Depression in Diabetes:

Utilizing a Depression Management Algorithm in Primary Care

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Abstract

Background: Patients with diabetes are more prone to depression because of the debilitating nature of coping with a chronic disease long term (Polacsek et al., 2021). Screening for depression in this population is critical and should be done to meet standards of care for patients with diabetes that are recommended by the United States Preventative Service Task Force (USPSTF) and the American Diabetes Association (ADA). There are a number of screening tools available with the Patient Health Questionnaire-9 (PHQ-9) screening tool for depression being one that is evidence-based and widely utilized (Owens-Gary et al., 2018).

Objective: The primary objective of this quality improvement (QI) project was to increase screening, education, and referrals for depression in patients concurrently diagnosed with Type 2 diabetes (T2DM), using the PHQ-9. The secondary objective was to increase provider confidence in utilizing the PHQ-9 to screen for depression in patients with T2DM

Methods: Healthcare providers who are treating patients diagnosed with diabetes in a primary care practice will be the primary population. The principal investigator (PI) will track all patients diagnosed with diabetes seen by the participants and screen for use of the Patient Health Questionnaire-9 (PHQ-9) to screen for depression. Comparative data was collected using a retrospective chart review to collect pre- intervention depression screening for adult patients with T2DM over a three-month period. The goal of the QI project was to increase depression screening with utilization of the PHQ-9.

Results: The chi-square test of independence revealed statistically significant increases in depression screening (72.42, $p < .001$), education (52.56, $p < .001$), and referrals (6.0, $p < .014$) of patients with Type 2 diabetes with implementation of the CCNC Depression Management Algorithm and PHQ-9 screening tool. The PHQ-9 results revealed that nearly 40% of the patients screened had some level of depression. The provider's confidence level in utilizing the PHQ-9 survey increased in all six categories assessed in the provider confidence survey.

Conclusions: Implementation of the PHQ-9 instrument to screen for depression was successful and sustainable in increasing the number of patients with Type 2 diabetes screened, educated, and referred

for depression. The provider's confidence in utilizing the PHQ-9 was also increased post-implementation.

Keywords: depression, diabetes type 2, depression screening tools, depression in chronic disease, depression with diabetes

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In the United States (U.S.), depression affects up to 9% of patients and more than $43 billion is spent on medical care costs related to depression (Graham et al, 2019; Maurer, 2012). Even with a variety of treatments, depression remains prevalent in the U.S. and affects 5% to 13% of patients in primary care settings (Maurer, 2012).

Depression is even more commonly seen in patients diagnosed with a chronic illness. A diagnosis of depression is associated with poorer outcomes in patients with chronic medical conditions, such as coronary artery disease, diabetes, and stroke (Polacsek et al., 2021). The signs and symptoms of depression are often unrecognized or overlooked in primary care. Primary care providers (PCP) need to become more aware of the signs and symptoms of depression and patients with chronic illness need education to recognize and understand depression (Li et al., 2018). Treatment of depression may decrease mortality from these chronic diseases and prevent suicide. Accurately identifying patients who have depression is critical, so they receive appropriate treatment and begin therapy (Polacsek et al., 2021).

The U.S. Preventive Services Task Force (USPSTF) recommends primary care screening of adults for depression to ensure accurate diagnosis, treatment, and follow-up (Graham et al, 2019; Maurer, 2012). The Patient Health Questionnaire-9 (PHQ-9) is an evidence-based instrument to screen and measure for depression, based on each of the nine Diagnostic and Statistical Manual of Mental Disorders (DSM-IV criteria) for depression (American Psychological Association [APA], 2021). The PHQ-9 is an easily readable and effective tool that can be deployed in primary care to detect and monitor depression (Kroenke et al., 2010). The updated version of the PHQ-9 has brief, generalized recommendations for healthcare providers regarding management of patients based on the results of the screening. The PHQ-9 is a self-reported tool with total scores of 5, 10, 15, and 20 representing indications for mild, moderate, moderately severe and severe depression. Question 9 on the PHQ-9 instrument represents possible suicide ideation indicating immediate assessment for self-harm (Sun et al., 2020).

Often the distress of dealing with a chronic illness such as diabetes leads to depression. As a recommended standard of care, patients with diabetes (PWD) should be routinely screened for mental health issues, with referral when needed. Healthcare providers easily overlook this problem in the interest of controlling more measurable indicators of diabetes management. The Centers for Disease Control and Prevention (CDC) reports one in five adults with Type 2 diabetes mellitus (T2DM) has depression and one in three patients with T2DM have distress from dealing with their illness (CDC, 2022a; Owens-Gary et al., 2018).

The primary objective of this QI project was to improve screening, education, and referrals for depression with utilization of a depression screening tool for PWD in a primary care office. The secondary objective was to increase healthcare provider confidence for utilization of the PHQ-9 instrument to screen for depression in PWD.

Review of Literature

A systematic literature review of the Cumulative Index to Nursing and Allied Health Literature (CINAHL) database was conducted to identify studies available regarding depression, depression with chronic illness, depression in patients diagnosed with diabetes, and screening tools for depression. Keywords used in the literature search included: depression, diagnosing depression, depression with chronic illness, depression with diabetes, depression screening tools.

Depression

Depression is a common and serious medical condition that affects how one feels in a negative way, disrupting how you act (Torres, 2020). Symptoms can vary from feeling sad, loss of interest in previous activities you enjoyed, trouble sleeping, difficulty thinking or concentrating, inability to make good decisions, fatigue, loss of energy, changes in appetite, or thoughts of suicide (Torres, 2020; Srisurapanant et al., 2018). The CDC notes that one of every six adults in the U.S. will experience depression at some point, with approximately 16 million U.S. residents diagnosed with depression each year (CDC, 2022b).

Depression has been associated with a major cause of sick absences because depressed patients

have somatic complaints. Such complaints include headache, backache, and gastrointestinal pain that cause reduced productivity, lack of energy, poor concentration, and decreased ability to make good decisions (Berge, 2017). Depressed patients report poor quality of sleep and have shown differences in their sleep regularity. When feelings associated with depression begin to interfere with sleep, appetite, self-esteem, or thoughts of suicide it is important for the individual to recognize the need for help (Vares et al., 2015).

Patients with chronic illness are more susceptible to major depressive disorder (MDD). Chronic diseases such as diabetes, heart disease, arthritis, kidney disease, and hypertension are chronic illnesses that require ongoing care and attention. Acknowledging this reality can become complicated by depression (Holt et al., 2014). Patients with T2DM are three times more likely to experience depression when compared to healthy members of the population (deGroot et al., 2001).

The manifestations of depression such as lethargy, poor concentration and lack of sleep can lead to poor self-management behaviors in PWD. As early as 2001, a meta-analysis to look at the relationship of diabetes and depression found that 5.8% to 43.3% of PWD exhibit signs and symptoms of depression (deGroot et al., 2001). The essential self-management behaviors for PWD such as medication adherence, exercise and food intake are impaired or ignored when patients are suffering from depression and diabetes (Li et al., 2018). It is important for patients with chronic conditions to be screened for depression to reduce their risk for disability, complications, and secondary disorders.

Screening for Depression

The Patient Health Questionnaire-2 (PHQ-2) is a self-administered initial screening tool with two questions. The question asks about depressed mood and anhedonia in the previous two weeks. The PHQ-2 criterion validity for major depression has a sensitivity of 100% and a specificity of 77% (Li et al., 2007). The PHQ-2 can be administered first; however, with a positive response the PHQ-9 should be administered immediately following a positive screen on the PHQ-2 (CCNC, 2015).

The PHQ-9 assessment questionnaire consists of nine questions, each of which represent criteria mandated by the DSM-IV guidelines (Nussbaum, 2020). The PHQ-9 has 61% sensitivity and 94%

specificity in adults. If this screening is positive for depression, further evaluation is needed to confirm the patient's symptoms to meet the DSM-IV criteria of diagnosis (Maurer, 2012).

Utilizing the PHQ-9 questionnaire for initial screening for depression and at follow-up visits would comply with the DSM-IV guidelines (Gautam et al., 2017). Adequate screening, referrals for therapy, and providing education will assist the patients in finding the right combination of treatment, leading to positive outcomes.

Provider's Use of PHQ-9 Screening Tool

The PHQ-9 screening tool is underutilized in the primary care setting as an instrument for monitoring depression. Using the PHQ-9 to screen for depression would likely improve depression outcomes in the primary care setting (APA, 2021). Providers in primary care are often the first provider to notice symptoms of depression. It is important for the PCP to recognize and manage depression in their patients, considering that nearly 60% of mental healthcare is obtained from the PCP and 79% of all antidepressant medications are prescribed by the PCP. Universal screening for all patients is recommended with screening tool such as the PHQ-2 or the PHQ-9 (Park & Zarate, 2019). Screening for depression in PWD in the primary care setting meets the standards of care recommended by the United States Preventative Service Task Force (USPSTF) and the American Diabetes Association (ADA) (Owens-Gary et al., 2018).

Standardization of Care

A treatment plan should be created based on the severity of symptoms and PHQ-9 scores. Community Care of North Carolina (CCNC) has an evidence-based toolkit that is freely available on the web for the treatment of depression. The toolkit is specifically aimed at providing PCPs with easily accessible tools for the treatment of depression and recommends screening tools, treatments, and medication recommendations, among other resources. Included in the toolkit is a depression algorithm (see Appendix A) that demonstrates when to do watchful waiting, counseling, education, and/or prescribe antidepressant medication (CCNC, 2015).

Comprehensive assessment and proper diagnosis of depression is essential, which should

include a complete physical exam, blood pressure, heart rate, BMI, height, and weight. Checking for substance abuse with drug screening should be addressed. Liver function, thyroid, lipids, and blood sugar should be tested to rule our differential diagnoses that could be masking depression (Gautam et al., 2017). A plan should be created that is practical, feasible, and flexible; being reevaluated and modified while addressing the individual needs of the patient (Gautam et al., 2017).

Screening PWD for depression using the PHQ-9 screening tool and the CCNC Depression Management Algorithm will streamline the process of treating patients with depression. Algorithms can guide healthcare providers make accurate decisions regarding patient's health by consolidating large amounts of information (Burt et al., 2018).

Theoretical Framework

Havelock's theory of planned change was used as a conceptual framework for this QI project. It proves beneficial for creating a process for change that is organized and easily implemented in a primary care office environment (White et al., 1016). This theory is made up of cycles of action that are repeated as change advances, where the change agent must pay close attention to the steps involved. There are six steps in the process, but a need for change must happen first. The six steps include: care (concern for the needed change), relate (building a relationship), examine (find the problem), acquire (acquire the relevant resources), try (choose the solution), extend (gain acceptance), and renew (stabilize and sustain the outcomes into practice) (White et al., 1016).

The providers in this rural primary care practice recognized a need for increasing depression screening, education, and referrals in patients with chronic illnesses. The principal investigator (PI) proposed this quality improvement project to the primary care provider and a mental health professional working in a rural primary care office. The providers agreed there was a lack of depression management for their PWD and agreed this project would provide insight into ways to improve care of their PWD. Acquiring and trying routine screening for depression in this patient population using the PHQ-2 and the PHQ-9 screening tools, followed by acceptance and sustainability of the PHQ-2 and PHQ-9 completed the planned change in this primary care practice.

Purpose

The purpose of this QI project was to provide a primary care office with a standardized depression management algorithm that would aid in screening, educating, and referring PWD. Integrating the PHQ-9 screening tools into the office's standard of practice will improve the provider's confidence in its utilization for screening, diagnosing, and long-term management of PWD.

Methods

Context

This QI project was conducted over a three-month period. The PI will track provider use of the PHQ-9 for all PWD seen during this period. Comparative data will be collected through a retrospective chart review in the electronic health record (EHR), measuring use of the PHQ-9 for PWD prior to the initiation of this project.

Participants

The healthcare providers, front office staff, and medical assistants in a rural primary care practice in western North Carolina were the participants in this QI project. All PWD were provided a PHQ-9 for self-completion during the check-in process. All PCPs utilized the completed PHQ-9 to determine levels of depression for PWD and initiated appropriate steps for care planning, based on the patient's PHQ-9 score. All primary care providers (PCPs) working at the implementation site were eligible and invited to participate in the project. Participation was voluntary and participants had the right to refuse, withdrawal, or discontinue participation without consequence or prejudice at any time prior to submission of their data results.

Intervention

Prior to project implementation, all primary office staff were educated on the importance of depression screening, education, and management, especially with vulnerable populations like those with chronic conditions. Participants were educated on the use of the PHQ-2 and the PHQ-9. The CCNC Depression Management Algorithm was presented. All participants received paper copies of

these documents and verbalized understanding after the training session.

The three-month implementation period consisted of administration of the PHQ-2 and the PHQ-9 and the depression management algorithm, when appropriate. The PI conducted routine chart reviews during the implementation period, evaluating PWD who were age 18 and older to record use of the PHQ-9 and assess for screening, education and/or referral when appropriate.

During implementation, the front office staff was responsible for providing patients with the PHQ-2 upon check-in (see Appendix B). If the PHQ-2 questionnaire were positive, then the medical assistant would immediately give the patient a paper copy of the PHQ-9 (see Appendix C) for completion prior to seeing the healthcare provider.

Healthcare providers utilized the PHQ-9 to identify levels of depression using the PHQ-9 scoring, the used the depression management algorithm to determine the level of intervention and treatment needed and created a plan of care for the patient. The provider discussed results of the PHQ-9 with each patient and documented a comprehensive plan of care in the EHR, including the need for any follow-ups and referrals. Patient education materials were provided to all PWD diagnosed with depression (see Appendix D).

The PI acquired resources from the CCNC Adult Depression Toolkit as a solution to increase compliance with the existing standards of care. Acceptance for utilization of the algorithm to manage depression was approved by the primary care providers, employing Havelock's theory. During a three-month implementation period, the primary care office incorporated the depression management algorithm into their practice in an effort to improve screening, diagnosing, and managing depression. Through this system change, the primary care practice established care of patients with depression using the depression management algorithm and was able to sustain use of this program.

Measures

To measure the primary outcome of utilizing the depression management algorithm to increase screening, education, and referrals for depression in PWD, a system change was created. Quantitative data on the implementation statistics was tracked via the EHR. All paper PHQ-2 and PHQ-9 questionnaires

with scores were scanned into the patient's EHR at office-visit checkout. The PCP created a EHR template to document education and referrals related to depression. This template was part of the office visit note. All PHQ-9 questionnaire scores were used to assess depression in PWD. Monthly EHR reports provided direct access to patient demographics, including age, identified gender, ethnicity; as well as education, treatments, and referrals. Access to the EHR was granted by the clinic owner and password protected. To measure the secondary outcome a 5-point Likert scale was used to survey the provider's confidence in utilizing the PHQ-9 survey, pre- and post-intervention.

Data Analysis

Descriptive statistics were used to illustrate the patient demographics and the project outcome frequency and percentages. Pre- and post-implementation data was gathered from the EHR to compute the statistics. A statistical analysis was done before implementation and at the end of the three-month implementation period. Data collected was securely entered into Intellectus ® software using inferential statistics.

A chi-square test of independence was conducted to examine the primary outcome and descriptive statistics for the secondary outcome measure. Both outcome measures were evaluated quantitative statistics. The variables addressed were depression screening, education, and referrals. The chi-square statistical test determined there was a significant increase in screening, educating, and referring PWD and depression, utilizing the CCNC Depression Management Algorithm. There was also a significant increase in provider confidence in utilization of the PHQ-9 screening tool within the CCNC Depression Management Algorithm for purposes of screening, diagnosing, and managing depression in primary care.

Ethical Considerations

This QI project was reviewed and approved by the Lenoir-Rhyne University Institutional Review Board (IRB) and classified as exempt. Participation in the project was voluntary and participants had the right to withdraw at any time without consequence or prejudice. Research participants were given contact information for faculty advisors in the event they had concerns about the PI or the project. The contact

information for the PI was also available, along with the contact information for the Chair of the Lenoir Rhyne University IRB, so any questions or concerns that may have arisen from the project participant could be addressed at any time.

Patients who charts were reviewed remain anonymous and no identifiable data was released. Ano-signature consent form was obtained from all participants (see Appendix E). The data was collected and stored using the Intellectus™ Statistics program. A duplicate data set will be stored on a password-protected external drive to ensure safety in the event of damage to the original information. Data will be stored for five years after project completion and then destroyed.

There was no funding for this project. The use of the PHQ-2, the PHQ-9 and the CCNC Depression Management Algorithm was a system change for this facility. The comprehensive curriculum and training materials will be retained by the facility for use during orientation for all new employees in the future. Health Insurance Portability and Accountability Act (HIPPA) guidelines were abided by during the course of this project.There was no funding for this data collection.

Results

Demographics

There were 50 patients in the pre-intervention retrospective chart review and 44 patients in the intervention group. During the three-month implementation period the patient's age, race, and identified gender was collected. Evidence of PHQ-9 implementation and use of the CCNC Depression Management Algorithm was noted. The most frequent gender was female in pre-intervention and an equal number of female and males were noted during the implementation. The average age of the pre-intervention group was 56 and 58 for the post-intervention group (Table 1). The most frequently occurring race was Caucasian, followed by African American in both groups.

Utilization of Depression Management Algorithm

Forty-four patients qualified for participation in the QI project during the three-month implementation period. Six PWD failed to be identified at front desk check-in. After project

implementation the results of the chi-square test of independence revealed that the depression management algorithm was successful in screening (72.42, p <.001), educating (52.56, p <.001), and referring (6.0, p <.014) depression noted in PWD (see Table 2). This was a significant increase in depression management compared to the pre-implementation group. Prior to the QI project, no patients were being screened for depression with utilization of a recommended survey like the PHQ-9.

PHQ-9 Results

The PHQ-9 scores from the implementation period were analyzed using descriptive statistics. The average score was 4.4 and the highest percentage of patients identified themselves in the minimal category (n = 23, 60%), with 40% of the patients (n = 15) screened identified themselves with mild to severe levels of depression.

Provider Confidence Survey

The provider confidence survey compared the provider's confidence, pre-and post-implementation in utilization of the PHQ-9 for screening, diagnosis, and managing depression. The six survey questions were on a five-point Likert scale and results revealed that the pre- survey's most frequently observed category was neither agree or disagree (n = 6, 100%) and the post- survey's most frequently observed category was strongly agree (n = 6, 100%). Descriptive statistics revealed the provider confidence in utilizing the PHQ-9 survey for screening, diagnosing, and managing depression improved (see Table 4).

Discussion

The CCNC Depression Management Algorithm assisted in aligning the diagnosis with the suggested treatment plans, following USPSTF and ADA guidelines. The secondary outcome of increasing the provider confidence of utilizing the PHQ-9 for screening, diagnosing, and management of depression was successful because of the primary objective. The medical providers confidence was assessed by administering a pre-intervention and post-intervention provider confidence survey (see Appendix E). The primary and secondary project outcome measures were met. At the end of the

project, the findings were presented to the stakeholder, so that they could continue to meet the current standards of care for PWD.

Summary

The depression management algorithm was successful in meeting the primary outcome of increasing depression screening, education, and referrals for PWD. This process resulted in a system process change within the primary care practice. The provider used the template within the EHR for all 38 patients seen to document screening, education, and referrals during the three-month implementation period of the QI project. Subsequently, the provider became more confident in utilizing the PHQ-9 survey to screen, diagnose, and manage patients with depression. Screening for depression in this population increased provider compliance with recommendations by the USPSTF and ADA guidelines.

The participants were satisfied with screening patients using PHQ-9 because it provided a standardized and consistent way to document depression. The documentation of PHQ-9 scores, education, and referrals related to depression in the EHR streamlined the process so the provider and mental health professional could view the results during subsequent and follow-up visits.

Limitations

One limitation of this project was the number of referrals made for patients detected with depression. Only five out of the 38 patients screened for depression received referrals for therapy. There were 15 patients with a PHQ-9 score of five and above which qualified them to receive a referral for behavioral therapy. During project implementation, patients would often refuse the referral due to lack of financial coverage for these services. Some were uninsured and could simply not afford to pay out of pocket for specialty care such as therapy or psychiatry

This rural area had limited resources for mental health providers that were available to evaluate patients in a timely manner. Some patients called the office to report that appointments were not available for months or that their insurance was not accepted. Referrals made with some mental health providers were within a thirty-minute distance of the primary care practice, creating a barrier for those

with a lack of transportation.

Three primary care providers were employed by this practice site; however, only one provider agreed to participate in this QI project, limiting the generalizability of this project.

Conclusions

Diabetes and depression occur together about twice as frequently as either would be diagnosed alone. Diabetes and mental illness affect approximately 8.3% to 10% of the total world population, with a degree of comorbidity between diabetes and depression that is an expected outcome. Both clinical diagnoses of T2DM and depression are worsened by the other (Holt et al., 2014).

Depression is often missed in patients with diabetes despite availability of effective screening tools such as the PHQ-9 (Holt et al., 2014). Use of the CCNC Depression Management Algorithm gave the provider increased confidence in utilizing the PHQ-9 to screen, diagnose, and manage depression in patients with T2DM. It allowed for a standardized plan of care tailored to each individual patient's needs. The CCNC Depression Management Algorithm gave the provider options for therapies and pharmacological treatments for depression.

The primary care office has established a consistent and sustainable manner in which to efficiently screen for depression in patients with T2DM after project completion. Future recommendations include utilization of the depression management algorithm with all adult patients seenwithin the primary care practice and comprising a list of community mental health resources, virtual and in-person, along with emergency assistance programs.

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Table 1

Demographics

	Pre-Intervention	Post-Intervention
Gender		
Male	18	22
Female	32	22
Age (range)	26-74	24-86
Caucasian	42 (44.7%)	29 (30.1%)
Hispanic	0 (0%)	3 (3.2%)
Asian	1 (1.1%)	1 (1.1%)
African American	4 (4.3%)	11 (11.7%)
Latino	3 (3.2%)	0 (0%)

Note: This table demonstrates the demographics of patients with Type 2 diabetes who were seen in theprimary care office 3-months pre and post QI project intervention.

Table 2

Depression Management

Patients	Pre-Intervention (*n*= 50)	Post-Intervention (*n* = 38)
SCREENED FOR DEPRESSION	0	38
EDUCATION GIVEN ABOUT DEPRESSION	8	40
REFERRED FOR DEPRESSION	0	5

Notes: A total of 44 patients qualified for participation in the QI project but only 38 were identified at check-in. The results of the chi-squared test of independence involved only the 38 patients who participated. It revealed significant improvements in depression screening (72.42, $p < .001$), education (52.56, $p < .001$), and referrals (6.0, $p < .014$) for patients with Type 2 diabetes.

Table 3

Post Intervention PHQ-9 Scores of Patients Screened

PHQ-9 Scores (0-27)		Number of Patients Screened *n* (%)	
Minimal	score (0-4)	23	(60.5%)
Mild	score (5-9)	10	(26.3%)
Moderate	score (10-14)	3	(7.89%)
Moderate-Severe	score (15-19)	2	(5.26%)
Severe	score (20-27)	0	(0%)

Notes: A total of 39.5% of post-implementation patients identified themselves with mild to severe levels of depression.

Table 4

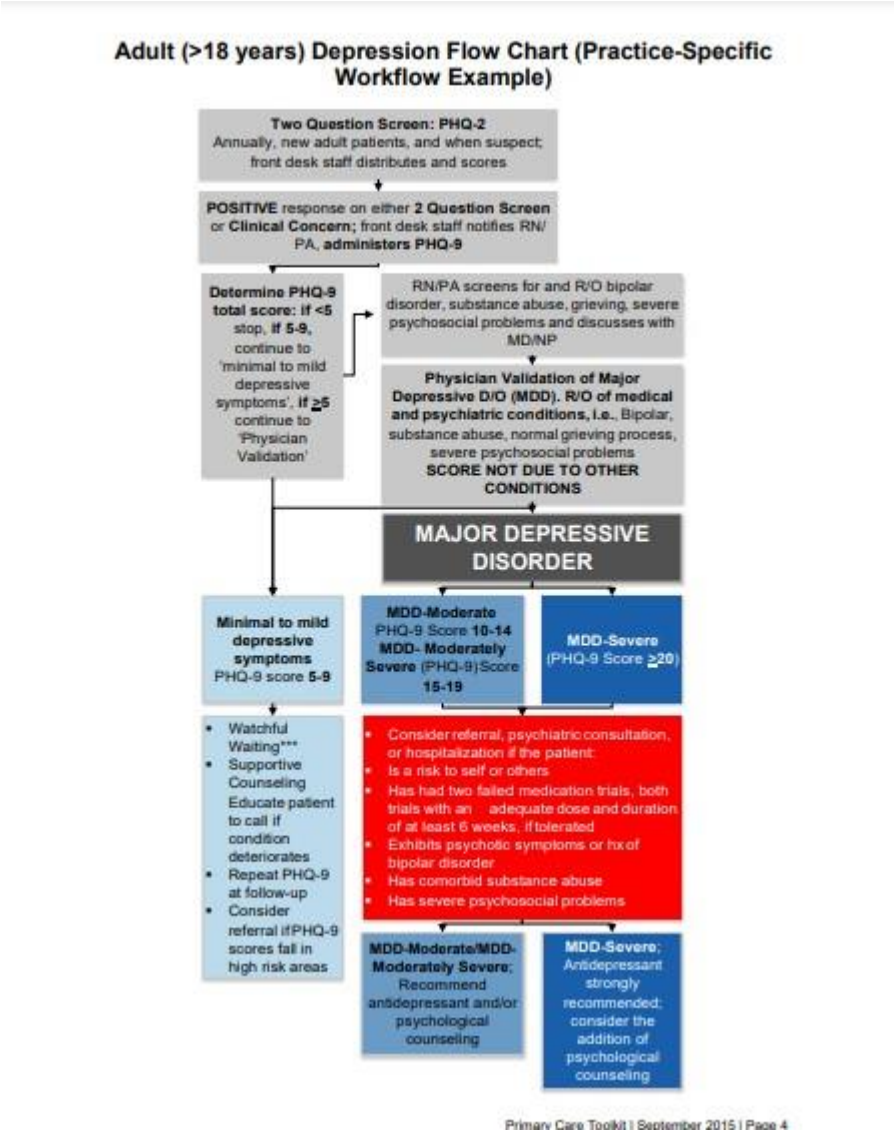
Provider Confidence Survey

Provider Confident Survey Questions	**Pre-Project Survey Answers**	**Post-Project Survey Answers**
I am confident in my understanding of the PHQ-9 screening tool.	Neither agree or disagree	Strongly Agree
I am confident in my ability to the results of the PHQ-9 results to diagnose depression.	Neither agree or disagree	Strongly Agree
I am confident in my ability to utilize the PHQ-9 results to treat depression severity	Neither agree or disagree	Strongly Agree
I am confident in my ability to utilize the PHQ-9 results to monitor depression.	Neither agree or disagree	Strongly Agree
I am confident in my ability to utilize the PHQ-9 results to manage depression.	Neither agree or disagree	Strongly Agree
I am confident in my ability to utilize the PHQ-9 results to make referrals for depression.	Neither agree or disagree	Strongly Agree

Notes: Increased provider confidence in screening, applying the PHQ-9, utilizing the PHQ-9 to test, monitor, and manage depression, and make referrals for depression in a primary care setting.

Appendix A

Depression Management Algorithm



Considerations in Diagnosis of Depression:

- · Personality factors
- · Substance abuse
- · Physical Exam (Blood pressure, BMI, height, weight)
- · Assess social support and coping skills.
- · Past medical history/family history

- · Risk of harm to self or others
- · History of suicide attempts

Psychotherapy Interventions for Depression:

- · Cognitive Behavioral Therapy
- · Interpersonal Therapy
- · Supportive psychotherapy
- · Martial Therapy
- · Family Therapy

(CCNC, 2015)

Appendix B

Patient Health Questionnaire-2 (PHQ-2)

The PHQ-2 inquiries about the frequency of depressed mood and anhedonia over the past two weeks. The PHQ-2 includes the first two items of the PHQ-9.

1. Little interest in pleasure or doing things

   0 1 2 3

2. Feeling down, depressed or hopeless

   0 1 2 3

The purpose of the PHQ-2 is to screen for depression in a “first-step” approach. Patients who screen positive should be further evaluated with the PHQ-9 to determine whether they meet criteriafor a depressive disorder.

Appendix C

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME:_____ **DATE:**_____

Over the last *2 weeks*, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	add columns	____ +	____ +	____
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card).	TOTAL:			

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

- Not difficult at all _____
- Somewhat difficult _____
- Very difficult _____
- Extremely difficult _____

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Appendix D

Patient Education Regarding Depression

Depression and You Who gets depressed?

Depression is a very common but highly treatable condition that affects about 1 in every 20 Americans each year. Depression is not a character flaw, a sign of personal weakness or a condition that can be willed or wished away. Depression is a medical illness that can affect anyone. Over 11 million people every year have this illness, with twice as many women as men. Many women are particularly vulnerableafter the birth of a baby. Men are less likely to suffer from depression but are also less likely to admit they have the illness. Unfortunately, many people with depression do not tell their primary care doctor how they are feeling.Talking to their doctor about how they feel is the depressed person's first important step toward gettingbetter.

What is depression?

Since depression is a medical condition, like diabetes or heart disease, it is more than just a feeling of sadness or being "down in the dumps". It affects your day to day life and your thoughts, ideas, actions andphysical wellbeing.

Some common causes may include certain medical conditions, some medications, drugs or alcohol, family history or other mental illness conditions. It may result from certain life events, such as the loss ofa loved one, or by stress. An imbalance in the chemicals in the brain that control mood can also cause depression.

REMEMBER: Depression is NOT the result of a weakness or a fault, it is a medical illness that canbe effectively treated.

How will I know if I am depressed?

People who are depressed generally experience one or more of the following symptoms ALL DAY, NEARLY EVERY DAY, FOR AT LEAST 2 WEEKS.

- Loss of interest in things previously enjoyed
- Feeling sad, blue, or down in the dumps.

• You may also have at least three (3) of the following symptoms:

- Feeling restless, slowed down or unable to sit still
- An increase or decrease in appetite or weight
- Thoughts of death or suicide
- Difficulty thinking, concentrating, remembering or making decisions
- Sleeping too much or too little
- Feeling tired all the time, or loss of energy.

Other symptoms you may experience include:

- Headaches; aches and pains
- Being anxious or worried
- Digestive problems
- Feeling hopeless
- Nausea and/or vomiting

What should I do if I have these symptoms? TALK TO YOUR DOCTOR:

Many people suspect that something is wrong but hesitate to find help or feel guilty or responsible for their symptoms. Sometimes they are not aware that help and treatment is available. If you think you may have a problem, there are health care providers that can help you find out if there is a physical cause for your symptoms, treat the symptoms orrefer you to a mental health specialist for evaluation.

How will treatment help me?

Treatment will help to lessen or remove your symptoms and return you to your normal life. Treatment isaimed at complete remission of symptoms and staying well afterward. You can also help your primary care doctor treat you more effectively by participating in your treatment through ASKING QUESTIONSand FOLLOWING THROUGH WITH TREATMENT that both you and your doctor decide is best for you.

What type of treatment will I get?

As with any illness, sometimes more than one type of treatment may be tried to find what works best foryou. It is important not to get discouraged since many options exist and many people can expect improvement and recovery. The primary treatments for depression include medication, talking with a therapist or medication combined with talking to a therapist.

Who may provide mental health treatment?

Depression, depending upon the symptoms, may be treated by primary care providers as well as specialized mental health providers. The primary care provider you see may refer you to a mental healthspecialist such as: a psychiatrist, a psychologist, a social worker, or a case manager.

Who should see a mental health specialist?

Although many people are successfully treated for depression by their primary care provider, there are times when it may be necessary for referral to a specialized mental health provider. Some common reasons for a referral may include the need for a combination of treatments, or for very severe or persistent symptoms that do not improve with treatment. If you think you need to see a specialty provider,talk to the doctor, nurse, or case manager.

How will doctor or nurse know if I have depression?

Your health care provider will assess your physical and mental condition during your visit in order to decide if you are depressed. The following activities may occur: • Answering Depression Screening Questions of filling out a Health Questionnaire. • Discussion of your symptoms • Perform a physical exam to determine your general health status • Perform some basic laboratory tests. • Inquire about yourfamily's medical and mental history

THERE IS HOPE. THERE IS HELP. TALK TO YOUR DOCTOR TODAY.

The common types of TREATMENT for depression include: • Antidepressant medicine • Therapy with a mental health specialist • A combination of mental health therapy and medication Your provider will discuss your treatment with you, and you may want to explore risks and benefits of each.

A treatment planwill be recommended by your provider based upon your specific needs and condition. If you are using DRUGS or ALCOHOL, please discuss this with your provider. Your antidepressant medication is not addictive or habit forming. It is not an upper; it is not a downer.

(CCNC, 2015).

Appendix E

Provider Survey

Confidence Level of Providers in Treating MDD/ Five-point Likert Scale

1. I am confident in my understanding of the PHQ-9 screening tool.
2. I am confident in my ability to apply the results of the PHQ-9 results to diagnose depression.
3. I am confident in my ability to apply to utilize the PHQ-9 results to treat depression severity.
4. I am confident in my ability to utilize the PHQ-9 results to monitor depression.
5. I am confident in my ability to utilize the PHQ-9 results to manage depression.
6. I am confident in my ability to utilize the PHQ-9 results to make referrals for depression.

(All answers choice of: Strongly agree, Agree, neither agree or disagree, Disagree, and Strongly Disagree