

Improving the Recognition and Management of Depression

Is There a Role for Physician Education?

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BACKGROUND. Many patients who visit primary care physicians suffer from depression, but physicians may miss the diagnosis or undertreat these patients. Improving physicians' communication skills pertaining to diagnosing and managing depression may lead to better outcomes.

METHODS. We performed a randomized controlled trial involving 49 primary care physicians to determine the effect of the Depression Education Program on their knowledge of depression and their behavior toward depressed patients. After randomization, physicians in the intervention group completed the Depression Education Program, which consists of 2 4-hour interactive workshops that combine lectures, discussion, audio-tape review, and role-playing. Between sessions, physicians audiotaped an interview with one of their patients.

Two to 6 weeks following the intervention program, physicians completed a knowledge test and received office visits from 2 unannounced people acting as standardized patients with major depression. These "patients" completed a checklist and scales. Logistic and linear regression were used to control for sex, specialty, and suspicion that the patient was a standardized patient.

RESULTS. For both standardized patients, more intervention physicians than control physicians asked about stresses at home, and they also scored higher on the Participatory Decision-Making scale. During the office visits of one of the standardized patients, more intervention physicians asked about at least 5 criteria for major depression (82% and 38%, $P = .006$), discussed the possibility of depression (96% and 65%, $P = .049$), scheduled a return visit within 2 weeks (67% and 33%, $P = .004$), and scored higher than control physicians on the Patient Satisfaction scale (40.3 and 35.5, $P = .014$).

CONCLUSIONS. The Depression Education Program changed physicians' behavior and may be an important component in the efforts to improve the care of depressed patients.

KEY WORDS. Depression; education; communication. (*J Fam Pract* 1999; 48:949-957)

Depression is a common illness that has a significant impact on patients and society. The World Health Organization estimated that depression is responsible for approximately 25% of all visits to health care centers worldwide.¹ In primary care practices, 5% to 10% of adult patients suffer from major depression.^{2,3} Depressed patients have increased disability, health care utilization, and mortality rates, as well as reduced quality of life and productivity.³⁻¹⁰ Although many individuals with depres-

sion want help from primary care physicians,¹¹⁻¹³ these physicians may fail to recognize depression or may undertreat it when recognized.¹⁴⁻¹⁷

A variety of interventions has been developed to improve the diagnosis and management of depression by primary care physicians.¹⁸⁻²⁰ A recent systematic review of the literature²⁰ identified 7 well-designed studies with physicians' behaviors (eg, diagnosis of depression, antidepressant prescription) or patient outcomes as end points.²¹⁻³² These studies included the evaluation of providing patients' scores on depression screening instruments to physicians;^{21,22} psychiatric consultation before and during the primary care physician visit (ie, collaborative care);²³ 20 hours of lecture and videos;²⁷⁻³⁰ academic detailing visits;³¹ and multiple interventions, including didactic sessions with physicians.^{24-26,32} Many of these interventions in these studies would be difficult to implement in most primary care settings, and none focused on changing physicians' communication skills as a means to alter their behavior toward depressed patients.

Physicians' communication skills may be a critical component of improving the care of depressed patients.

Submitted, revised, September 9, 1999.

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Physicians who ask about psychosocial issues, use open-ended questions, and allow more time for the patient to talk are more likely to recognize depression.³³⁻³⁵ In a recent national survey of primary care physicians, 30% to 50% of physicians reported that patients' reluctance to accept the diagnosis, begin treatment with medications, or accept referral to a mental health specialist were major barriers to their care of patients with depression.³⁶ Overcoming patient reluctance and negotiating an appropriate treatment plan require good communication skills. Finally, studies have demonstrated that improving physicians' communication skills lessens patients' emotional distress and improves health outcomes.³⁷⁻⁴⁰

The Depression Education Program was developed to fill the gap in current interventions by focusing on primary care physicians' knowledge of depression and the communication skills they use with patients with the disease. The primary objective of our study was to determine to what extent the Depression Education Program would improve physicians' knowledge and behaviors toward patients with depression, including their assessment of psychosocial stressors and criteria for major depression,⁴¹ discussions of depression, and scheduling of return visits within 2 weeks.

METHODS

STUDY DESIGN AND SAMPLE

We used mailing lists from the state medical society to obtain names and addresses and sent recruitment letters to all primary care physicians in Portland, Oregon. Of the 166 physicians who responded, 56 (34%) met inclusion criteria and gave informed consent. Inclusion criteria were: practicing primary care exclusively, practicing at least 50% of the time, able to attend both sessions of the workshop, practice open to new patients, and agreement to see 2 standardized patients in the office.

Physicians were stratified by sex, then randomly assigned to the intervention group ($n = 27$) or the control group ($n = 29$). We stratified by sex because men and women vary in their communication and practice styles.⁴²⁻⁴⁶ After randomization, 7 physicians (4 intervention and 3 control) withdrew from the study because of scheduling conflicts (2), unwillingness to participate (2), serious illness (1), a practice that would not allow standardized patients (1), and an obstetrics-gynecology primary specialty (1). All 49 participating physicians completed a preintervention questionnaire; then physicians in the intervention group participated in the Depression Education Program.

Two to 6 weeks after the intervention all physicians completed a knowledge test and saw 2 unannounced standardized patients in their offices. The actors posing as standardized patients were blind to the physicians' intervention status. After all data were collected, the control physicians participated in the Depression Education Program. Physicians were not informed of their interven-

tion status and did not know when they would see the standardized patients during the 6-month study period.

INTERVENTION

The Depression Education Program consisted of 2 4-hour sessions given 2 weeks apart. The workshop covered 10 communication skills and 6 knowledge objectives (Table 1) based on Cohen-Cole's 3-function model of the medical interview⁴⁷ and the Agency for Health Care Policy and Research's (AHCPR) *Clinical Practice Guideline for Depression in Primary Care*,^{17,48} respectively. We asked participants to read the workshop monograph and write down 3 personal objectives before the first session. During the workshop, participants received a syllabus and a card that listed: communication skills; strategies for office counseling and behavioral management of depression; a list of resources for educating and counseling patients; screening instruments, including a flow sheet of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* criteria⁴¹; and the AHCPR's *Quick Reference Guide for Clinicians*⁴⁹ and *Patient's Guide*.⁵⁰

Workshops were limited to 12 participants and cofacilitated by a psychiatrist and a primary care physician. The first session consisted of the identification of personal learning objectives, a 60-minute interactive lecture, and a discussion of the strengths and weaknesses of a videotaped interview with a patient with depression. Participants identified specific communication skills they hoped to practice (Table 1) and role-played a scenario emphasizing these skills. Facilitators then gave constructive feedback, and participants repeated the role-play.

At the end of the first session, participants were asked to audiotape themselves interviewing a depressed or challenging patient in their practice. Participants selected a 5-minute segment from their tapes to review at the second session. Approximately 75% of the intervention physicians brought audiotapes to the second session.

The second session consisted of a 30-minute interactive lecture on treatment strategies and a discussion of 10 cases. The final 2 hours were used for discussion and role-play based on the participants' audiotapes. Participants again practiced communication skills as facilitators and peers provided feedback.

MEASUREMENTS

Questionnaire and knowledge test. The preintervention questionnaire included items about demographic and practice characteristics. The postintervention knowledge test was based on the workshop objectives and a previously developed test.⁵¹ The 5 workshop facilitators and 2 investigators (SAC, AJD) took a pilot version of the test. If all 7 agreed on an answer, we retained the question for the final version of the test. The final version had 54 questions, so scores could range from 0 to 54.

Standardized patients. We assessed physicians' postintervention behaviors and communication skills

TABLE 1

Objectives for the Depression Education Program**Knowledge**

- Diagnose major depression and differentiate it from both chronic depression (dysthymia) and minor depression (adjustment disorder and depressive disorder not otherwise specified)
- Describe management strategies for each of these 3 types of depression
- Describe the indications, side effects, and starting dosages for at least 2 antidepressant medications
- Describe the procedure for outcomes management of patients started on antidepressant medications
- Describe psychosocial approaches to the management of depression
- Describe criteria for mental health referral

Communication Skills

- Open-ended questioning allowing patients to describe their chief complaints without interruption
- Facilitation techniques which encourage patients to elaborate on presenting complaints without premature closure
- Techniques of surveying to allow patients to describe all of their concerns
- Focused questions to evaluate mood, presence of anhedonia, and current life stresses
- Focused questions to evaluate the impact of the patient's symptoms on quality of life
- Focused questions to elicit patients' expectations of medical care
- Focused questions to evaluate suicidal ideation
- Rapport-developing skills such as reflection and legitimation to respond to patients' emotions
- Education techniques to explain the diagnosis and management of depression
- Negotiation skills for patients who do not accept the diagnosis of depression

using checklists and scales completed by the 2 standardized patients (actors trained to play patient roles) who were blinded to the physicians' intervention status. Standardized patients have been used previously to assess physician performance,⁵²⁻⁵⁶ including physicians' communication skills.^{34,38,56-58} Several studies support the accuracy and reliability of this methodology in general,^{52,59-61} and one study supports the reliability of actors portraying patients with major depression in particular.⁶⁰

For our study, 2 standardized patients scheduled new patient office visits with the physicians. The day after the visit, the physicians received a post card asking if they detected (knew for sure), suspected (not sure, but suspicious), or did not know that patient was an actor. Because the post card named the standardized patient and was completed by the physician the following day, we anticipated that these physicians' rate of detection would be higher than that found in other studies.^{53,54}

The 2 standardized patients were used to assess our main outcomes: physician behaviors and communication skills under actual practice conditions. These patients were older, and presented with physical symptoms and multiple medical problems in addition to moderately severe major depression. We chose both a man and a woman who presented with different scenarios to tap into the broad domain of depression in primary care settings, recognizing that patient sex might influence the physicians' performance.⁴⁶ The woman ("Louise Williams") was 64 years of age, well dressed, and presented with worsening lower abdominal pain. She had received a normal gynecologic examination and colonoscopy in the last year. Her past history included irritable bowel syndrome, fibrocystic breast disease, and total abdominal hysterectomy. She did not appear to be depressed because she was trying to be

upbeat for her first visit with a new physician. If asked, she admitted to anhedonia, loss of appetite, insomnia, fatigue, impaired concentration, feelings of guilt, and thoughts of death for the last 3 months. The man ("Boyd Kelly") was a 63-year-old building contractor who presented with bilateral shooting chest pains for the last 2 months, peripheral vascular disease (right common femoral endarterectomy scar and carotid bruits), hypertension, hypercholesterolemia, osteoarthritis, and dyspepsia. He had normal results on both cardiac catheterization and exercise test 1 to 2 months ago during a hospitalization for chest pain. He appeared agitated and attributed his agitation to not knowing the cause of his chest pains. If asked, he admitted to anhedonia, weight loss, insomnia, fatigue, impaired concentration, and irritability for the last 4 months.

Individuals who had experience as standardized patients or other acting experience played these roles. One actor played Boyd Kelly, and 2 played Louise Williams. Each patient had a scripted presentation and medical and social history. We coached the actors regarding case histories, affect, and behaviors. Coaching focused on maintaining a natural dialogue with the physician in which questions were answered directly but diagnostic information was not offered unless explicitly elicited by the physician. If the physicians mentioned depression, the actors were instructed to be surprised and hesitate in accepting the diagnosis. If the actors felt the physician had developed good rapport and adequately explained the diagnosis, they were to reluctantly agree with the treatment plan. If the physicians had not done these things, the actors were to resist the diagnosis and treatment plan except for returning for a follow-up visit. To ensure that the actors played their roles reliably, we videotaped them being interviewed by 3 physicians as part of their training. In addition, we

TABLE 2

Scale Measures Used by Standardized Patients to Describe Visit**American Board of Internal Medicine's Patient Satisfaction Scale***

How would you rate the physician in terms of . . .

Telling you everything, being truthful, upfront and frank; not keeping things from you that you should know?

Greeting you warmly; calling you by the name you prefer; being friendly, never crabby or rude?

Treating you like you're on the same level; never "talking down" to you or treating you like a child?

Letting you tell your story, listening carefully, asking thoughtful questions, not interrupting you while you're talking?

Showing interest in you as a person; not acting bored or ignoring what you have to say?

Telling you during the physical exam about what he/she is going to do and why; telling you what he/she finds?†

Discussing choices with you; asking your opinion; offering choices and letting you help decide what to do; asking what you think before telling you what to do?

Encouraging you to ask questions; answering them clearly; never avoiding your questions or lecturing you?

Explaining what you need to know about your problems, how and why they occurred, and what to expect next?

Using words that you can understand when explaining your problems and treatment; explaining any technical medical terms in plain language?

Participatory Decision-Making Scale‡

Did the physician?

Involve you in treatment decisions?

Give you a sense of control over your medical care?

Ask you to take some responsibility for your care?

*Standardized patients rated the items on a Likert scale, where 1 = poor and 5 = excellent.

†Item dropped from the Patient Satisfaction scale because some physicians did not examine one of the standardized patients. Dropping this item did not substantially change Cronbach's α .

‡This scale is adapted from the Participatory Decision-Making Style scale developed by Kaplan and colleagues.⁶³ Standardized patients rated the items on a Likert scale, where 1 = strongly disagree and 5 = strongly agree.

used a hidden microphone to audiotape their visits with the study physicians. We reviewed approximately 10% of the tapes to ensure that the actors maintained their roles and accurately completed their checklists.

Checklist and scale measures. The standardized patients completed a checklist and rating scales immediately after the visit. The checklist included specific questions about the physician's interviewing behavior (eg, whether the physician asked about psychosocial stressors and the 9 *DSM-IV* criteria for major depression, discussed the possibility of depression, and educated the patient about depression and its treatment). The actors also recorded whether the physician prescribed antidepressants, the amount of time the physician spent with them, and when they were scheduled for a follow-up visit. For a global assessment of the physicians' communication skills, the standardized patients completed a 9-item version of the American Board of Internal Medicine's Patient Satisfaction scale,⁶² a single-item about rapport, and an adapted version of Kaplan's 3-item Participatory Decision-Making scale⁶³ (Table 2). The patient satisfaction and rapport items were rated on a 5-point scale (1 = poor; 5 = excellent). Items in the Participatory Decision-Making scale were rated on a separate 5-point scale (1 = strongly disagree; 5 = strongly agree). The scale score was determined by adding the responses to the items. If responses were missing, the scale was not scored. Cronbach's α was used to assess

the reliability of the scale measures. To assess overall knowledge and communication skills, the standardized patients were asked if they thought the physician had attended the Depression Education Program.

STATISTICAL ANALYSES

We used the chi-square statistic and Student's *t* test to assess preintervention and postintervention differences between intervention and control groups. We developed estimates of the prevalence of depression in their practices by dividing the estimated number of adult patients who have major depression by the estimated number of adult patients seen during a typical week.

If we found significant differences in the postintervention scores, we controlled for potential confounding variables (physician sex, specialty, and suspicion or detection of the standardized patient) using logistic and multiple linear regression for categorical and interval variables, respectively. Because of the small sample size, we did separate analyses for each confounding variable that included an interaction term between the confounding and intervention variable. An interaction term was considered significant if the *P* value was less than .2. If the interaction was not significant, the interaction term was excluded from the final analysis. If an interaction term was significant, the results were analyzed by level of the confounding variable. All tests were 2-tailed using an α of 0.05.

RESULTS

Forty-nine (88%) of the 56 randomly assigned physicians completed the study. There were no statistically significant demographic differences between intervention and control groups (Table 3). The physicians were predominantly men, family physicians, and in single-specialty or multi-specialty groups. Capitation and other forms of managed care accounted for approximately 60% of their practices' revenue. On average, the physicians felt responsible for recognizing and treating depression.

Study physicians did well on the 54-item postintervention knowledge test. Intervention and control groups did not differ significantly in their mean scores (41.5 ± 5.1 and 39.3 ± 4.8 , respectively, $t = 1.52$, $P = .136$). In addition, most of the physicians agreed or strongly agreed with the statement "I am very knowledgeable in the use of antidepressants" (64% intervention and 44% control, $\chi^2 = 1.84$, $P = .175$).

Intervention physicians performed better than control physicians on many of the behaviors assessed by the 2 unannounced standardized patients (Table 4). For Louise Williams, after controlling for the physicians' sex, specialty, and suspicion that she was a standardized patient, intervention physicians were more likely to assess 5 or more criteria of major depression, suicidal ideation, and stress at home and to discuss the possibility of depression (Table 4). The intervention group also had significantly higher ratings on patient satisfaction, establishing rapport, and participatory decision making. Intervention physicians and control physicians did not differ in the amount of time they spent with Louise Williams (mean minutes \pm standard deviation [SD]: 32.2 ± 10.5 and 28.6 ± 14.2 , respectively, $t = 0.99$, $P = .33$) or in the percentage who suspected she was a standardized patient (56% of intervention and 42% of control physicians suspected or detected, $\chi^2 = 0.987$, $P = .32$).

For Boyd Kelly, intervention physicians were more likely to assess for stresses at home and to schedule a follow-up visit within 2 weeks (Table 4). There was a trend toward intervention physicians being more likely to prescribe antidepressants (68% and 42%, respectively, $P = .092$). In addition, intervention physicians were more likely to encourage participatory decision making. However, participatory decision making varied on the basis of physicians' suspicions that Mr Kelly was a standardized patient, (β coefficient for the interaction term = 3.19, $P = .078$). For physicians who suspected Mr Kelly was a standardized patient, intervention and control groups did not differ in their participatory decision making (mean scores \pm SD: 11.4 ± 2.9 and 11.6 ± 2.5 , respectively, $t = -0.236$, $P = .82$). For physicians who did not suspect Mr Kelly, intervention physicians encouraged more participation in their decision making than control physicians (10.6 ± 3.4 and 7.4 ± 3.6 , respectively, $t = 2.53$, $P = .019$).

Boyd Kelly thought a greater percentage of intervention physicians attended the workshop (91% and 62%, respec-

tively). This effect varied by sex (β coefficient for the interaction term = 4.41, $P = .004$). Mr Kelly thought more male intervention physicians attended the workshop than male control physicians (79% and 14%, respectively, $\chi^2 = 11.63$, $P = .001$). In contrast, Mr. Kelly did not detect differences between female intervention and control physicians (50% and 55%, respectively, $\chi^2 = 0.52$, $P = .82$). Intervention and control physicians did not differ in the amount of time they spent with Mr Kelly (mean minutes \pm SD: 34.0 ± 14.5 and 29.6 ± 12.1 , respectively, $t = 1.12$, $P = .27$) or in the percentage of physicians who suspected he was a standardized patient (52% and 40%, respectively, $\chi^2 = 0.192$, $P = .66$).

DISCUSSION

The results of this study suggest that the Depression Education Program improves physicians' communication skills and behaviors toward patients who have common but complex presentations of depression and other medical illnesses. These patients are frequently seen in primary care settings and present difficult challenges to physicians.^{3,64-66} Differences between intervention physicians and control physicians were seen for both standardized patients and were evident in behaviors directly related to the objectives of the program and in ratings of patient satisfaction, rapport, and participatory decision making that were likely affected by communication skills. For both standardized patients, more intervention physicians asked about stresses at home, and they scored higher on the Participatory Decision-Making scale. For at least one of the patients, more intervention physicians asked about at least 5 criteria for major depression, discussed the possibility of depression, scheduled a return visit within 2 weeks, and scored higher on the Patient Satisfaction scale.

This study meets most of the criteria for rigorous evaluations of continuing medical education (CME) programs as described by Davis and colleagues.^{67,68} The criteria include thorough descriptions of the health professionals and educational program, use of an experimental design, meaningful outcomes, and potential generalizability. We used an experimental study design, and the results of the study suggest that physicians made clinically important improvements in behaviors likely to have an impact on the diagnosis or treatment of depression (eg, a 20% to 30% increase in the number of physicians inquiring about psychosocial stresses and criteria for major depression). In developing the Depression Education Program, we incorporated educational strategies that characterize those CME programs that have been successful in changing physician behavior or patient outcomes (eg, identifying personal goals or needs, peer discussion, and role-playing), as identified by Davis and coworkers.^{67,68}

LIMITATIONS

Our study has several limitations. First, it suffers from a self-selection bias that may limit generalizability, as do all

TABLE 3

Demographic Characteristics of the Physicians

Characteristic*	Intervention (n = 23)	Control (n = 26)	P†
	Mean ± SD		
Age, years	45.4 ± 9.2	47.7 ± 12.3	.48
Medical school graduation, years since	16.8 ± 8.7	20.0 ± 13.7	.35
	No. (%)		
Sex			
Women	9 (39)	11 (42)	.81‡
Men	14 (61)	15 (58)	
Specialty			
Family medicine	16 (70)	15 (58)	.31‡
General internal medicine	7 (30)	11 (42)	
Practice structure			
Solo	3 (13)	8 (31)	
Single-specialty group	11 (48)	8 (31)	.68‡
Multispecialty group	5 (21)	6 (23)	
Hospital-affiliated clinic	2 (9)	3 (11)	
Other	2 (9)	1 (4)	
	Mean ± SD		
Percent of practice revenue from each source			
Fee for service	37 ± 16	33 ± 26	.52
Capitation	31 ± 21	35 ± 24	.44
Other managed care	29 ± 16	25 ± 23	.50
Other	3 ± 6	4 ± 9	.83
Percent of patients with major depression	10 ± 7	10 ± 16	.85
	No. (%)		
Practices with mental health professional on site	3 (13)	6 (23)	.37‡
	Mean ± SD		
Recognizing depression is my responsibility§	5.3 ± 1.4	5.0 ± 1.6	.41
Treating depression is my responsibility§	5.3 ± 0.8	5.2 ± 1.2	.91

SD denotes standard deviation.

*Not all percentages total 100% because data were missing for some physicians.

†Unless otherwise noted, *P* values were derived using the *t* test.

‡*P* value derived using a chi-square statistic.

§Ratings ranged from 1 = strongly disagree to 6 = strongly agree.

studies using volunteer participants. We felt the need to determine whether the workshop would be effective in a group of volunteer physicians from a variety of practice settings, before approaching practices or health plans to enroll all physicians or those who are not doing well with patients with depression. Compared with primary care physicians in general, our participants were likely to have had a greater interest in improving their care of depressed patients and greater skill in assessing and treating depressed patients. However, we demonstrated that the workshop had an effect even on knowledgeable physicians. The workshop may have had an impact on these physicians because it heightened awareness of the various presentations of depression in primary care, enhanced skills for asking about the criteria for major depression in the context of dealing with other medical issues, or sug-

gested strategies for balancing medical and psychosocial issues. All of these issues were addressed in the workshop, and efficiently balancing medical and psychosocial issues was identified as a personal goal by many of the participants. Replication of this study with physicians of varying degrees of skill and motivation is needed to fully understand the generalizability of the results.

Second, we used standardized patients instead of actual patients to assess physicians' behaviors. We had 2 reasons for using this approach. First, we wanted to control for patient case-mix, the variability in depressed patients across practices. Standardized patients provided us with known and consistent patient presentations and consistent assessments of specific skills taught in the workshop.⁵⁰⁻⁶¹ Second, we wanted to limit the complexity and cost of the study. Since this was the first step in evaluating

TABLE 4

Physicians' Performance with Unannounced Postintervention Standardized Patients, Louise Williams and Boyd Kelly

Physicians' Behaviors and Global Ratings	Louise Williams*			Boyd Kelly†		
	Intervention (n = 22)‡	Control (n = 26)	P§	Intervention (n = 23)	Control (n = 24)‡	P§
	No. (%)			No. (%)		
Assessed						
> 5 criteria for major depression	18 (82)	10 (38)	.006	13 (59)	8 (33)	.101
Suicidal ideation	11 (50)	1 (4)	.004	6 (27)	6 (25)	1.00
Stresses at home	21 (96)	17 (65)	.032	19 (86)	14 (58)	.050
Discussed possibility of depression	20 (91)	16 (62)	.049	16 (73)	12 (50)	.147
Prescribed antidepressants	10 (48)	6 (23)	.155	15 (68)	10 (42)	.092
Scheduled follow-up within 2 weeks	17 (74)	9 (38)	.779	18 (82)	9 (38)	.004
	Mean ± SD			Mean ± SD		
Global ratings						
Patient satisfaction (potential range = 9 - 45)	40.3 ± 4.0	35.5 ± 6.7	.014	32.8 ± 5.2	29.6 ± 6.7	.112
Rapport (1 = poor; 5 = excellent)	4.5 ± 0.6	3.8 ± 1.1	.024	4.0 ± 1.1	3.6 ± 1.1	.216
Participatory decision making (potential range = 3 - 15)	13.2 ± 1.9	11.3 ± 2.7	.017	11.2 ± 2.7	9.3 ± 3.7	.014¶
	No. (%)			No. (%)		
Patient thought the physician attended the workshop#	19 (91)	16 (62)	.070	15 (68)	7 (30)	.014

*Aged 64 years, presenting with cramps and abdominal pain.

†Aged 63 years, presenting with shooting chest pains.

‡One intervention physician was excluded from the analyses because Louise Williams saw the physician before that physician attended the workshop. Two control physicians were excluded from the analyses because Boyd Kelly saw these physicians after they attended the workshop.

§The P values are for the β coefficient for the intervention group variable and are derived from a logistic or linear regression model using suspicion that the patient was a standardized patient as the control variable. This was usually the most conservative estimate of the effect of the intervention. Physicians' sex and specialty were controlled in separate analyses with similar results, except as noted in the text.

||The greater the score, the greater the patient satisfaction, rapport, participatory decision making for the respective scales. Cronbach's α is 0.93 and 0.91 for the Patient Satisfaction and Participatory Decision-Making scales, respectively.

¶The interaction term (group x suspicion) was significant ($\beta = 3.19$, $p = 0.078$).

#Standardized patient's global assessment of the physician's ability to assess depression on the basis of the workshop's knowledge and skills objectives.

the Depression Education Program, we wanted evidence that the program would have an effect on physicians' behaviors before we asked busy practices to allow us to study patient outcomes.

Finally, the effect of the workshop was more apparent with the female patient than with the male patient. There may be several explanations for this difference. Physicians are more likely to diagnosis depression in women than men.^{46, 64} More important, Boyd Kelly had a potentially life-threatening complaint (chest pain) and more medical problems than Louise Williams. Compared with control physicians, intervention physicians were more likely to schedule Mr. Kelly for a follow-up visit within 2 weeks (82% and 38%, respectively). Intervention physicians may have saved the full exploration of depressive symptoms and discussion of depression for the sec-

ond visit. Scheduling a return visit within 2 weeks was one strategy suggested in the workshop for dealing with patients who are medically and psychosocially complex. This strategy also addressed the concerns some workshop participants had about discussing depression with a patient they had just met. However, we could not assess this explanation since our study design did not allow for return visits.

CONCLUSIONS

The Depression Education Program may be a useful intervention for improving the diagnosis and management of depressed patients in primary care practices. Although a variety of interventions have been evaluated previously, they did not include explicit goals related to improving

physicians' communication skills and educational strategies likely to change behavior. Further research is needed to determine the impact of the Depression Education Program on patient outcomes and to assess the durability of the skills and need for reenforcement of those skills.⁶⁷ Few studies of educational programs have evaluated the durability of their effects on physicians' behaviors.^{20, 25, 29, 67} Lin and colleagues did the most rigorous evaluation of durability of a program's effects as a follow-up to the multifaceted Collaborative Care Program.²⁵ They found no enduring effects of the physician education component of the program on physician behavior once the restructured services (eg, lengthened initial visit, on-site consultation with a psychiatrist) were removed. However, the physician education component of the Collaborative Care Program focused on knowledge about the diagnosis and management of depression and not on communication skills.

In primary care, the most powerful and enduring intervention to improve the care of depressed patients is likely to be one that includes effective physician education and structural changes in a practice (eg, routine use and feedback to physicians of patients' scores on a depression screening instrument, surveillance of medication adherence through automatic pharmacy data).⁶⁵ This approach would enhance and reinforce the role of the primary care physician in the care of patients with depression, an outcome desired by most patients.¹³ By improving physicians' communication behaviors with depressed patients, the Depression Education Program can be a key component in these broader interventions.

ACKNOWLEDGMENTS

Grant support was provided by the John D. and Catherine T. MacArthur Foundation's Initiative on Depression in Primary Care. The authors thank the 49 physicians who took time from their busy practices to participate in the study; Dale Kraemer, PhD, for statistical support; and Chris Kelleher, Kelly Redfield, and Alicia Ahn for their work on the project.

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