing BH provider/ psychiatrist for medication follow-up	PCP-managed, with support of prescribing BH providers/ psychiatrist as necessary	PCP-managed, with care management supporting adherence between visits and BH prescribers / psychiatrist support
		c. Access to evidence-based psychotherapy with BH providers	Supportive guidance provided by PCP with limited ability to refer	Referral to external resources for counseling interventions	Brief psychotherapy interventions provided by co-located BH providers	Range of evidence-based psychotherapy provided by co-located BH provider(s) as part of overall care team, with exchange of information

	Key elements of integrated care		Integration continuum			
Role	Domains	Components	Preliminary	Intermediate		Advanced
	5. Self-management support that is culturally adapted	a. Use of tools to promote patient activation and recovery with adaptations for literacy, language, local community norms.	Brief patient education on BH condition by PCP	Brief patient education on BH condition, including materials/ handouts and symptoms score reviews, but limited focus on self-management goal-setting	Patient education and participation in self-management goal setting (e.g. sleep hygiene, medication adherence, exercise)	Systematic education and self-management goal setting, with relapse prevention and CM support between visits.

APPENDIX F

FLOWCHART FOR RECOMMENDED PROCESS

Flowchart for Recommended Process