Recognizing and Managing Depression in Primary Care
A Standardized Patient Study

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BACKGROUND. Guidelines for recognition and management of depression in primary care provide a framework for detailed exploration of physician practice patterns.

METHODS. Our objective was to explore physician diagnosis and management approaches to depressive disorders according to type (major vs minor) and presenting complaint (difficulty sleeping and concentrating vs headache). The participants were community primary care internists and family physicians in northern New England, Washington, and Alabama (N = 149) who were randomly assigned to receive a visit from an unannounced actor portraying a standardized patient in 1 of 2 depression scenarios: (A) insomnia and poor concentration meeting *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (*DSM-III-R*) criteria for major depressive disorder; or (B) tension headaches meeting the criteria for minor depression.

RESULTS. All physicians who were assigned to the standardized patients presenting with scenario A recognized depression, and 49% (38 of 78) of those assigned to scenario B patients diagnosed depression. Of those recognizing depression, 72% and 42% queried patients about anhedonia and mood, respectively. For both scenarios, if fewer than 2 *DSM-III-R* criteria were explored, depression was not diagnosed. Management for scenario A was compatible with Agency for Health Care Policy and Research guidelines, including the prescription of an antidepressant (94%), scheduling of a follow-up visit within 2 weeks (61%), and exploration of suicidal ideation (69.4%). For scenario B, management included over-the-counter analgesics for the headache (84%), exercise (63%), prescription for an antidepressant (53%), recommendation for ongoing counseling (100%), and follow-up within 2 weeks (42%).

CONCLUSIONS. Major depression is recognized in primary care at a very high rate. Guidelines for recognizing and managing depression are often followed in primary care. Patients' presentations of depression influence its recognition and management.

KEY WORDS. Depressive disorder; practice guidelines; antidepressive agents. *(J Fam Pract 1999; 48:965-972)*

The prevalence of major depression in primary care patients ranges from 1% to 25%,[1-3] with a 13% prevalence rate for subthreshold depression.[4] Although more than 90% of primary care physicians report treating depression in their offices,[5,6] estimates of depressed patients who are correctly identified and treated range from 5%[7] to 60%,[8-11] with higher rates of diagnosis associated with more severe depression.[12] Research on the use of case-finding instruments[13-15] to improve recognition has produced inconsistent results.[16-18] Currently, the economic burden of mood disorders in the United States is $44 billion.[19]

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Underdiagnosis and undertreatment of depression in primary care have been attributed to patients' presentations, expectations, competing medical problems, and reimbursement issues, and clinicians' knowledge, skills, practice characteristics, and time constraints.[20-22] Guidelines for recognition and treatment of major depressive disorder have been provided by the Agency for Health Care Policy and Research (AHCPR),[23] though the effectiveness of treatment for subthreshold depression is less certain. It is clear, however, that depressed patients suffer ongoing functional impairment comparable with that experienced with a chronic medical illness such as diabetes or congestive heart failure.[24] By understanding typical practice patterns, areas of depression diagnosis and management could be identified and targeted for practice-enhancement strategies.

We explored physicians' diagnostic and treatment approaches to patients with both straightforward and more subtle presentations meeting 2 levels of depression criteria: major depressive disorder and minor depression. Unannounced trained actors portraying standardized patients were used to control the variability in patient presentations and characteristics.

METHODS

In 1997, 3 study centers (one each in northern New England; Seattle, Washington; and Tuscaloosa, Alabama, were selected to represent a range of primary care geographic settings. Physician recruitment involved initial peer contact followed by a letter, consent form, and fact sheet briefly describing the study. We informed participants they would be visited twice by a standardized patient at some point during a 1-year period to assess health service delivery and that the encounters would be recorded to evaluate standardized patient case replication and accuracy of physician performance. Physicians were blinded to the study topic of depression, the date of the visits, and the standardized patient's age, sex, and clinical presentation. All study procedures were approved by the institutional review boards at the 3 study centers.

Study Participants

A sample of 149 primary care physicians serving adults from each of the 3 regions represented a specialty mix (family physicians and internists) and a sex mix. Physicians were excluded if they had been at the current practice location for less than 1 year, their panel composition was less than 50% adults, more than 50% of their clinical time was devoted to subspecialty care, their practice was based in a residency training site or was closed to new patients.

Design

Four months before the first standardized patient visits, participants were randomly assigned to 1 of 4 study groups defined by patient sex and case presentation. The standardized patients portrayed symptoms compatible with either major depressive disorder with chief complaints suggesting depression (scenario A) or minor depression with a more subtle chief complaint (scenario B). The standardized patients called each practice in the study and requested an initial visit to address their presenting complaint and to establish ongoing care, and they returned as recommended for a second visit.

Development of the Standardized Patient Scenarios

Primary care and psychiatric faculty from each study center collaborated to develop the initial case scripts. These presentations were chosen to address 2 ends of the spectrum of common presentations for depression in primary care: obvious mental health distress versus more subtle distress of a sufficient degree to be associated with dysfunction as demonstrated in other studies.[24] The scenarios were evaluated for feasibility, credibility, and internal consistency and were refined during guided focus groups of

TABLE 1

Standardized Patient Scenarios

Characteristic	Scenario A	Scenario B
Chief complaint	Concentration/sleep difficulties	Headaches
Diagnosis	Major depressive disorder	Minor depression
Clinical presentation	• 45-year-old corporate loan officer • Difficulty concentrating and sleeping for 4 months	• 26-year-old data entry clerk • Headaches of >1-year duration, worsening over last 2-3 months
DSM-III-R criteria	• Depressed mood • Anhedonia • 10-lb weight loss • Insomnia with early morning awakening • Impaired concentration • Feelings of worthlessness (guilt) • Psychomotor retardation	• Anhedonia • 10-lb weight gain • Hypersomnia - 10 hours
Additional history	• Family history of depression • Family history of alcohol abuse • Social isolation • Marital discord • Poor performance review at work	• Recent divorce • No strong social ties
Appearance	• Responds slowly with sad affect when divorce mentioned • Poor eye contact • Affect neither animated nor flat	• Becomes visibly saddened

DSM-III-R denotes *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised.*

community physicians held in each study center.[25] No pilot test or focus group physicians were study participants.

The actors portrayed the roles of either a 45-year-old corporate loan officer or a 26-year-old data entry clerk (Table 1). In both cases, a recent move required initiation of contact with a new care provider. According to the scenarios, the patient's insurance was in transition because of a new job, but this was not scripted to be a barrier to care in either case. Encounters were paid for in cash, with the standardized patients indicating they would submit their own insurance claims. Standardized patients assigned to scenario A volunteered sleep and concentration difficulties as their chief complaints. No other *DSM* criteria were volunteered. If depression was not mentioned as a possible diagnosis to the patient enacting scenario B by the end of the second visit, the prompt, "I've had a really tough year," was delivered by the patient. We did this to increase recognition of depression, allowing us to obtain information on the management approaches taken by all participating physicians. At the second visit, patients enacting both scenarios reported their symptoms were 50% better regardless of the treatment suggested during the first visit.

None of the actors had a personal history of depression. The standardized patients refused an extensive medical work-up at the time of the visits, stating they would prefer to wait until their insurance status was resolved. The exception was urinalysis, if it was part of the physician's routine orders.

Measures

An evaluation checklist with dichotomous (yes/no) responses was developed to allow standardized patients to assess how participating physicians pursued the presenting complaints and the 9 criteria for major depressive disorder listed in the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (*DSM-III-R*). The checklist was pilot-tested in each study center to ensure that each item was readily observable and accurately scored by the standardized patients. Audiotape recorders with high-fidelity microphones, concealed in briefcases or book bags, were used to record the physician-patient interactions. After each encounter, the standardized patient completed the checklist, reviewing the audiotape when necessary.

At each center, trained nonphysician project staff reviewed 20% of all audiotaped encounters for accuracy and reproducibility. Mechanical failure occurred in 3% of encounters. Agreement between the standardized patient and the project staff ranged from 79% to 100% for recorded encounters. The low end of this range concerned queries about mood, where the standardized patients were more likely than trained staff to score a question such as "How have you generally been feeling?" as an assessment of mood. Thus, standardized patients were at risk for overestimating the proportion of physicians asking about mood. Checklist data scored by the standardized patients were used in these analyses, since they represented the most complete and consistent record of the encounters.

Standardized Patient Training

Twenty-five actors were recruited from local medical education programs at the 3 participating institutions. All standardized patients were within 120% of their ideal body weights, and their clothes were consistent with the cases being portrayed. Scenario development and standardized patient training were initially done at the northern New England site, and training videotapes and materials were disseminated to the other 2 study centers. During the first phase of training, 2 4-hour didactic training sessions were held for each case, to inform the actors about the detailed scenario and the skills necessary to enact it. At the end of each session, actors observed videotaped interactions of themselves and completed study checklists, which were then compared and discussed until consensus was achieved on scoring. During the second phase of training, each actor visited 3 nonparticipating clinicians. None of these pilot physicians had any specific knowledge of the study and were instructed to respond to the patient as they would to any patient making the same request. Immediately after each videotaped session, the actors completed an evaluation checklist. The videotapes were then scored by the trained project staff at each study center using the same checklist, and any discrepancies in scoring or replicating the scenario were discussed. Twenty-four of the 25 actors consistently replicated the scenario and accurately assessed the providers (greater than 95% agreement with the trained observer) and were allowed to begin study visits.

Standardized patients also recorded the amount of time spent with the physicians and the charges for the visit. Three weeks after the final study visit, physicians were informed that the standardized patient visits had occurred. They were asked to either describe or name the patient. If the patient was detected as being a standardized patient, physicians were asked when during the encounter the detection occurred. Detection occurred in 22.8% of cases. The majority of detections occurred at the end of the second visit or in retrospect after the second visit had occurred, which likely did not influence the performance of the physicians to a significant degree; therefore, all detected visits were included in the analysis. If physicians did not recommend follow-up, the standardized patients initiated a follow-up visit by calling the practice and noting that their symptoms, though improved somewhat, were still present. All physicians forwarded standardized patient medical records for abstraction and took part in a telephone debriefing during which we determined what alerted them to this diagnosis or why they did not recognize depression.

For classifying physicians as recognizing depression, the following indicators were used: discussion of depression with the standardized patient, diagnosis of depression in the medical record, prescription for an antidepressant,

TABLE 2

Physician Exploration of *DSM-III-R* Diagnostic Criteria for Depression When Depression Was Recognized

DSM-III-R Criteria	Scenario A* (N = 72) %	Scenario B† (N = 61) %	*P*
Physical/Neurovegetative			
Insomnia/hypersomnia	N/A	98.4	N/A
Impaired concentration	N/A	18.0	N/A
Significant weight loss/gain	76.4	88.5	.070
Psychomotor agitation or retardation	52.8	29.5	.007
Fatigue	55.6	63.9	.273
Psychiatric/Psychosocial			
Depressed mood	50.0	47.5	.984
Anhedonia	75.0	72.1	.711
Recurrent thoughts of death/ suicide	69.4	26.2	<.001
Feelings of worthlessness/guilt	8.3	8.2	.984

DSM-III-R denotes *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised.*
*Standardized patients presenting with major depressive disorder.
†Standardized patients presenting with minor depression.
Note: For scenario A, insomnia and impaired concentration were volunteered by the patient and are thus not appropriate (N/A) to include. Of 77 physicians assigned to scenario B, 61 recognized depression (with and without a prompt) and are included here. Sixteen did not recognize depression and are addressed in Table 4.

or a recommendation for ongoing counseling with a social worker, psychiatrist, or psychologist.

Analysis

Descriptive statistics were used to characterize study participants and encounters. Comparisons between scenarios A and B for pursuit of presenting complaints, *DSM-III-R* criteria, other diagnostic criteria, and depression management were evaluated using the chi-squared or Fisher's exact test when indicated. Time and charges were analyzed using *t* tests and Pearson's product moment correlation coefficient. Analysis of data on scheduling follow-up between the first and second visits across cases was performed using 1-way analysis of variance (mixed model). All tests comparing performance across the scenarios were 2-tailed. An α level of 0.05 was considered statistically significant, except where more than one test was used on the same variable (eg, sleep and other criteria comparisons analyzed by scenario and to identify predictors of a diagnosis of depression in a pooled analysis). In these cases, the α levels were set at 0.025. Inter-observer reliability was determined using percent agreement.

RESULTS

One hundred forty-nine internists and family physicians meeting eligibility requirements were visited by an unannounced standardized patient. Sixty-nine physicians participated in northern New England, 50 in Seattle, and 30 in Tuscaloosa, Alabama. Physicians from northern New England were overrepresented because of specialty and sex-specific recruitment difficulties at other sites. The mean age of physician participants was 42.8 years (standard deviation [SD] = 7.7); 67.5% were male. Fifty-one percent were family physicians; the other 49% were internists. Ninety-two percent were board certified. The mean number of years at the current practice location was 9.4 (SD = 7.0), and the estimated mean number of adult patients seen per week was 90.5 (SD = 36.1). Participants reported that 80% of their time was devoted to primary care. A total of 288 visits were made by our standardized patients: 135 in northern New England, 93 in Seattle, and 60 in Tuscaloosa. Second visits for 10 of the participants could not be made within the study period.

Recognition of Depression

One hundred percent of physicians visited by scenario A patients diagnosed depression, 91% at the first visit. Depression was diagnosed without a specific prompt in 49% of scenario B patients (38 of 77). Twenty-six percent of the diagnoses occurred during the first visit and 23% during the second visit. An additional 30% of providers (23 of 77) diagnosed depression in scenario B after the prompt, "I've had a really tough year," was delivered. In 3% (2 patients) of scenario B encounters, the standardized patients were unable to deliver the prompt, and in 18% (14 of 77) depression was not diagnosed according to our a priori criteria, even though the prompt was delivered.

Table 2 shows the use of *DSM-III-R* criteria by physicians according to patient presentation. Among patients given a diagnosis of a depressive disorder, including all 72 who presented with scenario A and the 61 of 77 who presented with scenario B, physicians made similar use of criteria. No differences were noted in recognizing depression by specialty (family physician or internal medicine), and no statistical differences were noted in the characteristics of physicians assigned to scenario A or scenario B.

When we clustered depression criteria as outlined in *DSM-III-R* [26] into physical/neurovegetative symptoms (sleep disturbance, weight changes, attention/concentration problems, fatigue, psychomotor disturbance) or psychiatric/psychosocial symptoms (depressed mood, anhedonia, guilt feelings, suicidal thoughts) and assessed inquiry about them for association with a diagnosis of depression, both sets of criteria were statistically significant at $P < .001$. The mean number of physical /neurovege-

TABLE 3

Additional Diagnostic Evaluation for Depression by Patient Presentation

Other Evaluation	Scenario A* (n = 71) %	Scenario B† (n = 62) %	P
Mental Health Survey			
Substance abuse	26.4	1.6	<.001
Previous history of mental disorders	38.9	14.8	.002
Family history of mental disorders	69.4	18.0	<.001
Social Setting			
Home situation	91.7	54.5	<.001
Work situation	94.2	24.6	<.001
Social network	42.6	40.4	.810

*Standardized patients presenting with major depressive disorder.
†Standardized patients presenting with minor depression.

tative symptoms asked about in diagnosing depression was 3.4; the mean number of psychiatric/psychosocial symptoms was 1.8. If fewer than 2 symptoms were asked about during the encounter, depression was not diagnosed.

Questioning about anhedonia exceeded questioning about depressed mood in both presentations but did not differ significantly between them. Debriefings of physicians assigned to scenario A who did not ask about mood indicated that depressed mood was so obvious that it did not require a direct question. Debriefings of physicians assigned to scenario B who did not ask about mood indicated that the presentation did not suggest to them that the patient had a depressed mood.

Table 3 outlines physicians' exploration of other information relevant to depression. Exploration of work and home life was more likely to occur for patients enacting scenario A. For scenario B, the work situation was less often addressed. The patient's social network was explored in both scenarios by approximately 40% of the physicians.

Table 4 shows the *DSM* criteria explored when depression was not diagnosed. Exploring weight gain and sleep pattern occurred in about half of the encounters, while most other criteria were explored by only a few physicians or not at all. We found that only 7% of scenario B patients who did not receive a diagnosis of depression were asked about their social network; more than 40% of patients given a diagnosis of depression in either scenario A or B, however, were asked about their social network (Table 2).

Management of Depression

Table 5 shows the management strategies used by physicians who diagnosed depression (n = 133). This includes all 72 assigned to scenario A and 61 of those assigned to scenario B.

Physicians visited by scenario A patients often followed AHCPR guidelines for the management of depression. They prescribed selective serotonin reuptake inhibitors (SSRIs) more often than counseling. Forty-four of the 72 patients were treated with both counseling and SSRIs by the end of the second visit. Patients acting out scenario A were more likely to receive education on the causes of depression, treatment options, and prognosis, and to be provided with written material about depression than those presenting with scenario B.

Patients enacting scenario B often received recommendations for over-the-counter (OTC) analgesic medications appropriate for treatment of headache and were told to exercise. The OTC medication recommendations were more likely to occur at the first visit (22 of 38, 58%), while recommendations for exercise were more likely at the second visit (23 of 39, 59%). When SSRIs were prescribed for the patient in scenario B, this occurred more often at the second visit (68%).

Referrals for ongoing mental health counseling were more likely to be made for patients enacting scenario B than scenario A. Follow-up was almost equally recommended for patients portraying either scenario, but the time interval for follow-up was significantly shorter for

TABLE 4

Physician Exploration of *DSM-III-R* Criteria and Additional Diagnostic Evaluation and Treatment When Depression Was Not Diagnosed

Evaluation Criteria	Scenario B (n=16)* %
Physical Neurovegetative	
Insomnia/hypersomnia	43.8
Impaired concentration	12.5
Significant weight loss/gain	50.0
Psychomotor agitation or retardation	6.3
Fatigue	25.0
Psychiatric Psychosocial	
Depressed mood	0
Anhedonia	18.8
Recurrent thoughts of death/suicide	0
Feelings of worthlessness/guilt	6.3
Mental Health History	
Substance abuse	0
Previous history of mental health disorders	0
Family history of mental health disorders	6.3
Social Setting	
Home situation	31.3
Work situation	12.5
Social network	6.7

DSM-III-R denotes *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised.*
*Of 77 physicians assigned to scenario B, 16 did not recognize depression and are included here.

TABLE 5

Management of Depression Over 2 Visits by Physicians Who Recognized Depression

Management Approach	Scenario A* (n = 71) %	Scenario B† (n = 62) %	P
Medication Prescriptions			
Over the counter	9.7	62.3	< .001
SSRI	94.4	52.5	< .001
Other psychotropic agent	28.3	26.4	.836
Education About Medications‡			
When it would start to work	91.4	50.0	< .001
Potential side effects	84.3	67.6	.047
Referrals*			
Ongoing mental health counseling	52.2	100.0	<.001
One time mental health referral	4.7	1.8	.368
Other Therapies			
Exercise	50.0	63.9	.118
Relaxation/meditation	1.6	17.0	.005
Other education			
Discussed causes of depression	74.3	37.5	<.001
Discussed treatment options	64.8	50.0	.106
Discussed prognosis of depression	71.6	20.0	<.001
Provided written material	21.2	11.1	.218
Follow-up Interval Between Visits			
Physicians who recommend follow-up, %	94.4	86.9	.144
Recommended follow-up interval in weeks, mean (SD)			
Visit 1	2.6 (1.32)	3.9 (1.48)	.011
Visit 2	5.1 (2.90)	5.4 (3.89)	.652

SSRI denotes selective serotonin reuptake inhibitor.
*Standardized patients presenting with major depressive disorder.
†Standardized patients presenting with minor depression.
‡For patients prescribed SSRI or other psychotropic only: scenario A, n = 71; scenario B, n = 35.

scenario A patients than for those of scenario B. Sixty percent of the physicians recommended follow-up within 2 weeks for patients portraying scenario A, and an additional 34% recommended follow-up to occur between 2 and 4 weeks after the first visit. After the second visit in scenario A, follow-up was recommended to occur within 2 weeks in 13% of encounters, between 2 to 4 weeks in 52%, and in 35% it was recommended to occur more than a month later. For patients portraying scenario B, follow-up was recommended within 2 weeks for 42% after the first visit, and an additional 45% recommended it occur between 2 and 4 weeks. Follow-up after the second visit was recommended to occur within 2 weeks for 21% of patients, with an additional 48% recommended between 2 and 4 weeks.

For patients enacting scenario B where depression was not diagnosed, 64% received a recommendation for an over-the-counter nonsteroidal anti-inflammatory, acetaminophen, or aspirin. Twenty-one percent received a prescription drug for migraine headache; 7% received a prescription for a muscle relaxant; 7% received a prescription for a β blocker; and 7% received a recommendation for exercise only.

Patients spent 12.2 to 24.5 minutes in the waiting room. No statistical differences were noted by region or by first versus second visits. Physicians spent 13.4 to 28.4 minutes with patients. Time spent with patients did not vary by region. Second visits were half as long as first visits (12.7 minutes vs 23.0, $P = .001$). For scenario A patients, the mean number of minutes spent with physicians was 19.4 (SD = 11.7), and it was 16.6 (SD = 9.3) for scenario B patients ($P = .01$). Charges for visits ranged from $43.75 to $70.30, with a mean of $56.44 (SD = $26.46). First visits were more expensive than second visits ($69.96 vs $43.19, $P < .001$), but did not differ by number of depressive symptoms ($59.17 for scenario A, $54.86 for scenario B; $P = .10$). Pearson's correlation coefficient between time spent with the physician and charges was 0.399 ($P < .01$).

There was variability in how depression was discussed and documented in the medical record. In combined scenarios A and B for cases where depression was diagnosed, it was both discussed with the patient and recorded in the medical record in 77.2% of encounters. It was discussed with the patient but not noted in the medical record in an additional 6.7% of encounters and appeared in the medical record but with no patient discussion in 5.4% of encounters. In 10.7% of encounters, patients received a prescription for an antidepressant or a recommendation for ongoing counseling with a psychologist or social worker, though the word "depression" was not used with the patient or noted in the medical record.

No statistical differences were found by region in the proportion of patients given a diagnosis of depression. Differences found in diagnosis and management according to physician and patient sex have been reported elsewhere.[27] Briefly, male physicians explored symptoms and discussed a diagnosis with women significantly more often than with men. Both male and female physicians recommended counseling more often for women portraying scenario B standardized patients than for men portraying the same type of patient.

DISCUSSION

Our study demonstrates that when mental distress is obvious, primary care physicians recognize it. When a patient

presents with a somatic chief complaint, such as headaches or less obvious mental health distress, recognition is still common, although not universal. The claim that recognition of depression is only 50% in primary care settings should be regarded with reservation.

We identified some areas where recognition could be improved. All physicians who did not recognize depression in scenario B failed to ask the patient about depressed mood, and only 19% asked about anhedonia. When the physician asked about either, the recognition rate increased by approximately 50%, and if they asked about both, it approached 100%. We found that recognition of depression was 100% with patients presenting with major depressive disorder, which included a total of 7 *DSM* criteria. It was diagnosed in approximately 50% of patients portraying a headache presentation with minor depression without a prompt by the standardized patient. We found that the one-sentence prompt ("I've had a tough year") activated an additional 30% of the physicians to consider depression, bringing the rate of diagnosis up to almost 80% for patients portraying scenario B.

This finding underscores the importance of physicians' pattern of approach in determining the patient's reason for the visit. We found in our focus group study[25] that physicians describe 3 approaches in pursuing a diagnosis of depression. These include a biomedical approach, where physicians' threshold for considering depression is high. In this case, providers pursue diagnostic testing of physical causes of the symptom first and address depression when physical explanations are lacking. In the psychosocial approach, physicians' threshold for considering depression is low, and depression is considered as a possibility first; response to an SSRI determines if depression is present. The biopsychosocial approach integrates the first 2 approaches. For that approach the threshold for pursuing depression is moderate, and biomedical and psychosocial issues are simultaneously pursued in investigating patients' problems. We found focus group physicians identified with all 3 approaches and often crossed over among the approaches, depending on patient cues. We suggest that those study physicians who did not diagnose depression, even with the standardized patient's prompt, did not cross over among approaches despite 2 visits with the patient. Establishing a longer relationship and obtaining additional cues from the patient may have reduced their threshold for considering depression.

Certain diagnostic criteria were pursued more than others in diagnosing depression. Asking questions about sleep, for example, was strongly associated with such a diagnosis. Questions about sleep were pursued by more than 98% of the physicians diagnosing depression in patients enacting scenario B versus 44% who asked about sleep but did not diagnose depression. Anhedonia, weight changes, and fatigue were addressed in at least 56% to 76% of both patient encounters, while mood, suicide ideation, and family history of mental illness were addressed more often with patients enacting scenario A than B. This is consistent with a study done by Brody and colleagues,[28] who found that asking about sleep, anhedonia, low self-esteem, and appetite led to recognition of the majority of cases of major depression in primary care. Substance abuse and previous history of mental health disorders were assessed in less than 40% of encounters. Asking about anhedonia and mood may increase recognition of depression. If depression is suspected, asking about previous mental health history and substance abuse, and exploring suicidal thoughts are important.

We found that physicians' choices for managing depression, especially for the patients with major depressive disorder (scenario A), were consistent with AHCPR guidelines. SSRIs were prescribed most often, usually accompanied by a recommendation for ongoing counseling with a psychologist or social worker. A definitive approach for effectively treating subthreshold depression was not established, but we found counseling, over-the-counter medications, SSRIs, and exercise were most often recommended. If depression is diagnosed, follow-up should occur sooner than we observed in our study visits.

We found that visit duration and charges were associated with severity of symptoms. Encounters for scenario A were approximately 16% longer and 7% more costly than for scenario B. First visits across all encounters were also approximately 45% longer and 25% more costly than second visits. Time is becoming an ever more important factor in managed care environments. We learned that those who pursued fewer than 2 depressive symptoms were much less likely to diagnose depression than those who pursued 2 or more symptoms. Time pressures can certainly influence physicians' decisions about pursuit of symptoms.

The strengths of this study include the kind of data possible to collect. Our methods allowed for a level of detail that cannot be obtained using medical record review or surveys on the basis of patient recall or physician self-report. Our results on agreement between the standardized patients and the project staff indicate that the quality of the data at this level of detail is excellent. Second, since physicians would normally adjust their approaches or management on the basis of the characteristics of the patient, our study allowed us to obtain information on what many doctors do when faced with the same patient during a subsequent visit. Obtaining this kind of information is virtually impossible using actual patients. Another strength of our study is that we included 3 regions of the country, which assists in making our findings generalizable. Many studies using unannounced standardized patients suffer from single and first-visit bias. We were able to orchestrate 2 visits for all but 10 study participants, allowing the potential for a relationship to become established between the patient and the provider. This rapport could be a critical factor in the ability to identify and discuss depression, which continues to be associated with stigma that may affect patients' receptivity.

LIMITATIONS

We acknowledge some important limitations to our study. Our sampling techniques were purposeful, since we wanted a blend of family physicians and internists with varying ages and sex, affecting generalizability. The physicians who agreed to our investigative methods may have been more courageous in exposing their practice styles to such scrutiny and may be more skilled or confident than nonvolunteers. Our evaluation method is performance-based rather than patient-based; thus, we cannot provide information that can be linked to actual patient outcomes.

Though we felt at least 2 visits were necessary to assess physicians' approaches to and management of depression, 2 visits may not be enough to capture representative behaviors of primary care physicians who often have very well established relationships with patients that affect diagnosis and management strategies. Our design allowed us to evaluate how physicians approach a major depressive disorder with an obvious chief complaint versus minor depression with a less obvious presentation. However, to adequately evaluate how AHCPR classifications influence recognition and management of depression, a more discriminating factorial design and larger sample size would be required.

CONCLUSIONS

We found that the rate of recognition of major depression in primary care is very high, and many aspects of AHCPR guidelines are followed in primary care. Patient presentation influences recognition, diagnostic exploration, and management approaches. When major depression is recognized, more routine exploration of suicide ideation and more universal follow-up within 2 weeks are areas for improvement. For somatic presentations compatible with depression, more routine inquiry about mood and pleasurable activities may increase recognition.

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