

Assessing Depression in the Primary Care Setting

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Depression affects almost 10% of the adult population in the United States but often goes unrecognized and untreated. The World Health Organization predicts depression soon to be the second leading cause of disability. Recognizing the signs and symptoms of depression and then feeling confident to treat are limitations many primary care providers acknowledge. In this study, significantly more patients were identified as moderately to severely depressed using the Patient Health Questionnaire-9 (PHQ-9) screening tool as compared to the clinic's usual care practice of patient self-report. This study examines the PHQ-9, an evidence-based screening tool, to assist primary care providers in identifying depression. It also offers evidenced-based algorithms and websites to assist primary care providers with treatment protocols. The purpose of this article is to evaluate whether screening patients for depression using the PHQ-9 questionnaire is an effective tool in identifying patients with depression compared to the clinic's usual care practice of self-report. Implementing an evidence-based screening tool in the primary care setting assisted identifying those at risk for depression. This study of 200 patients in the primary care setting demonstrated the effectiveness of using the PHQ-9 as an efficient and accurate depression screening tool. Results of this study were chi-square analysis revealed that a significantly higher proportion of patients were newly diagnosed with depression in the study group than in the comparison group, $\chi^2(1, N = 200) = 9.96, p < .01$.

Keywords: depression; primary care; Patient Health Questionnaire-9 (PHQ-9); Q1 Depression Treatment Algorithm

Introduction

Depression is a common mental health illness worldwide affecting people of all races, ethnic backgrounds, and socioeconomic levels. During their lifetime, about 20% of adults will be affected by a mood disorder needing treatment, and specifically, 8% of the world's population will have a major depressive episode (BMJ Best Practice, 2012). Most recent data from the Centers for Disease Control report that during 2009–2012, 7.6% of Americans age 12 years and older meet the criteria for major depression (Pratt & Brody, 2014). American

Foundation for Suicide Prevention (AFSP, 2013) estimates 19 million Americans, or about 9.5% of the U.S population, experience depression at any given time and that more Americans suffer from depression than from heart disease, cancer, or HIV/AIDS. Depression is predicted to be the second leading cause of disability in people of all ages by the year 2020 (World Health Organization, 2011).

The purpose of this article is to evaluate whether screening patients for depression using the Patient Health Questionnaire-9 (PHQ-9) questionnaire is an effective

tool in identifying patients with depressive symptoms compared to the clinic's usual care practice of self-report.

Background

Depression can cause mental, physical, emotional, and functional distress that may lay latent unless it is specifically identified by a health professional (National Institute of Mental Health [NIMH], 2011). The symptoms may be vague at first and present gradually over time. The effects of depression can range from overt mental manifestations to physical symptoms of an illness, thus making diagnosing depression a challenge. Signs and symptoms of depression will vary with each individual but can include persistent sadness, anxiety, or "empty" feelings. They can also include feelings of hopelessness and/or guilt, pessimism, worthlessness, helplessness, irritability, restlessness, loss of interest in activities or hobbies once pleasurable, decreased interest in sex, fatigue and decreased energy; difficulty concentrating, remembering details, and making decisions; insomnia, early-morning wakefulness, or excessive sleeping; overeating or appetite loss; thoughts of suicide or suicide attempts; aches or pains, headaches, cramps; or digestive problems (NIMH, 2011).

The prevalence of major depression is between 5% and 10% of people seen in the primary care setting (Depression in Adults, 2012). Although some patients present with the classic symptoms of depressed mood and suicidal ideation, approximately half of the individuals with depression present only with somatic symptoms such as abdominal pain, back pain, weight changes or changes in appetite, constipation, fatigue, headache, insomnia or hypersomnia, joint pain, neck pain, and weakness (Maurer, 2012). Individuals with preexisting chronic medical conditions tend to develop depression secondary to management and consequences of the disease process. (McInerney, Mellor, & Nicholas, 2013). Between 5% and 10% of the individuals are presenting to primary care complain of physical symptoms requiring numerous laboratory tests, consultations, and treatment for conditions which are often triggered by depressive symptoms (Luo, Goddeeris, Gardiner, & Smith, 2007). Physical and mental health are interconnected, and the interplay effects health risk behaviors and health outcomes, influencing the course of treatment, treatment options (including medication), and functional outcomes (Abed Faghri, Boisvert, & Faghri, 2010).

Chronic disease or acute illness is primarily the focus of most primary care visits. Depression cannot adequately be assessed at that time; therefore, screening at the yearly wellness visit exam can lead to early detection and proper treatment for patients with depression. U.S. Preventive Service Task Force's (USPSTF, 2009) recommendation for depression screening at the annual physical has

gained momentum because of Medicare and third-party payers acknowledging individuals with depressive symptoms are undiagnosed and/or undertreated. This recommendation recognizes the importance of effective treatment and follow-up to the screening process.

Primary care providers play a major role in addressing this issue because they are the first contact in the health care system. In primary care, mental health symptoms typically go undetected, although the clues are present (Joffres et al., 2013). Approximately 75% of those who commit suicide have seen their primary care provider in the month prior (Feldman, Bachman, Cuffel, Friesen, & McCabe, 2007). Depression and anxiety were the most reported conditions for all groups. However, recent data show that approximately 70% of those in need of mental health services are currently not receiving services (Kazdin & Rabbitt, 2013).

Depression cannot be measured with lab or diagnostic tests; the only way to assess for depression is to screen patients by asking questions. Tools used in the primary care setting ideally should be brief, accurate, easy to read and use, self-evaluating, free access availability, and easily integrated into daily practice. Barriers to screening include time constraints of appointment times, uncertainty as to who or when to screen, uncertainty of which tool to use, and lack of a clinic follow-up plan (O'Conner, Whitlock, Beil, & Gaynes, 2009).

Implementing an evidence-based screening tool in the primary care setting is expected to assist identifying those at risk for depression. Studies show that screening tools are an effective way to identify patients in need of mental health care (Zuithoff et al., 2010). Using a reliable, evidence-based screening instrument such as the PHQ-9 is a useful instrument to quickly screen depressive symptoms in the primary care. Although many instruments have been developed for depression screening, the USPSTF (2011) found little evidence that one is superior to another but encourages using the tool that is most practical for the individual clinical setting.

Project Site

The site for this project, located in a mid-Michigan suburban area, provides primary care services to patients with third-party reimbursement plans. The practice size is approximately 1,300 patients with most being adults. Recognizing the need to assess for depression in the primary care setting, there was support for implementing depression screening during the annual wellness exam.

Method

Patient Health Questionnaire-9

The PHQ-9 protocol was selected as the tool the clinic will use to screen for depression. The PHQ-9 is

a public domain instrument for depression screening. This instrument is brief and typically takes 2–5 min to complete. It has demonstrated 89.5% sensitivity and 77.5% specificity for depressive disorders (Arrol et al., 2010). The PHQ-9 initially asks two questions about mood and anhedonia to identify if further screening should be done. *Over the past 2 weeks how often have you been bothered by any of the following problems? (a) Little or no interest in doing things? (b) Feeling down, depressed, or hopeless?* Patients then indicate 0 = *not at all*, 1 = *several days*, 2 = *more than half the days*, 3 = *nearly every day*. A score of 1–3 may indicate minimal depression. A score of 3 or greater prompts asking the remaining questions to better evaluate possible depression. Asking these first two questions of the PHQ-9 is found to be 86% sensitive and 78% specific in adults for a score of 2 or higher (Arroll et al., 2010). A score of 0–4 is considered normal, 5–9 indicates mild depressive symptoms, 10–14 suggests moderate symptoms, and 15 or higher identifies those with probable moderate to severe depression. Those with scores of 20 or greater are usually indicative of severely depressed. The form is freely available at www.phqscreeners.com or www.depression-primarycare.org. At a minimum, simply asking “Are you distressed?” is highly sensitive in diagnosing depression and can be a good first step in the screening process (Appendix A).

Project Framework

The Neuman Systems Model (NSM), 1970, originally developed as a framework for student learning, is currently used as a practice model among nurses in multiple disciplines. The model is patient-centered and involves the individual in the diagnostic and treatment process with interventions based in prevention. NSM emphasizes holistic health and holistic nursing. The focus of the model is wellness and fostering a collaborative relationship between the client and the caregiver (Neuman, 2002). NSM uses common terminology of stress and stabilization. Depressive symptoms and changes in daily function meet the definition of stressors as defined by NSM because they are tension-producing stimuli that have the potential to disrupt system stability leading to an outcome that may be positive or negative (Neuman, 2002). The improvement in depression is an improvement to quality of life, and this is a movement toward improved health on the health/illness continuum. NSM supports beginning an intervention as soon as a stressor is suspected or identified. Once the depressive symptoms are identified and the treatment intervention occurs, the system hopefully moves to stability. NSM calls this reconstitution and can place the new stability level at a higher or lower level of wellness.

Methods of Evaluation

The University of Michigan Institutional Review Board’s (IRB) determination for the project was that it is a quality improvement project and therefore not requiring IRB regulation.

The inclusion criteria for this project were patients 20 years of age or older, not currently diagnosed with depression, not currently prescribed an antidepressant, and not in a postpartum window of 0–6 months. A chart review of 100 patients meeting criteria of receiving usual care (self-report) was compared to an equal number of patients receiving the depression screening. The chart audit identified (a) any patient with a new diagnosis of depression, (b) any initiation of antidepressant medication, and (c) any referral made to a mental health provider. Age and gender were also noted for comparison.

Once the protocol was in place, the study group, the first 100 patients meeting the inclusion criteria, completed a PHQ-2 (the first two questions) assessment, administered and scored by the medical assistant. Those with a score of 3 or higher (indicating possible depression) completed the remaining questions of the PHQ-9. The primary care provider reviewed the assessment and determined treatment and recommendations.

Results

Outcomes

The study group identified 11 persons with PHQ-9 scores greater than 10 indicating possible moderate depression. The chart audit of the comparison group identified only one person as having possible depression having been prescribed an antidepressant but not assigned the diagnosis of depression in the chart. The chi-square analysis revealed that a significantly higher proportion of patients were newly diagnosed with depression in the study group than in the comparison group, $\chi^2(1, N = 200) = 9.96, p < .01$ (Figure 1). The study identified that there were more females in the study group than the comparison group (59:43) and there were more males in the comparison group than the study group (57:41). When each of the demographic elements was compared, the notable difference occurred in the category of gender; more women than men reported depression. A statistical difference using the Pearson’s correlation coefficient revealed a p value of .02 because more females than males were identified with depression in the study group than the comparison group ($p \leq .5$). This is consistent with other studies that women are 70% more likely than men to experience depression during their lifetime (NIMH, 2015; Table 1).

Both groups were predominately White with the average age 60.6 years for the study group and 64 years

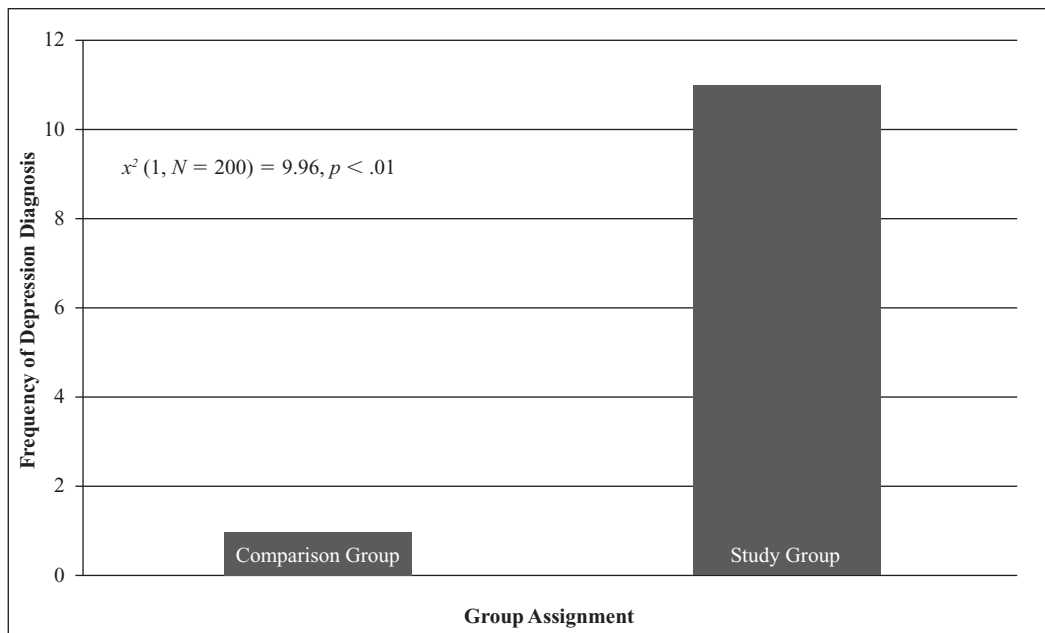


Figure 1. Comparison of those newly diagnosed with depression.

for the comparison group. No African American in either the study group or the control group reported depression. A study by Ghods et al. (2008) studied primary care visits of 46 White and 62 African American nonelderly adults with depressive symptoms, receiving care from 54 physicians in urban community-based practices. The researchers report African American patients are less likely to express their depression than White patients (10.8 vs. 38.4 statements) during primary care visits. This study also found that physicians uttered fewer rapport-building statements during visits with African American patients than White patients (30.7 vs. 29.7 statements) and made fewer depression-related statements during visits with African American

patients (4.3 vs. 13.4 statements). Even in visits where communication about depression occurred, physicians considered fewer African American than White patients as suffering significant emotional distress (67% vs. 93%). There were no differences in depression communication by concordance of physician–patient race or gender.

Limitations

Although the PHQ-9 is an effective tool to assess for the likelihood of depression, several limitations to this study are acknowledged. However, the outcome of the study aligns with the USPSTF’s recommendation that an evidence-based depression screening tool be used in primary care to screen for depressive symptoms. Although the sample was from only one primary care location, it supports findings from other studies. A study that identified patients with depression in 14 primary care clinics in Washington State using the PHQ-2/9 identified 1,283 of 6,041 (17%) patients with a PHQ-2 score greater than 3, and of this group who agreed to complete the PHQ-9 identified 317 out of 924 eligible patients reported a score greater than 10 indicating positive for depression symptoms (Katon et al., 2010). In another study of panic disorder at eight primary care clinics in Sweden, a telephone screening using the Autonomic Nervous System Questionnaire, 93 (28%) of the 333 patients screened were identified with panic disorder (Tilli, Suominen, & Karlson, 2012). The outcome

TABLE 1. Demographics Between Study and Comparison Group

Characteristic	Study Group <i>n</i> = 100	Comparison <i>n</i> = 100
Gender	Male 41% Female 59%	Male 57% Female 43%
Ethnicity		
White	82	74
African American	14	19
Hispanic	3	7
American Indian	1	0
Age (<i>M</i>)	60.6 years	64.14 years

of this study supports that using an evidence-based depression screening tool, such as the PHQ-9 protocol, provides improved identification of those with depressive symptoms when compared to usual care.

Nursing Implications and Recommendations

The PHQ-9 protocol is an effective screening tool for early identification of the likelihood of depression providing nurses with the ability to quickly assess and further identify people with depressive symptoms in the primary care setting. Screening tools may be seen as labor-intensive and an extra layer of sometimes unnecessary paperwork. However, when the screening tool is brief, useful, and produces valid results, the additional time to screen outweighs the risk of missing a potentially fatal diagnosis. Typically, it requires about 5 min to complete the PHQ-9, another few minutes for the staff to score. This screening tool would be equally beneficial for assessing depression at hospital admission, assisted living or nursing homes.

A toolkit addressing depression, including suicide assessment in primary care, can be found at www.depression-primarycare.org. A screening tool is a useful start to assess for depression. If depression is suspected or acknowledged, more information is needed. A comprehensive assessment in an office setting may be outside the skill set of some primary care providers. However, it is important to assess for safety and try to understand what the patient is experiencing. Asking open-ended questions will allow the patient to connect with their feelings and promotes open and honest communication. Asking the patient about thoughts of self-harm does not plant the thought. Listen carefully and ask questions that allow for appropriate assessment of care for the patient—medication, psychiatric referral, or immediate hospitalization. If you suspect the patient may be suicidal, then assess for safety by asking about any lethal means in the home and requiring that they be removed to another location; also ask to speak with another family member or adult to explain your concerns about the patient. Know ahead of time what your agency's policy is regarding taking more urgent steps such as contacting police and/or hospitalization (Harvard T. H. Chan School of Public Health, 2008).

The screening and management of care of depressed persons should become part of the primary care physician visit with the follow-up visit occurring about 28 days after the initiation of an antidepressant. Many free publications from NIMH are available to give to patients such as *Depression* and *Depression: What You Need to Know* available at <https://www.nimh.nih.gov/health/publications/depression-listing.shtml>.

Communication Skills—Barriers to Asking the Questions

How the patient is asked the first two questions on the screening tool will greatly influence the response of the patient. Identify the level of communication skills of the persons who will administer the screening tool. The pattern of communication between the provider and patient conveys the attitudes and preconceptions of the health care provider. Encourage the staff and health care providers to practicing asking the questions on the screening tool; evaluating tone of voice, facial expressions, and body language. How the question(s) are asked will greatly influence whether the patient feels the communication lines are open and that the staff person is being empathetic and seeking to understand the thoughts and feelings of the patient. A negative tone of voice will encourage a negative response. And asking as a negative question, "You haven't had any depression in the last 2 weeks?" will close the door to open communication.

Alternative Screening Tools to the Patient Health Questionnaire-9

Choosing the correct or best screening tool is a primary concern for most practitioners. A literature search revealed most of the research articles focuses on improving the screening itself rather on the epidemiology of depression. Several depression screening instruments have been developed and validated for use in primary care and other settings. Instruments vary by whether they are self- or interviewer-reported and applicable to patients with cognitive or language barriers. The Geriatric Depression Scale is a self-report instrument that has been studied in multiple settings. There is a 5-item version and a 15-item version of this measure. The Center for Epidemiologic Studies–Depression scale is one of the most common instruments applied in community studies and also used in primary care settings. Cornell Scale for Depression in Dementia incorporates both observer- and informant-based information and is helpful in evaluating cognitively impaired patients for depression.

Treatment Algorithms

Treatment algorithms can help the clinician decide treatment strategies. The Texas Medication Algorithm Project provides medication treatment for major depression for the first 3 months of care (Appendix B). Another useful algorithm is the Sequenced Treatment Alternatives to Relieve Depression (STAR*D). This protocol gathered information about various treatment options from the multisite study of randomized trials of outpatients with nonpsychotic depressive disorder for treating depressive symptoms (Appendix C).

Although medications are an important part of the treatment, the ultimate goals of treatment are to achieve remission and return to optimal levels of psychosocial functioning, and many patients should be referred for evidence-based psychotherapy. Having a list for referrals for psychotherapy will greatly benefit the patient.

Conclusion

This sharp increase of patients with newly diagnosed depression in the study group supports that the screening tool did assist the provider in the identification process for depression. Given the small sample size, one should be cautious in generalizing these findings. Common sense, however, suggests that asking about depression will certainly increase awareness when compared to not asking.

This project provided several insights. Although many may believe that depressive symptoms are automatically part of a primary care provider's knowledge base, this is often not the case. In the primary care setting, it is estimated that 60% of individuals with depression go unrecognized and untreated (O'Conner et al., 2009). Major depression is a common and a treatable mental health disorder. Yet, 30%–100% of primary care providers fail to adequately identify depressed patients because depression is often overlooked while discussing the physical complaint reason for the visit (Egede, 2007).

Researchers reviewed audio recordings of conversations between providers and 871 women aged 18–65 years who visited either a city or a suburban hospital's emergency department (ED) between June 2001 and December 2002. Of the 486 women randomized to complete a health risk survey on a computer, nearly half of them (48%) reported they felt sad or depressed for more than 2 weeks during the past month, and 28% said they felt sad or depressed for most of the prior 2 weeks. Providers were more likely to address depression and other psychosocial issues when the patient self-disclosed these risk factors on the computer. Even when prompted to do so by the computer, providers addressed depression with only 70 patients (8%) and had significant discussions with only 20 patients (2%). The researchers state it was not uncommon for ED providers to dismiss patients concerns, be judgmental, interrupt their response, or ask multiple questions at one time. On a positive note, in most significant discussions, providers expressed empathy (85%) and asked well-worded sensitive questions (90%; Rhodes, Kushner, Bisgaier, & Prenoveau, 2007). Although the scientific model allows for understanding of the physiological basis of disease, it is a reductionist model and causes practitioners to view a person in pieces rather than as a whole. Healing is a process that begins when the whole person is supported. Incorporating a more standardized

method of psychiatric assessment in primary care could assist NPs by (a) more successfully managing or preventing the patient's symptoms before they intensify into a more serious condition; (b) decreasing outcomes such as suicide or homicide by providing early intervention; (c) reducing self-medicating with drug or alcohol, which may lead to abuse; (d) providing patients with psychiatric medications and therapy; (e) minimizing liability by strengthening assessment of patients' psychiatric problems as well as strengthening documentation in the patients' records; and (f) improving treatment outcomes by collaborating more with mental health clinicians by coordination of psychiatric care for patients.

The importance of identifying depression early and having the initial discussion with the patient regarding depression treatment may improve a patient's quality of life and promote early treatment that could lead to depression resolution.

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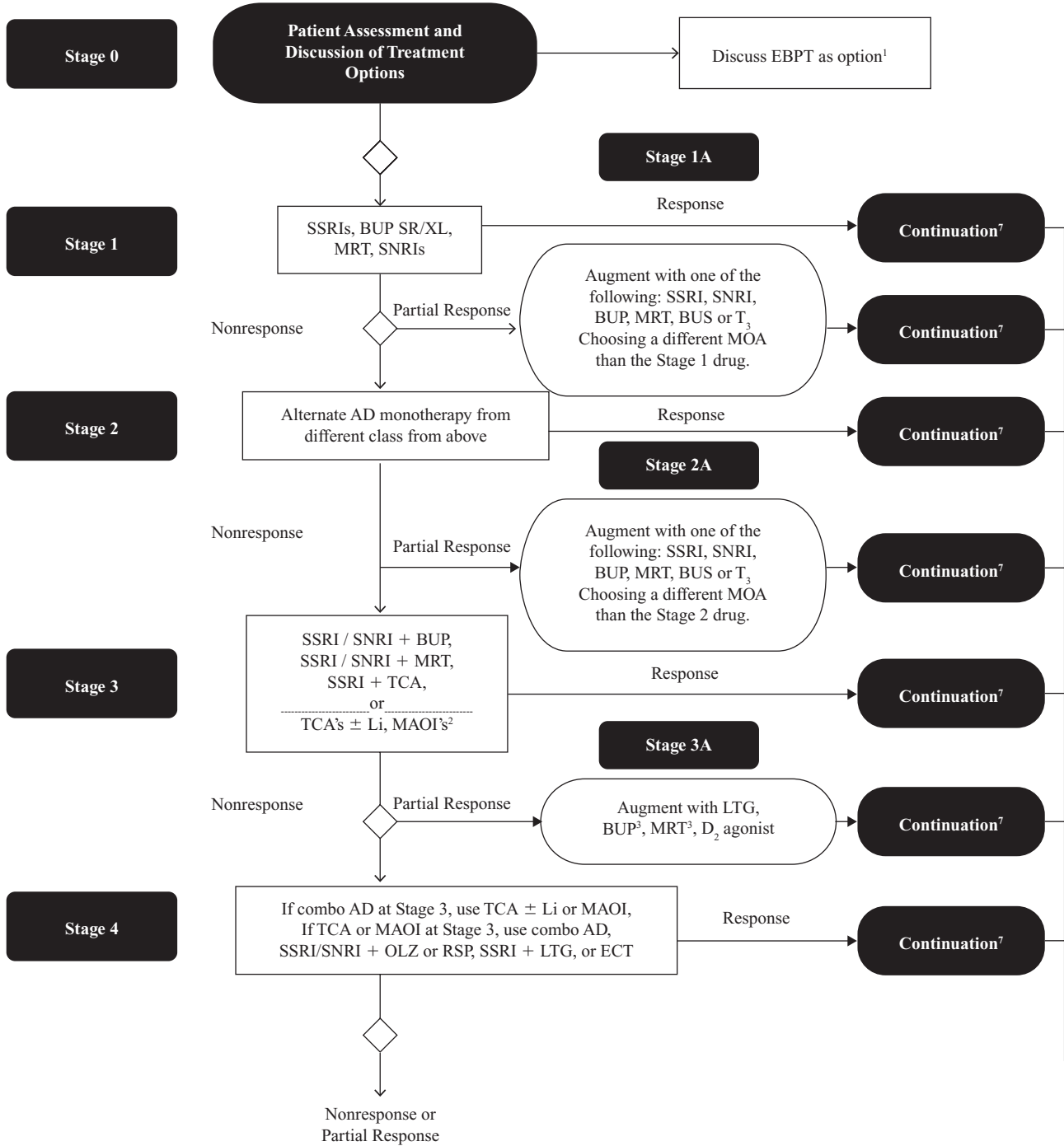
Appendix A
Patient Health Questionnaire—9 (PHQ-9)

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 fidgety or restless that you have been moving around a lot more	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way.	0	1	2	3
FOR OFFICE CODING 0 ____ + ____ + ____ + ____ = Total Score ____				
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	

University of Michigan Health System, 2011.

Appendix B Major Depressive Disorder Algorithms

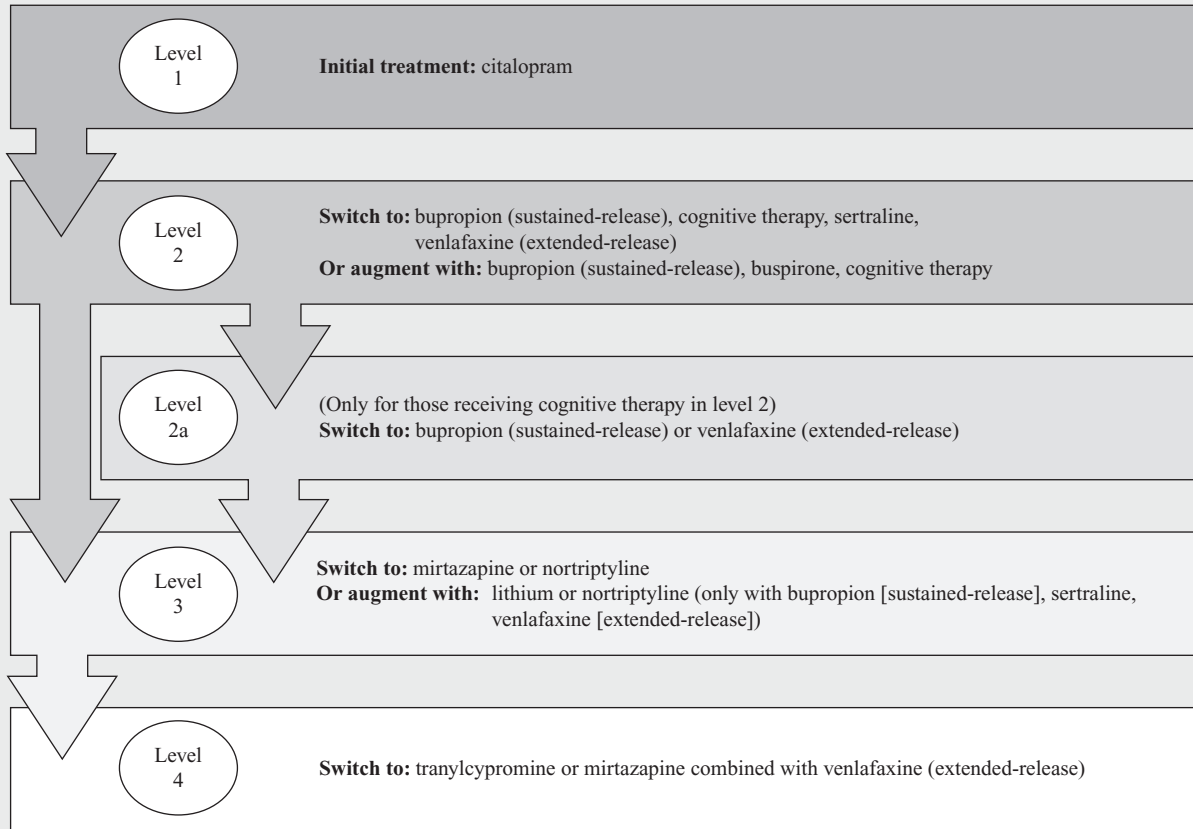
Algorithm for the Treatment of Major Depressive Disorder



Texas Medication Algorithm Project Procedural Manual: Major Depressive Disorder Algorithm (Suchs et al., 2008).

Appendix C Sequenced Treatment Alternatives to Relieve Depression Algorithm

STAR*D Algorithm



Trivedi et al., 2006.