

■ clinical contributions

How Should We Screen Patients for Major Depression?

By David Price, MD, FAAFP

A 66-year-old obese woman with type II diabetes and a history of myocardial infarction is seen in the clinic for medical follow-up. Her current medication regimen includes metformin, lisinopril, hydrochlorothiazide, aspirin, and lovastatin. Her most recent glycosylated hemoglobin measurement was 10.2%. She admits to variable adherence to her medication regimen, does not regularly monitor her blood glucose levels, maintains a sedentary lifestyle, and does not follow a specific diet. Her blood pressure is 150/94 mm Hg. In the past, both you and your care manager have discussed with the patient the importance of self-

care and adherence to treatment regimens. Could depression be contributing to the patient's lack of success?

Depression is one of the most common conditions seen in primary care practice. At any given time, an estimated 4.8% to 8.6% of patients seen by primary care physicians have depression,¹ and as many as 12% of men and 25% of women experience an episode of major depressive disorder in their lifetime.² In the United States, depression accounts for at least \$83 billion per year in health care costs and lost work each year.³

Worldwide, depression is the fourth leading cause of disability; and by the year 2020, only one disease—cardiovascular disease—will lead depression in frequency of occurrence.⁴ Depression is more prevalent in the elderly, in patients with previous episodes of depression, and in many people with comorbid medical conditions (including most of the conditions targeted by the Kaiser Permanente Care Management Institute). When accompanied by other medical conditions, depression is associated with poorer patient compliance and outcomes^{5,6} and increased health care costs.⁷ Most primary care patients with mild to moderate major depression can be successfully treated with psychotherapy or antidepressant medication. In cases of severe major depression, treatment with both antidepressants and psychotherapy may be warranted.

Nonetheless, major depression is commonly underdiagnosed. Primary care physicians are believed to miss the diagnosis of depression in 50% of their affected primary care patients.¹ Most studies on which this conclusion is based are short-term, cross-sectional studies; over longer periods of time, primary care physicians may recognize depression in as many as 86% of the persistently depressed patients seen in clinical

practice.⁸ However, the initial manifestations of depression can be subtle and might not be recognized during routine, often brief, primary care visits focused on physical complaints or conditions (as illustrated in the case presented here). Many office visits may occur before the physician explores the possibility of depression. Untreated depression may lead patients to attempt suicide (and perhaps to succeed at the attempt). Earlier identification of patients with depression can shorten the course of the illness and improve the quality of life for patients and families who must cope with this illness.

In 2002, the United States Preventive Services Task Force (USPSTF) recommended that all adults receive screening for major depression on a routine basis, provided that adequate systems are available to ensure adequate treatment and follow-up (grade B recommendation).⁹ The USPSTF estimated that this systematic screening would add one improved depression outcome at six months for every 110 to 160 patients screened.⁹ Current evidence is insufficient either to determine the optimal frequency of screening or to formulate a recommendation for or against routine screening of asymptomatic children and adolescents.

The likelihood of accurately identifying a disease by screening de-

Primary care physicians are believed to miss the diagnosis of depression in 50% of their affected primary care patients.



David Price, MD, FAAFP, is Director of Education and a Clinical Researcher with the Colorado Permanente Medical Group. He is also Associate Professor of Family Medicine at the University of Colorado Health Science Center, Denver, CO. E-mail: david.price@kp.org.

depends on the sensitivity and specificity of the screening test (ie, rates of false-negative and false-positive test results) and on the prevalence of disease in the population being screened. The higher the pretest probability (actual prevalence) of disease in the target population, the higher the positive predictive value (ie, the more likely a patient with a positive test is to have the disease). Therefore, a sensible approach would be to focus initial screening efforts on populations who have a higher prevalence of depression than in the general population. For example, the estimated prevalence of major depression in diabetic patients ranges from 11% to 32%.¹⁰ From a practical standpoint, given the multiple concurrent clinical problems seen in primary care and multiple existing disease treatment programs, leveraging our efforts makes sense by initially focusing depression screening on patients who have comorbid medical conditions addressed currently by other disease management initiatives.

A two-question screen (Table 1) has been shown highly sensitive for identifying depressed patients.^{11,12} Patients who respond "no" to both questions are unlikely to have major depression (the false-negative rate in this situation is 3%-4%). Therefore, unless clinical suspicion for depression is high, patients like the one in our illustrative case usually do not require additional screening after the two-question screen yields a negative result. A "yes" response to one or both questions in the screen indicates possible major depression but has a high (33%-43%) rate of false-positive screen results. Therefore, if patients like the one in our illustrative case screen positive using the two-question screen, confirmatory testing (measured against diagnostic criteria)

Table 1. Two-question screen for major depressive disorder¹¹

• During the past month, have you often been bothered by feeling "down," depressed, or hopeless?
• During the past month, have you often been bothered by having little interest or pleasure in doing things?

should be conducted using a validated depression screening instrument or a clinical interview. Instruments developed for depression screening include the Beck Depression Inventory,¹³ Center for Epidemiologic Studies Depression Scale (CES-D),¹⁴ PHQ-9,¹⁵ Prime MD,¹⁶ Zung Depression scale,¹⁷ and others. These tools generally have similar sensitivity (80%-90%) and specificity (70%-80%) in primary care populations.^{11,18,19} Considerations relevant for choosing a depression screening instrument include literacy level of the patient; ability of the patient to complete the test; time involved and ease of scoring the test; validation of test results against a criterion standard for depression diagnosis; availability and validation of the test in languages other than English; amount of time necessary for completing the test; ability of the test to accurately track both treatment response and severity of illness over time; and cost of administering and scoring the test.

For patients who have screened positive for depression, clinicians should consider possible organic and iatrogenic (medication-related) causes of major depression. A full discussion of the differential diagnosis of major depression and its treatment options is beyond the scope of this article; instead, the reader is referred to clinical tools formulated by the Kaiser Permanente Care Management Institute and available at <http://cl.kp.org>.

Targeted use of brief screening tools in patients at increased risk for depression can help primary care

clinicians to identify more patients with major depression.⁹ Involving care managers and other members of the care team may facilitate more systematic identification of depressed patients. This team-based, population-based approach can be easily integrated with other care management programs and can lessen depression-related suffering in our patients and in their families. ❖

Acknowledgment

The author acknowledges members of the Care Management Institute Depression Guidelines Workgroup.

References

1. Depression Guideline Panel. Depression in Primary Care: Volume 1. Diagnosis and detection. Rockville (MD): Department of Health and Human Services, Public Health Services Agency for Health Care Policy and Research; 1993. (Clinical practice guideline No. 5, AHCPR Publication No. 93-0550). Available from: www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat6.chapter.14485 (accessed July 23, 2004).
2. Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Arch Gen Psychiatry* 1994 Jan;51(1):8-19.
3. Greenberg PE, Kessler RC, Birnbaum HG, et al. The economic burden of depression in the United States: how did it change between 1990 and 2000? *J Clin Psychiatry* 2003 Dec;64(12):1465-75.
4. Murray CJ, Lopez AD. Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. *Lancet* 1997 May 24;349(9064):1498-504.

... clinicians should consider possible organic and iatrogenic (medication-related) causes of major depression.

5. DiMatteo MR, Lepper HS, Croghan TW. Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on patient adherence. *Arch Intern Med* 2000 Jul 24;160(14):2101-7.
6. Roose SP, Glassman AH, Seidman SN. Relationship between depression and other medical illnesses. *JAMA* 2001 Oct 10;286(14):1687-90.
7. Simon GE, VonKorff M, Barlow W. Health care costs of primary care patients with recognized depression. *Arch Gen Psychiatry* 1995 Oct;52(10):850-6.
8. Kessler D, Bennewith O, Lewis G, Sharp D. Detection of depression and anxiety in primary care: follow-up study. *BMJ* 2002 Nov 2;325(7371):1016-7.
9. Pignone MP, Gaynes BN, Rushton JL, et al. Screening for depression in adults: a summary of the evidence for the US Preventive Services Task Force. *Ann Intern Med* 2002 May 21;136(10):765-76.
10. Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. The prevalence of comorbid depression in adults with diabetes: a meta-analysis. *Diabetes Care* 2001 Jun;24(6):1069-78.
11. Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression. Two questions are as good as many. *J Gen Intern Med* 1997 Jul;12(7):439-45.
12. Arroll B, Khin N, Kerse N. Screening for depression in primary care with two verbally asked questions: cross-sectional study. *BMJ* 2003 Nov 15;327(7424):1144-6.
13. Beck AT, Steer RA, Brown GK. BDI®—FastScreen for medical patients. Marrickville (NSW, Australia): The Psychological Corporation; [2001].
14. Radloff LS. The CES-D Scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement* 1977;1(3):385-401.
15. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001 Sep;16(9):606-13.
16. Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA* 1999 Nov 10;282(18):1737-44.
17. Zung WW. A self-rating depression scale. *Arch Gen Psychiatry* 1965 Jan;12:63-70.
18. Mulrow CD, Williams JW Jr, Gerety MB, Ramirez G, Montiel OM, Kerber C. Case-finding instruments for depression in primary care settings. *Ann Intern Med* 1995 Jun 15;122(12):913-21. Erratum in: *Ann Intern Med* 1995 Dec 15;123(12):966.
19. Kaiser Permanente. Care Management Institute. Evidence-based guidelines and technical review for the management of major depression in primary care. [Oakland (CA)]: Kaiser Permanente, Care Management Institute; 2002.

Every Man

No man is an island, entire of itself, every man is a piece of the Continent, a part of the main; if a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friends or of thine own were; any man's death diminishes me, because I am involved in Mankind ...

— John Donne, 1573-1631, poet