Collaborative Care for Depression in Primary Care

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Abstract

The exploration of collaborative care between primary care providers and behavioral health provider for patients with depression was the quality improvement practice. The electronic medical records and depression screening of patients (n=51) in a rural primary care clinic were analyzed for accurate diagnosis of depression, increased depression screening for participants with chronic medical conditions, increased communication between the providers, and depressive symptoms improvement. The primary care clinic did not have a routine screening for depression. The results highlighted the need for collaborative care in the primary care clinic for patients with depression.

*Key Words:* depression, primary care, behavioral health, collaborative care, PHQ-9
Introduction

Depression is a common physically disabling condition. Patients with chronic health conditions commonly have depressive symptoms in primary care. Patients may present with somatic complaints of back pain, fatigue, headache, and other physical complaints masking the underlying depressive disorder. The manifestations of impairment or distress of physical symptoms and depression may decrease functional status and quality of life. Improvements in symptom recognition and treatment of depression can be improved through collaborative care. Collaboration of both primary care providers and behavioral health providers can help patients with depression obtain high quality and effective treatment in the primary care clinics. The quality improvement practice was to improve the coordination and collaboration of care, access to services, and referral to behavioral health providers.

Primary care providers and behavioral health providers share the same office space in approximately five clinics in a health care facility allowing for a prime environment for collaboration. Because mental health and physical health conditions are interwoven with the utilization of the primary care system, this offered the opportunity for patients to have access to behavioral health services. However, this access did not exist. There were over 1,012 patients waiting as long as five months for appointments with behavioral health providers in the organization. Many primary care providers were reluctant to begin treatment for depression when the patients presented and were not routinely screening for depression. Unlike many medical conditions, mental health disorders cannot be diagnosed with biological tests. Mental health disorders are measured through health utilization data, self-report, criteria-based scales or symptoms, or clinical interviews (Druss & Walker, 2011). Depression screening was not currently being used in the primary care clinic. The face-to-face communication or the use of the electronic medical record (EMR) provides the generation of collaborative care, and a barrier as
the EMR does not integrate patient information of both behavioral health and primary care. The collaboration of services addresses the inefficiencies of treating physical and mental health separately (Petterson, Miller, Payne-Murphy, & Phillips, 2014). Collaboration of care evaluation is based on documentation of depressive symptoms, provider engagement, and the measurement and documentation of outcomes.

**Literature Review**

Patients with chronic disease and depression had their overall health status deteriorate significantly. Approximately 70% of care is solely provided by primary care clinics as the clinics are the de facto mental health system (Vogel, Malcore, Illes, & Kirkpatrick, 2014). In primary care, depression is present in 5-10% of patients and present in 10-20% of patients with chronic medical disorders (Barkil-Oteo, 2013). The accuracy in diagnosing depression was 25% to 50% of the time in primary care clinics. The combination of medical and behavioral conditions is associated with an elevation in symptom burden, functional impairment, decreased length, and quality of life, and increased costs (Barkil-Oteo, 2013; Druss & Walker, 2011). Depression was associated with an increase in the use of health services and exceeds direct treatment costs (Barkil-Oteo, 2013). The economic impact on society estimates annual cost exceeding $80 billion in the United States with roughly 30% of the cost attributed to direct medical expenditures and lost productivity constituting the bulk of the cost (Deneke, Schultz, & Fluent, 2014). A small proportion of primary care patients present for treatment of depression. The method to improve rates of detection of depression in primary care is through screening (Carey et al., 2014). The need for identification and treatment for depression, along for the need for collaborative care is identified in the studies of Deneke, Schultz, and Fluent (2014), Doherty and Gaughran (2014), Druss and Walker (2011), Jacob et al. (2011), and Thota et al. (2012).
reviews demonstrated clear and robust evidence for collaborative care effectiveness in improving depression outcomes when compared to usual care.

Collaborative care reduces the burden of the symptoms, restructures clinical practice to accurately diagnose and provides effective treatment of patients with depression. Collaborative care implementation, initiative, and dissemination efforts include the Agency for Healthcare Research and Quality Partners in Care program, the MacArthur Initiative on Depression and Primary Care, the Depression Improvement Across Minnesota-Offering a New Direction, the Robert Wood Johnson Foundation’s Depression in Primary Care program, U.S. Department of Veterans Affairs Primary Care-Mental Health Integration program and others (Barkil-Oteo, 2013). Unützer, and Park (2012) acknowledged more than 40 randomized controlled trials establishing a robust evidence for collaborative care for depression. Patient and provider care satisfaction had improved with collaborative care.

Across the U.S. there are fewer psychiatric providers resulting in difficulty meeting the needs of those with depression. The purpose was to ensure effective collaboration with primary care and behavior health for patients with depression. Collaboration of services addresses the inefficacies of treating physical and mental health separately (Petterson et al., 2014). Patients with depression generally receive care in primary care allowing this setting an optimal place for the quality improvement practice. The improved depression care delivered in primary care was an important intervention of improving depressive symptoms.

**Methods**

**Setting**

The primary point of contact for behavioral health care delivery for most patients is the primary care clinic in most healthcare systems. The quality improvement practice took place in
primary care clinic located in a small rural city with an estimated population of 33,335, primarily Caucasian in the Midwest near a fitness center, grocery store, and restaurants. The clinic houses a physician and one physician assistant as primary care providers, part-time therapist and advanced practice nurse as behavioral health providers, part-time cardiologist, and physical therapist. Laboratory, ultrasound, and x-rays are provided in the clinic. The support staff in the primary care office includes a medical assistant, a licensed practical nurse, and a receptionist. The clinic is open Monday through Friday from 8AM to 5PM with afterhours nursing service available by telephone.

**Participants**

Participants age 19 and older were identified by the primary care provider as in need of treatment for depression or at high risk of common comorbid depressive conditions. The comorbid conditions may include diabetes, cardiovascular disease, cancer, chronic pain, and substance misuse. The adult participants with these chronic diseases may have common physical complaints not attributed to the disease process or health behavior change. The participants have access to the primary care clinic in the community. All patients under the age of 19 are excluded. The study was approved by the University’s Institutional Review Board for the quality improvement project.

**Screening Measures**

Recommendation from the United States Preventative Services Task Force and the National Institute for Health and Clinical Excellence was depressive screening for adults (Thota et al., 2012; Deneke, Schultz, & Fluent, 2014). The PHQ-9 was completed by the supportive staff and documented in the electronic medical record (EMR). The supportive staff were instructed to place the PHQ-9 score in the EMR or have the participant fill out a paper PHQ-9 that was
scanned into the EMR. The participants rated the nine symptom items on a 4-point Likert scale indicating how often over the past 2 weeks they have been bothered by the depressive symptom (0 = not at all; 1 = several days; 2 = more than half the days; 3 = nearly every day). The total score ranged from 0-27. A possible depressive disorder was indicated when a patient obtained a score of 10 or higher. The depression severity scores was mild (5-9), moderate (10-14), moderately severe (15-19), and severe (20-27) (Bentley, Pagalilauan, & Simpson, 2014; Carey et al., 2014; Deneke et al., 2014). The PHQ-9 is brief, taking approximately 2 to 5 minutes to complete. The Cronbach’s alphas for internal consistency reliability is 0.86 and the construct validity pooled sensitivity is 0.80 and pooled specificity is 0.92 in sample of patients in primary care and hospital settings (Hammash et al., 2013). This validity and reliability makes the PHQ-9 a good choice for quality improvement practice.

**Procedures**

The demographics and four quality based performance measures were analyzed based on promoting symptom and functional participant improvement with depression. The measures are based upon evidence supporting the impact of the system elements and process elements (Mitchell et al., 2013). The four outcomes to determine the practice effectiveness and data of interest are accuracy of depressive symptoms, increased level of screening for depression for participants with any additional high-risk conditions, improvement in communication between primary care provider and behavioral health providers (if the participant was co-managed), and improvement in depressive outcomes from treatment.

The process plan and outcomes, criteria for depression, screening and diagnosing depression, and Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition criteria for depression was provided to the providers as educational handouts. The education of primary care
providers included the common and suspected symptoms and manifestations of depression on primary care. The participants with depression diagnosis were screened and others were seen by the primary care provider who identified the need for depressive screening.

The primary care provider may order antidepressants or psychotherapy for participants with depression or for participants with treatment resistance depression and refer to behavioral health providers. The referral was made via the electronic medical record request or in person. The primary care provider reviews the participant’s case with the behavioral health providers during specific times of the day (lunch or other open times) or requests a consult. There was available appointment slots during the time the behavioral health APN was in the clinic for participants who are not improving at the 8 to 10 weeks or earlier as clinically indicated. The behavioral health APN was consulted for treatment resistant participants.

The participant was seen for follow up after 4 to 6 weeks by the primary care provider or the behavioral health APN depending upon the treatment plan. The PHQ-9 was administered at that visit and with each follow up appointments. The follow up appointment was scheduled after 4 to 8 weeks depending upon the response of the treatment. Demographic data collected included age, sex, PHQ-9 scores, diagnoses, medications, psychotherapy, and dates of contact. All data was coded, entered into a spreadsheet and descriptive statistical analysis was performed for the frequencies and percentages of the quality variables.

**Data Analysis**

Data regarding the participants’ age, sex, PHQ-9 scores, diagnosis, current medication(s) and dates of contact were gathered from the participants screened with the PHQ-9. Quantitative variables for the diagnosis of depression were accurate and improvement in depressive outcomes from treatment were the scores of the PHQ-9. A reduction in the PHQ-9 score of 10 or less at
follow up or a reduction in the score of 5 were considered to have improved symptoms or remission (Bauer et al., 2015; Unützer, & Park, 2012). The documentation of the percentage of patients with a depressive disorder was based on the criteria of the Diagnostic and Statistical Manual of Mental Disorder, Fifth Edition.

The increase of screening for depression in the participants was an aggregate percentage of the International Classification of Diseases-9 (ICD-9) codes for depression 30 days prior to implementation of the intervention and post 30 day review of the providers in the clinic. Data regarding the high risk conditions of diabetes, cardiovascular disease, cancer, chronic pain, and substance misuse were gathered from the participants’ chart review. The improvement in communication between primary care provider and behavioral health provider was the measurement of percentage of patients with depression documentation demonstrated in the EHR. The documentation data included the referral to behavioral health or consultation with the behavioral health APN. The data was gathered from the chart review of the participants’ electronic health record for approximately 3 months.

Results

The aggregate percentage of patients with ICD-9 code of depression 30 days prior to the quality improvement practice was 2.6% and the 30 day post aggregate percentage was 4 percent. The primary care clinic screened 51 participants with the PHQ-9 compared to not using the scale previously. The quality outcome of accurate diagnosis of depression was graphed in Figure 1 and severity of depression data in Table 1. Fifty percent of the males between the ages of 19-44 had PHQ-9 scores less than 10 and 26.3% of the females had scores less than 10. Three of the 19 females and one of 8 males age 19-44 at the 4-8 week follow up visits with three having a PHQ-9 score below 10 and two having a 5 point reduction in score. Males aged 45-64 had one out of
four scoring less than 10 (25%) and four out of the nine females (44%) had a score of less than 10 in the PHQ-9 screening. A male between ages 45-64 (n=4) and two females had a 4-8 weeks follow up visits. The male had a one point increase in the PHQ-9 score and one females follow up score was 7 and the other female had a reduction of 11 points in the PHQ-9 score. The two males and nine females age 65 and older all had scores of less than 10. One female did ask for a medication reduction based on decrease in depressive symptoms.

The PHQ-9 screening increased by 64.3% on the male participants and 72.9% on female participants with high-risk conditions and the communication between providers listed in Table 2. Nine participants were referred to behavioral health. Three females were referred to therapy and two females were referred to behavioral health APN. The two females obtained appointment with the behavioral health APN within 5 weeks and one participant was referred and admitted to the psychiatric hospital. Two males were referred to behavioral health APN with one obtaining the appointment in 8 weeks and the other not scheduling an appointment. One male age 60 was able to obtain an appointment within two weeks.

**Discussion**

Depression screening is an important consideration in primary care due to the prevalence in patients with chronic medical conditions. Thota et al. (2012) noted a 50% higher prevalence of major depression among women than men was demonstrated with 37 females compared to 14 males being screened. The quality improvement practice has effectively improved collaborative care with increase in depressive screening and improvement in depressive symptoms. The use of the electronic medical records ensured accurate documentation of the diagnosis and collaboration of care. The EMR had a trigger depression tab to help facilitate depression screening and comparing PHQ-9 scores in each visit. The review of the scores with the participant included
education on depressive symptoms and remission. The score of the PHQ-9 was generated into the primary care provider’s progress note and the behavioral health APN initial evaluation and progress notes. Unützer et al. (2012) noted collaborative care in most robust research to date has found patients to be more than twice as likely as those in usual care to experience a substantial improvement in depressive symptoms within 12 months. The routine collection of measured data improved patient outcomes and changed what the clinic practice was doing for patients with depression. Analyzed data in a recent Cochrane review of 79 randomized controlled trials concluded collaborative care was associated with significant improvement in depression outcomes, and signifies a useful clinical pathway for patients with depression (Deneke et al., 2014). The collaborative practice team quickly learns from the experience to provide depressive screening to patients with comorbid conditions, improved quality care, patient-centered care, and efficient and effective treatment. The combined perspectives offer an understanding and opportunities to identify problems in the treatment (Peek, & the Integration Academy Council, 2013). The ongoing relationship between the primary care provider, the behavioral health provider and patient allows for a patient focused approach to depressive treatment outcomes and improvement in quality outcomes in the clinic.

The quality improvement practice was subject to a number of limitations. The small sample in a primarily Caucasian population, short period of time, and lack of control group is a limitation to the quality improvement practice. The participants with PHQ-9 scores less than 10 could have a treatment option of reducing the antidepressant medications, especially if depressive symptoms were resolved for over a year. The practice is representative of only one primary care clinic in the organization and in one geographic location. Implementation in the other primary care clinics can increase the access to behavioral health services, improve
communication between the services, and decrease the depressive symptoms in patients.

Challenges in primary care is the PHQ-9 score did not generate into the visit note which was corrected within two weeks. The EMR depression trigger tab was not in the behavioral health EMR and an update was requested. The EMR has the capability to bar or line graph the participants’ PHQ-9 score and was helpful in demonstrating depressive symptoms improvement to the participants.

**Clinical Implications**

Depression significantly affects the patients and health outcomes. Screening for depression in primary care is the first step in treating depression. The adoption of collaborative care provides a multidisciplinary team of primary care providers and behavioral health providers focusing on decreasing depressive symptoms and improvement in health outcomes. The quality improvement practice demonstrated improvement in access to behavioral health and improvement in the health of participants with depression and comorbid conditions.
References


https://www.icsi.org/guidelines_more/catalog_guidelines_and_more/catalog_guidelines/catalog_behavioral_health_guidelines/depression/


Figure 1: Depression Screening
## Table 1: PHQ-9 Scores

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<tr>
<th>Sex</th>
<th>Age</th>
<th>&lt; 10 mild</th>
<th>10-14 moderate</th>
<th>15-19 moderate-severe</th>
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<td>0</td>
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### Table 2: Participant Characteristics

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<tr>
<td>Female</td>
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Key: DM = Diabetes, CA = Cancer, Cardio = Cardiovascular, AODA = alcohol and drug abuse, Pharm = Pharmacology