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This educational activity is eligible for CME credit through October 31, 2007. The latest review of this material was August 2005.

### Educational Objective

After studying the article by Roundy et al., you will be able to:

- Compare practice guideline recommendations with the actual mental health care received by patients with chronic obstructive pulmonary disease (COPD) and anxiety or depressive disorders.

This pretest is designed to facilitate your study of the material.

### 1. Which of the following is a practice guideline recommendation for the assessment of depressive disorders in primary care patients with COPD?

- a. History of lithium use
- b. Substance abuse screening
- c. Cognitive disorder
- d. Recreational activity screening

*Pretest answer and Posttest on page 219.*

### Disclosure of Off-Label Usage

The authors have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents that is outside U.S. Food and Drug Administration–approved labeling has been presented in this article.

#### Answers to Vol. 5, No. 4 Posttest 2003

1. d 2. c 3. c 4. b 5. a

#### Answers to Vol. 5, No. 5 Posttest 2003

1. b 2. a 3. b 4. d 5. d

# Are Anxiety and Depression Addressed in Primary Care Patients With Chronic Obstructive Pulmonary Disease? A Chart Review

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**Objective:** Screening for mental illness in primary care is widely recommended, but little is known about the evaluation, treatment, and long-term management processes that follow screening. The aim of this study was to examine and describe the quality of mental health care for persons with chronic obstructive pulmonary disease (COPD) and anxiety/depressive disorders, as measured by adherence to practice guidelines.

**Method:** This retrospective chart review examined data for 102 primary care and mental health care patients with COPD who were diagnosed, using Structured Clinical Interview for DSM-IV criteria, with major depressive disorder, dysthymia, depression not otherwise specified, generalized anxiety disorder, or anxiety not otherwise specified. Data were gathered from primary care progress notes from the year prior to enrollment in a randomized controlled trial (enrollment was from July 2002 to April 2004). We compared the care received by these patients over 1 year with that recommended by practice guidelines. Charts were abstracted using a checklist of recommended practice guidelines for diagnostic evaluation, acute treatment, and long-term management of anxiety and depressive disorders.

**Results:** Fifty (49%) of the 102 patients were recognized during the review year as having an anxiety or depressive disorder. Eighteen patients were newly assessed for depressive or anxiety disorders during the chart review year. Patients followed in primary care alone, compared with those who were comanaged by mental health care providers, were less likely to have guideline-adherent care.

**Conclusion:** Depressive and anxiety disorders are recognized in about half of patients; however, guideline-supported diagnostic evaluation, acute treatment (except for medications), and long-term management rarely occur in the primary care setting. To improve the treatment of depressive and anxiety disorders in primary care, the process of care delivery must be understood and changed.

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Anxiety and depression are common in the medical setting<sup>1</sup> and often appear together.<sup>2</sup> Growing evidence suggests that anxiety<sup>3</sup> and depression<sup>4</sup> occur in those with chronic obstructive pulmonary disease (COPD) at levels above those observed in the general population.<sup>5</sup> When these illnesses are not recognized and treated, the physical and social impairments of COPD are impacted negatively, compounding the effects of COPD on activities of daily living, social functioning, psychological functioning, and recreational activities.<sup>6–9</sup> Rapid recognition and treatment of depression could be advantageous, as delay may make remission of depression more difficult to attain.<sup>10</sup> Unfortunately, mental illnesses are not well recognized, assessed, or treated in patients with COPD.

In 1987, Yellowlees et al.<sup>11</sup> looked at 50 consecutive patients with COPD admitted to a respiratory unit. Of these patients, 29 had an Axis I psychiatric diagnosis, and though some had seen a psychiatrist in the past, no patient was being seen by a psychiatrist at the time of evaluation. Similarly, a 1990 study of 50 consecutive COPD patients

seen in an outpatient clinic found that none of the patients with a psychiatric diagnosis had a history of psychiatric treatment.<sup>12</sup> In 2000, Kim et al.<sup>13</sup> showed that less than 25% of patients with recent pulmonary function tests and depression or anxiety were receiving appropriate medications. This limited use of anxiolytics and antidepressants has also been found in nonacute, hospitalized patients with COPD and anxiety or depression.<sup>14</sup> None of the aforementioned studies examined adherence to practice guidelines. Previous studies have, however, assessed guideline-based process measures in large non-COPD samples with a primary focus on antidepressant use and duration<sup>15</sup> or appropriate medication and counseling.<sup>16</sup> These studies found that many patients with depressive or anxiety disorders are undertreated, both within the Veterans Affairs (VA) system<sup>15</sup> and in a large national sample.<sup>16</sup>

We examined the recognition, diagnostic evaluation, acute treatment, and long-term management of depression and anxiety in a sample of primary care patients with COPD and 1 or more of the following anxiety or depressive disorders: generalized anxiety disorder, anxiety not otherwise specified (NOS), depression NOS, dysthymia, or major depressive disorder. The objective of this study was to examine and describe the quality of mental health care, as measured by recognition of anxiety/depression and adherence to practice guidelines, for persons with COPD and anxiety/depressive disorders.

## METHOD

This study was conducted within the context of a randomized controlled trial to test the use of cognitive-behavioral therapy for persons with COPD and comorbid anxiety and/or depression. All research subjects participated in informed consent procedures approved by the Baylor College of Medicine Institutional Review Board.

### Participants

Participants for this study were recruited in 3 stages: an administrative database search, telephone screening, and in-person interviews. All persons who received care at the Michael E. DeBakey VA Medical Center (Houston, Tex.) in the previous year and had a diagnosis of bronchitis, emphysema, asthma, bronchiectasis, chronic airway obstruction, or respiratory condition not otherwise specified (ICD-9 codes: 466, 490, 491, 492, 493, 494, 496, and 508) were targeted for recruitment using the VA outpatient and inpatient treatment files. The setting from which this sample was drawn includes a nested mental health clinic available for immediate referral for complicated psychiatric patients and for consultation as needed.

Of the 21,796 patients with an ICD-9 code suggesting chronic breathing disorders, 1981 were randomly selected and screened by telephone for presence of breathing difficulties. Then, the 1632 prescreened patients who ac-

knowledged a breathing problem were asked 5 questions from the Primary Care Evaluation of Mental Disorders (PRIME-MD) patient questionnaire<sup>17</sup> to screen for depression and anxiety.<sup>18</sup>

Patients who acknowledged breathing difficulties and answered at least 1 PRIME-MD item positively were recruited for an in-person baseline assessment. At this evaluation (N = 557), depression was assessed using the Beck Depression Inventory-II,<sup>19</sup> and anxiety was assessed using the Beck Anxiety Inventory.<sup>20</sup> In the patients with clinically significant levels of depression and/or anxiety (N = 444), portable spirometry was administered to confirm COPD (forced expiratory volume in 1 second [FEV<sub>1</sub>]/forced vital capacity [FVC] < 75% and FEV<sub>1</sub> < 70%), and the Mini-Mental State Examination (MMSE)<sup>21</sup> was administered to ensure adequate cognitive functioning (defined as an MMSE score  $\geq$  24). COPD was present in 250 of the 444 patients to whom spirometry was administered. From the 250 patients, 46 were excluded for the following reasons: severely depressed and/or suicidal (N = 12), active psychosis (N = 9), cognitive impairment (N = 8), active substance use disorders (N = 9), and other (N = 8). Of the 204 remaining patients to whom the Structured Clinical Interview for DSM-IV (SCID) was administered, 104 patients met SCID diagnostic criteria for at least 1 of the following depressive or anxiety disorders: major depressive disorder, dysthymia, depression NOS, generalized anxiety disorder, or anxiety NOS. Two of these patients did not see primary care providers during the review year and were excluded, leaving 102 patients in the sample population.

### Chart Review

Primary care progress notes from the 12 months prior to study enrollment (enrollment began July 11, 2002, and ended April 30, 2004) were reviewed for the 102 patients identified by the SCID as having a depressive or anxiety disorder. A PGY4 psychiatry resident (K.R.) abstracted all charts in consultation with a board-certified geriatric psychiatrist (M.E.K.).

Practice guidelines were sought as a benchmark for use in evaluating the quality of care in the recognition, diagnostic evaluation, acute treatment, and long-term management of depressive and anxiety disorders. Practice guidelines<sup>22-32</sup> for depression and anxiety found in PubMed (language: English; publication type: "Practice Guideline"; keywords: *major depressive disorder*, *dysthymia*, *generalized anxiety disorder*) and National Guideline Clearinghouse (keywords: *major depressive disorder*, *dysthymia*, *generalized anxiety disorder*) searches were evaluated using the criteria suggested by Hayward et al.<sup>33</sup>

Our search revealed that the Veterans Health Administration/Department of Defense (VHA/DoD) had published a practice guideline for depression and dysthymia. This guideline was selected because it was the standard of care

**Table 1. Adherence to Guidelines for the Assessment, Treatment, and Long-Term Management of Anxiety and Depression by Primary Care and Mental Health Care Providers in COPD Patients**

| Guideline Component                    | Primary Care Patients (N) | Mental Health Care Patients (N) |
|--|---------------------------|---------------------------------|
| <b>Assessment<sup>a-c</sup></b>        |                           |                                 |
|  | N = 7                     | N = 13                          |
| Marital history                        | 0                         | 11                              |
| Psychiatric history                    | 0                         | 12                              |
| Abuse history                          | 0                         | 3                               |
| Family history                         | 0                         | 12                              |
| Military history                       | 0                         | 4                               |
| Substance abuse screen                 | 0                         | 13                              |
| Dangerousness screen                   | 1                         | 13                              |
| Mental status evaluation               | 0                         | 13                              |
| <b>Treatment<sup>d</sup></b>           |                           |                                 |
|  | N = 7                     | N = 13                          |
| Medication started                     | 5                         | 11                              |
| Appropriate starting dose given        | 4 <sup>d</sup>            | 11                              |
| Patient informed of side effects       | 0                         | 9                               |
| Psychotherapy initiated                | 0                         | 7                               |
| <b>Management<sup>e</sup></b>          |                           |                                 |
|  | N = 19                    | N = 26                          |
| Side effects assessed                  | 1                         | 16                              |
| Medication dose adjusted as indicated  | 4                         | 25                              |
| Rating scale used to monitor remission | 0                         | 0                               |
| Patient education provided             | 1                         | 18                              |

<sup>a</sup>Data are for patients newly assessed for depressive or anxiety disorders during the review year.

<sup>b</sup>Of the subjects newly assessed by a primary care provider, 2 were referred back to mental health care for management.

<sup>c</sup>Two subjects were newly assessed by both mental health care and primary care providers.

<sup>d</sup>Unable to assess starting dose in 1 primary care patient.

<sup>e</sup>Data are for patients recognized during the review year as having depressive or anxiety disorders. Of the 50 total patients noted as having these disorders in this review, only 45 were evaluated as managed owing to the following reasons: 2 patients were lost to follow-up, and 2 patients in mental health care and 1 in primary care were newly assessed, and their follow-up occurred after the end of the review.

Abbreviation: COPD = chronic obstructive pulmonary disease.

for the VA. In addition to having specific guidelines for primary care, the VHA/DoD guideline was rigorous and compared favorably with other guideline options.<sup>27</sup> For generalized anxiety disorder and anxiety disorder NOS, the Institute for Clinical Systems Improvement (ICSI) practice guideline was selected.<sup>28</sup> The ICSI guideline more explicitly described the process for selecting evidence for the recommendations, had strength of evidence gradation, and had been pilot-tested in the clinical setting.

The clinical guidelines for anxiety and depression followed a common pattern of dividing treatment into 3 components: diagnostic evaluation, acute treatment, and long-term management. The specific evaluation and treatment components were surprisingly similar, and Table 1 lists the recommendations used in our study. Each recommendation was coded as having been completed or not completed. Any reference within the chart to any of the listed components was coded as having met guideline criteria. For example, if the chart stated "not suicidal," then the reviewer would indicate that the primary care physi-

cian had assessed suicide. If the primary care physician documented "I reviewed his medications with him," this was documented as education, or if the primary care physician listed depression in the problem list with no other mention of depression on the chart, then the reviewer concluded that depression was recognized. Medication adjustments and comments that indicated that the care provider did not need to adjust medications were viewed as appropriate medication management.

## RESULTS

### Demographics and Diagnoses

The sample of 102 patients with COPD and clinically significant anxiety and/or depression had a mean age of 64.3 years (SD = 11.4) and a mean of 12.7 years of education (SD = 2.9). Men comprised 96% (N = 98) of the sample. Ethnicity was distributed as follows: 75.5% white (N = 77), 17.6% African American (N = 18), 4.9% Hispanic (N = 5), and 2.0% Native American (N = 2). Married patients comprised 53.9% (N = 55) of the sample; 34.3% (N = 35) were divorced/separated, 8.8% (N = 9) were widowed, and 2.9% (N = 3) were never married. The distribution of SCID-based diagnoses among the patients was as follows (the total exceeds 100% because some patients had multiple diagnoses): 45.1% major depressive disorder (N = 46), 27.5% dysthymia (N = 28), 1.0% depression NOS (N = 1), 37.3% generalized anxiety disorder (N = 38), and 23.5% anxiety NOS (N = 24).

### Recognition of Patients With Depression and Anxiety

Depressive and/or anxiety disorders were noted by clinicians in the charts of 50 (49%) of the 102 patients (95% CI = 39% to 59%). Thirty-two (64%) of these 50 patients were seen at least once by a mental health care provider. Of the 72 patients with depressive spectrum disorders, 39 (54%) were identified and followed by primary care or mental health care providers (95% CI = 42% to 66%). Twenty-nine (47%) of the 62 patients with anxiety disorders were identified and followed by primary care providers or mental health care providers (95% CI = 35% to 59%).

### Diagnostic Assessment and Acute Treatment

During the review year, 20 diagnostic evaluations for depressive or anxiety disorders were performed on 18 subjects (2 subjects were evaluated by both primary care and mental health care providers). Primary care providers completed 7 of these, and mental health care providers completed 13. Table 1 presents data on how frequently primary care and mental health care providers addressed each of the practice guideline evaluation and treatment components.

Primary care documentation of the assessment of dangerousness (suicidal thought) was found in 1 chart. Other-

wise, there was no evidence in any primary care diagnostic evaluation chart of other guideline-recommended evaluations, including marital status, psychiatric history, physical abuse history, sexual abuse history, family history, military history, medication history, substance abuse screen, or mental status evaluation. Five (71%) of these 7 patients were started on medications in primary care. There was no documentation of psychotherapy, psychotherapy referral, or information given to patients about medication side effects as recommended in the practice guideline.

Mental health care providers performed 13 diagnostic assessments. Charts frequently documented marital information (85% [N = 11]), psychiatric history (92% [N = 12]), and family history (92% [N = 12]). All charts (100% [N = 13]) documented substance abuse evaluation, assessment of dangerousness (suicidal thought), and a mental status evaluation. Three charts (23%) documented assessment of abuse history, and only 4 charts (31%) documented assessment of military history. Eleven patients (85%) were started on medications, with 9 (69%) being informed of potential side effects. Seven (54%) of the patients' charts documented specific psychotherapeutic interventions.

### Long-Term Management

A total of 19 patients received long-term management of depression and/or anxiety from primary care providers during the review year. In reviewing the adherence to practice guidelines for long-term management, it was determined that primary care providers documented medication dose adjustment or dose appropriateness in 4 cases (21%). Side effect monitoring and patient education were noted once each (5%). In no instance was there documentation that primary care providers were monitoring for remission using rating scales, as suggested by the practice guidelines.

Of the 32 patients seen at least once by a mental health care provider, 26 of these patients were managed by mental health care providers during the review year. The other 6 patients were lost to follow-up, returned to primary care, or had their return visit following the initial assessment after the end of the chart review timeframe. Medication dose adjustment or documentation that dose was appropriate was found in 25 instances (96%), and evidence of side effect assessment was evident in 16 charts (62%). Evidence of patient education was present in 18 charts (69%). There was no evidence of monitoring for remission using rating scales.

## DISCUSSION

These results provide evidence that depression and anxiety disorders are recognized about 50% of the time in the primary care setting. These results are consistent with one recent primary care study of depression,<sup>34</sup> and they

suggest improvement compared with studies completed over a decade ago when recognition was only 33% to 36%.<sup>35,36</sup>

It is difficult to draw conclusions about the assessment and acute treatment process due to the small number of subjects. However, 16 of the 18 patients who were newly recognized during the year were started on treatment with a psychotropic medication. This appears more encouraging than the results of Swindle et al.,<sup>37</sup> who found that when primary care physicians were notified of a patient with depression, only 20 of 103 patients identified with depression were started on medication. Any hesitance in prescribing medication should be addressed, given the risks of delaying treatment and the beneficial effects of treatment on breathing in those with COPD.<sup>38</sup>

Despite the apparent improved recognition and initial treatment by primary care physicians, there appears to be a disparity between primary care and mental health care providers in guideline-based assessment and long-term management. Unfortunately, chart review methodology limits our ability to decipher whether these recommended practices were performed and not documented or simply not performed at all. For example, recently published data suggest that the majority of primary care patients feel adequately informed about their mental health treatment,<sup>39</sup> yet we found little evidence of patient education being given to those patients who were treated in primary care alone.

Emerging interventions may help to close the disparity between guideline-recommended care and care in the real world. Primary care time limitations<sup>40</sup> were a concern for the International Consensus Group on Depression and Anxiety, which has proposed a time-conscious algorithm for the assessment and acute treatment of depression and anxiety.<sup>41</sup> They recommend the following sequence of events: brief screening, then confirmation with a diagnostic checklist and a 1-question suicide screen, followed by treatment. Guideline-driven practice that is accompanied by close consultation with a specialist, such as that used by the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D)<sup>42</sup> and Re-Engineering Systems for the Primary Care Treatment of Depression (RESPECT) trials,<sup>43</sup> may improve primary care delivery by increasing the likelihood of treatment and enhancing long-term management. Better care may also be achieved by integrating mental health care providers into a medicine clinic, as collocation of psychiatric care for geriatric populations led to considerably more engagement in psychiatric care.<sup>44</sup> Disease management programs also have a significant effect on depression severity.<sup>45</sup>

This study has some limitations. This study is set in the VA health care system and uses an all-veteran, mostly male sample. Additionally, veteran beneficiaries have more physical, social, and financial stressors than age-matched nonveteran beneficiary samples,<sup>46</sup> which may

limit the generalizability of the study to other populations with COPD.

Another important limitation of the study is that patients were excluded if they had severe depression and/or suicidal ideation, which could cause this study to potentially underestimate the detection of mental health conditions by primary care clinicians given that severe depression and suicidal ideation are conditions most likely to result in detection by primary care clinicians.

A simplification of guidelines for a chart review has inherent limitations, as does chart review itself, which cannot capture any physician actions not described in the chart. As a result, this review may underestimate the efforts of primary care in the treatment of anxiety and depression. On the other hand, accuracy of diagnosis was not a focus of this chart review. Care from either guideline set would have probably been appropriate, even with a misdiagnosis due to the similarity of the guidelines.

In our study, we found that primary care physicians recognized depression or anxiety and did not typically use generalized anxiety disorder, dysthymia, or the NOS diagnostic categories. Due to this very general recognition of anxiety and depression, the lack of specific evidence-based guidelines for anxiety and depression NOS appears to be less significant than originally anticipated. It is difficult to draw generalizations because we were only able to review the charts of a small number of patients who received a diagnostic evaluation, acute management, and/or long-term management of anxiety and/or depression.

These findings could also potentially reflect a selection bias, given that patients with more severe mental illnesses may be more likely to be referred to specialists (mental health) who have more active involvement in their disease, while those with milder symptoms may be more likely to be managed in primary care.

Finally, this study did not capture instances in which primary care succeeded in the treatment of depression and anxiety because only patients with active symptoms of depression and/or anxiety were eligible for the study.

The strength of this study of depression and anxiety in persons with COPD is that it captures a snapshot of the quality of care from the point of recognition through long-term management. This study suggests that future interventions to improve quality of care for COPD patients need to address recognition, diagnostic evaluation, acute treatment, and long-term management of anxiety and depression.

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For the CME Posttest for this article, see pages 219–220.

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**Answer to Pretest: 1. b**

1. **The literature shows that, in the past, chronic obstructive pulmonary disease patients have been undertreated for anxiety and depression.**
  - a. True
  - b. False
2. **All of the following would be useful in screening for depression and anxiety except:**
  - a. Primary Care Evaluation of Mental Disorders
  - b. Mini-Mental State Examination
  - c. Beck Depression Inventory-II
  - d. Beck Anxiety Inventory
3. **Which of the following practice guideline recommendations for the long-term management of depression is least likely to be used?**
  - a. Medication dose adjustment as necessary
  - b. Assessment of side effects
  - c. Patient education
  - d. Rating scale use
4. **According to the results of this study, depression and anxiety disorders are recognized about what percentage of the time in the primary care setting?**
  - a. 25%
  - b. 35%
  - c. 50%
  - d. 60%
5. **Emerging developments that may result in decreasing disparity between guideline-recommended care and care in the real world include:**
  - a. Time-conscious algorithm for assessment and acute treatment of depression and anxiety
  - b. Trials that use guideline-driven practice accompanied by close consultation with a specialist
  - c. Integration of mental health care providers into a medicine clinic
  - d. All of the above





# REGISTRATION FORM

Circle the one correct answer for each question.

- 1. a b 4. a b c d
- 2. a b c d 5. a b c d
- 3. a b c d

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  - A. Enabled me to compare practice guideline recommendations with the actual mental health care received by patients with chronic obstructive pulmonary disease and anxiety or depressive disorders.  Yes  No
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