Exploring and Validating Patient Concerns: Relation to Prescribing for Depression

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ABSTRACT

PURPOSE This study examined moderating effects of physician communication behaviors on relationships between patient requests for antidepressant medications and subsequent prescribing.

METHODS We conducted a secondary analysis of a randomized trial. Primary care physicians (N = 152) each had 1 or 2 unannounced visits from standardized patients portraying the role of major depression or adjustment disorder. Each standardized patient made brand-specific, general, or no requests for antidepressants. We coded covert visit audio recordings for physicians' exploration and validation of patient concerns (EVC). Effects of communication on prescribing (the main outcome) were evaluated using logistic regression analysis, accounting for clustering and for site, physician, and visit characteristics, and stratified by request type and standardized patient role.

RESULTS In the absence of requests, high-EVC visits were associated with higher rates of prescribing of antidepressants for major depression. In low-EVC visits, prescribing was driven by patient requests (adjusted odds ratio [AOR] for request vs no request = 43.54, 95% confidence interval [CI], 1.69-1,120.87; $P \le .005$), not clinical indications (AOR for depression vs adjustment disorder = 1.82; 95% CI, 0.33-9.89; P = NS). In contrast, in high-EVC visits, prescribing was driven equally by requests (AOR = 4.02; 95% CI, 1.67-9.68; $P \le .005$) and clinical indications (AOR = 4.70; 95% CI, 2.18-10.16; $P \le .005$). More thorough history taking of depression symptoms did not mediate these results.

CONCLUSIONS Quality of care for depression is improved when patients participate more actively in the encounter and when physicians explore and validate patient concerns. Communication interventions to improve quality of care should target both physician and patient communication behaviors. Cognitive mechanisms that link patient requests and EVC to quality of care warrant further study.

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INTRODUCTION

In primary care settings, some patients with major depression who would benefit from antidepressants do not receive medications, whereas others with questionable indications do.[1] We recently reported that when patients request an antidepressant medication, prescribing increases regardless of clinical indications.[1] Because depression is common[2] and associated with considerable morbidity and cost,[3-6] and because treatment is effective,[7,8] these findings have important health and quality of care implications. Patterns of underuse and overuse of medical interventions have been noted for other conditions as well.[9-12]

Poorly understood communication factors appear to underlie the variability in use of antidepressants. We undertook this analysis to gain understanding of the relationship between patient-physician communication and concurrent prescribing decisions. In particular, we were interested in the process of communication, rather than just the content. One feature of patient-centered communication is basing treatment on an in-depth under-

standing of the patient's symptoms, feelings, ideas, and expectations,[13-15] achieved by exploring and validating patients' concerns (EVC). When patients influence patient-physician communication through questions, assertive statements, and requests,[16] ideally, they can prompt physicians to explore the patient's concerns and emotions in greater depth, correct misinformation, and make prescribing decisions that are more judicious and informed. Conversely, taking the patient's request at face value or prematurely terminating an encounter to avoid dealing with uncertainty[17] would tend to favor acquiescence to the patient's request, whether or not the medication was indicated.

In the present analysis, we examined how the degree to which physicians explored and validated patients' concerns was associated with prescribing of antidepressants in a situation where these medications were clearly indicated (major depression), in a situation in which the indication was questionable (adjustment disorder), and in both situations, with and without a patient request for medication. We hypothesized that compared with visits with lower levels of EVC, those with higher levels of EVC would be associated with (1) higher rates of prescribing for major depression for patients not making requests and (2) lower rates of prescribing for adjustment disorder for patients making requests (ie, avoidance of potential overtreatment). We also explored whether links between communication and prescribing were mediated by the number of depression-specific questions asked by the physician during the encounter, and whether EVC had effects on mental health referrals and follow-up planning.
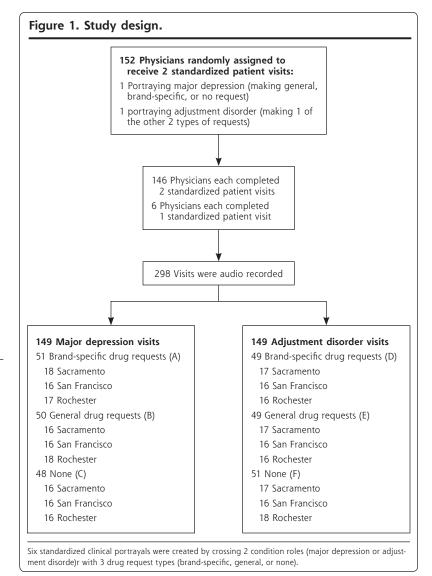
METHODS

Design Overview

This study tested a secondary, a priori hypothesis within a randomized controlled trial (Figure 1). The trial used standardized patients to portray 2 clinical conditions (major depression and adjustment disorder) and 3 types of requests for antidepressants (brand-specific, general, or none) (Table 1). The main objective of the parent study was to examine the effect of patient requests on the prescribing of antidepressant medications. With physicians' prior consent, standardized patients were introduced covertly into the practices of 152 primary care physicians in 3 cities in 2003-2004. Visits were surreptitiously audio recorded and analyzed. The protocol was approved by institutional review boards at all participating institutions and has previously been described in detail.[1]

Sample of Physicians

A random sample of general internists and family physicians in Sacramento, Calif, San Francisco, Calif, and Rochester, NY, were recruited by telephone and mail (Table 2). Physicians were told that the study would involve seeing 2 standardized patients over the next few months to "assess social influences on practice and the competing demands of primary care." Physicians received $175 plus $100 per office visit.

Figure 1. Study design.

152 Physicians randomly assigned to receive 2 standardized patient visits:

1 Portraying major depression (making general, brand-specific, or no request)

1 portraying adjustment disorder (making 1 of the other 2 types of requests)

146 Physicians each completed 2 standardized patient visits

6 Physicians each completed 1 standardized patient visit

298 Visits were audio recorded

149 Major depression visits
51 Brand-specific drug requests (A)
  18 Sacramento
  16 San Francisco
  17 Rochester
50 General drug requests (B)
  16 Sacramento
  16 San Francisco
  18 Rochester
48 None (C)
  16 Sacramento
  16 San Francisco
  16 Rochester

149 Adjustment disorder visits
49 Brand-specific drug requests (D)
  17 Sacramento
  16 San Francisco
  16 Rochester
49 General drug requests (E)
  17 Sacramento
  16 San Francisco
  16 Rochester
51 None (F)
  17 Sacramento
  16 San Francisco
  18 Rochester

Six standardized clinical portrayals were created by crossing 2 condition roles (major depression or adjustment disorde)r with 3 drug request types (brand-specific, general, or none).

Role Development

Detailed clinical biographies were developed by the investigators and a multidisciplinary Scientific Advisory Committee, and were revised until they were judged to be realistic and manageable in a 15-minute new-patient acute visit. The major depression and wrist pain role was an otherwise healthy 48-year-old woman reporting worsening depression over 1 month, anhedonia, low energy, trouble concentrating, sensitivity to criticism, poor appetite, and early morning awakening, but no suicidality. The adjustment disorder and low back pain role was a 45-year-old woman who accepted a voluntary layoff rather than relocate. She reported fatigue and difficulty falling asleep 3 to 4 nights per week, but no early morning awakening. (Detailed outlines of these roles are available from the authors on request.)

Actors playing both roles were further trained to make a request for Paxil in response to a television advertisement, a similar request for "medication" in response to an informational television special on depression, or no request. The standardized patients were nonobese white women, most with professional acting experience. They were trained intensively and were monitored throughout data collection using audiotape review and behavioral checklists.

Conduct of Visits and Collection of Data

Physicians were randomly assigned to standardized patients by role and type of request. Clinic personnel were told that the patient wished to become established as a "new patient" with the doctor but also had an acute issue (fatigue and musculoskeletal pain) that required attention within 1 to 2 weeks. The standardized patient made an appointment as if she were a real patient, using a false name, a plausible local address, factitious insurance identification cards, and a cell phone number that was always set to voice mail. We worked closely with a local insurer and practice managers to ensure that physicians, even in practices that were closed to new patients, would not know the identity of the standardized patient or when she would appear.

Standardized patients recorded all visits using an audio recorder concealed in a handbag. Prescribing was determined by review of prescriptions and medication samples. Because heterocyclic antidepressants can also be used to treat insomnia or pain, our threshold for determining that a prescription for one of these medications was given for depression was that the prescribed dose was at least the equivalent of 75 mg/d of amitriptyline.

Within 2 weeks of a standardized patient visit, physicians were sent a facsimile to inquire whether they suspected that one of their patients was a standardized patient. In 12.8% of encounters, physicians responded that they had been "definitely" or "probably" suspicious before or during the visit.

Table 1. Types of Requests and Clinical Roles in the Study

Request Type	Major Depression Role	Adjustment Disorder Role
Brand-specific request driven by direct-to-consumer advertisement: "I saw this ad on TV the other night. It was about Paxil. Some things about the ad really struck me. I was wondering if you thought Paxil might help me."	A	D
General request driven by informational television show: "I was watching this TV program about depression the other night. It really got me thinking. I was wondering if you thought a medicine might help me."	B	E
No request (symptoms only)	C	F

Note: A through F indicate the 6 standardized portrayals obtained by combining the request type and clinical role; numbers of visits for each portrayal are given in Figure 1.

Table 2. Characteristics of Participating Physicians

Characteristic	Mean (SD; Range) or No. (%)
Age, years	46.2 (9.9; 30-81)
Time in practice, years	17.4 (9.6; 4-49)
Sex	
Male	101 (67.8)
Female	48 (32.2)
Specialty	
Family physician	49 (32.7)
Internal medicine	101 (67.3)
Type of practice	
HMO	33 (22.1)
Group	61 (40.9)
Solo	37 (24.8)
Academic	18 (12.1)
Study site	
Sacramento, Calif	51 (34.2)
Rochester, NY	48 (32.2)
San Francisco, Calif	50 (33.6)
Race/ethnicity	
African American	3 (2.0)
Asian/Pacific Islander	32 (21.3)
Hispanic/Latino	5 (3.3)
Other	4 (2.7)
White	105 (70.0)
Missing	1 (0.7)

HMO = health maintenance organization.

Note: N = 152, but numbers of physicians do not total 152 because of missing data.

Measures of Communication

We coded transcripts of the audio recordings of the standardized patient visits using a measure of EVC. The EVC measure is an adaptation for standardized patient portrayals of component 1 of the Measure of Patient-Centered Communication (MPCC),[18] which has been positively correlated with patient trust[19] and patient perceptions of their physicians' communication behaviors.[20] To code EVC, we used the method described by Brown et al[18] for component 1 of their scale. For each statement about symptoms, ideas, expectations, feelings, or daily functioning, coders assign higher scores if the physician explores the patient's concern in greater depth, validates that concern by using a statement expressing empathy, legitimation, or respect, or does both. Conversely, coders assign lower scores if the physician cuts off the discussion by changing the topic, with no subsequent consideration of that concern. Examples of typical responses are given in Table 3. Scores are normalized to range from 0 (no exploration or validation) to 1 (each concern explored fully and validated); the authors' coding manual provides detailed descriptions of the coding process.[18]

Two coders with a background in social work and prior experience as standardized patients and blinded to the study hypotheses were trained by the developers of the scale to score the audio recordings using the MPCC. For reliability, both coders coded the first 10% of recordings and then an additional, randomly selected 10% of recordings; ultimately, each coder coded 60% of the recordings. All visits were discussed at weekly coding meetings, and coding dilemmas were clarified. Our reliability

Table 3. Examples of Statements Coded as Cutoff, Preliminary Exploration, Further Exploration, and Validation

Transcript	Coding of the Statement
Physician-patient sequences with low EVC score	
Back pain	
Dr: So, what brings you in today?	
Pt: My back has been bothering me.	Patient expresses a concern
Dr: What kind of work do you do?	Coded as Cutoff: physician does not respond to the concern and changes the topic
Pt: Um, well, I was an administrative assistant as of the beginning of January, but I got laid off, so ...	Patient expresses another concern
Dr: So, recently laid off.	Coded as Preliminary Exploration: missed an opportunity to validate the patient's concerns
Pt: Yes.	
Dr: Okay. Okay. And when was your last physical exam, like pelvic exam, breast exam, all that?	Not coded: physician again redirects the conversation, thus response is not scored as Further Exploration; Cutoff coded only once for each patient concern
Mood	
Pt: I've been feeling tired all the time.	Patient expresses a concern
Dr: How's your sleep?	Not coded yet: no acknowledgment or exploration of patient's experience of tiredness, but asks about a possible cause of tiredness
Pt: I can't fall asleep.	
Dr: Do you cry very much?	Coded as Cutoff: cuts off patient and switches topic to something related in the physician's mind, but not necessarily to the patient
Pt: Once in a while.	
Dr: Do you feel hopeless?	Does not explore patient's concerns and switches topics; Cutoff coded only once for each patient concern
Physician-patient sequences with high EVC score	
Back pain	
Dr: So, what brings you in today?	
Pt: My back has been bothering me.	Patient states a concern
Dr: How so?	Coded as Preliminary Exploration
Pt: When I bend over it hurts, and I'm stiff in the morning.	Describes in more detail
Dr: Do you remember when it started?	Coded as Further Exploration of the patient's concerns
Pt: Yes. I was moving boxes in my house.	Gives more information
Dr: What did it feel like when it started hurting?	More exploration; Further Exploration coded only once for each patient concern
Pt: It didn't start hurting until the next day.	Gives more information
Dr: Back pain is pretty annoying, isn't it?	Coded as Validation: validates patient's concerns by speaking to her underlying emotions
Pt: It sure is.	
Mood	
Pt: I got laid off when my company moved.	Patient expresses a concern
Dr: Oh, I'm sorry to hear that.	Coded as Validation because of expressed empathy
Pt: I could have moved with the company and continued my job, but I didn't want to move.	Expresses more concern
Dr: That must have been a difficult decision for you.	Again, validates the patient's experience, but Validation coded only once for each patient concern
Pt: It was, I sometimes wonder if I made the right choice.	Reveals more information

EVC = exploration and validation of patient concerns; Dr = physician; Pt = patient.

data as well as means and standard deviations of the scores were virtually identical to those reported by the developers.[18]

Analyses

Our key analyses sought to examine whether EVC moderated the effects of patient request and patient diagnosis on the prescribing of antidepressants. We therefore included interaction terms in a logistic regression analysis to test for moderating effects. We used a random intercept logistic regression analysis to control for the clustering of standardized patients within physicians and included the independent variables of standardized patient clinical role (major depression or adjustment disorder), request type (brand-specific, general, none), EVC score, and 2 interaction terms: EVC score by role and EVC score by request type. The dependent variable was prescribing of an antidepressant. Covariates included were age and study site (Rochester, San Francisco, or Sacramento) of the physicians. Physician sex was dropped from the models reported here because it was not significantly associated with prescribing.

In addition, we also examined whether EVC moderated the effects of patient request and patient diagnosis on mental health referrals and whether physicians scheduled follow-up visits within 2 weeks.

To examine the interaction effects further, we repeated the logistic regression analyses without including the EVC term, but stratified by terciles of EVC score. Analyses were repeated examining all 3 terciles separately and all 3 request types separately. Results for the middle and upper EVC terciles were nearly identical, so they were combined. The brand-specific and general request groups were also combined, as they produced similar effects. We also conducted a mixed model linear regression analysis, with physicians as the random effect and the EVC score as the dependent variable. This analysis enabled calculation of the physician variance component, and ρ is a correlation measure of the physicians' EVC performance with the 2 standardized patients. We used SAS version 9.1 (SAS

Institute, Cary, NC) and STATA 9.1 (Stata Corp, College Station, Tex) to conduct the analyses.
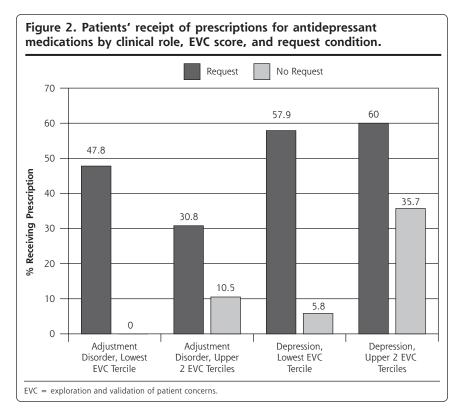
RESULTS

Of 341 physicians contacted, 160 (47%) provided informed consent to participate, 146 received visits by 2 standardized patients, 6 moved or retired after a visit by 1 standardized patient, and 8 moved or retired before any standardized patient visits. Twenty recordings could not be used because of technical problems, leaving 278 useable recordings. Age and sex distributions of the 152 participating physicians (Table 2) were similar to those of nonparticipants.

Prescribing

Figure 2 illustrates graphically the differences in prescribing by EVC level, by request (yes vs no), and by clinical presentation (major depression vs adjustment disorder). In the absence of a request for medication, high-EVC visits vs low-EVC visits more frequently resulted in a prescription when the patient had major depression (35.7% vs 5.8%). The pattern was similar when the patient had adjustment disorder (10.5% vs 0%).

In adjusted analyses, patient requests (whether brand-specific or general) resulted in a significantly higher probability of antidepressant prescribing. Physicians were more likely to prescribe for the depression

Figure 2. Patients' receipt of prescriptions for antidepressant medications by clinical role, EVC score, and request condition.

EVC = exploration and validation of patient concerns.

role than for the adjustment disorder role. Considering all 3 standardized patient request conditions and both roles, EVC scores were only marginally associated with increased prescribing. As suggested by Figure 2, however, we found a marginally significant interaction between EVC and request type (adjusted odds ratio [AOR] = 1.07; 95% confidence interval [CI], 0.99-1.15; $P < .10$) and a significant interaction between EVC and clinical role (AOR = 0.86; 95% CI, 0.77-0.97; $P \le .05$).

To examine these interaction effects further, we stratified EVC scores by terciles and performed separate logistic regressions for each tercile of EVC (Table 4). In the lowest EVC tercile, physician prescribing was largely driven by whether the patient made any request (vs no request) (AOR = 43.54; 95% CI, 1.69-1,120.87); prescribing did not otherwise differ markedly between the depression role and the adjustment disorder role. In contrast, in the upper 2 EVC terciles, prescribing was driven equally by whether the patient had depression (vs adjustment disorder) (AOR = 4.70; 95% CI, 2.18-10.16) and whether the standardized patient made any request for medication (AOR = 4.02; 95% CI, 1.67-9.68). Analyses examining all 3 terciles separately and all 3 request types separately produced similar results (not shown).

Mental Health Referrals and 2-Week Follow-Up

In adjusted analyses, there were no significant inter-action effects for patients' requests or standardized patient roles with EVC on mental health referrals. In adjusted analyses controlling for prescribing, neither request nor clinical role was significantly associated with the likelihood that physicians would schedule a 2-week follow-up visit.

In further analyses, we found no significant effects of the number of depression-specific questions asked or the duration of the visit on the findings presented (not shown). Physician EVC behavior was not significantly correlated across the 2 visits ($\rho = 0.012$, $P = .37$).

DISCUSSION

In encounters with high levels of EVC, antidepressants were prescribed more appropriately—at a higher rate when the patient had symptoms of major depression, albeit with a modestly higher rate of prescribing in adjustment disorder as well. In low-EVC visits, when patients requested antidepressant medications, prescribing was almost completely driven by patients' requests; the clinical presentation had virtually no effect on the decision to prescribe. In these visits, few patients who did not request medications received them and more than one half of the patients who did request them received a prescription regardless of the symptoms they

Table 4. Logistic Regression Analysis Stratified by EVC Score

Effect	Odds Ratio (95% CI)
Low EVC score (lowest tercile)	
Depression role*	1.82 (0.33-9.89)
Request for medication†	43.54 (1.69-1,120.87)‡
High EVC score (upper 2 terciles)	
Depression role*	4.70 (2.18-10.16)‡
Request for medication†	4.02 (1.67-9.68)‡

Note: Showing the effect of clinical role and request for medication on pre-scribing of antidepressants. Controlled for study site (Rochester, Sacramento, San Francisco), physician age, and physician sex.

EVC = exploration and validation of patient concerns; CI = confidence interval.

* Major depression vs adjustment disorder.
† Any vs none.
‡ $P \le .005$.

reported. In contrast, in high-EVC visits, prescribing was based to a much greater degree on the clinical presentation. These associations were observed for the communication *process* during the encounter, not simply due to the content (number of depression-related questions). Management of major depression also involves referral to mental health specialists and close follow-up; however, EVC appeared to have no effect on rates of referral and follow-up visits within 2 weeks.

Previous reports suggest that patients can induce patient-centered behaviors in physicians when patients participate actively in the consultation (including making requests)[21,22]; our study adds that patient requests can also influence physicians' therapeutic actions—for better and for worse.[1] Our current analyses suggest that participatory patient communication behaviors are more likely to have a beneficial effect on quality of care when the physician meets that activated behavior with inquiry, openness, empathy, and validation, rather than cutoffs and assertion of his or her agenda.

From a policy perspective, this study provides additional evidence that communication can affect quality of care for depression and suggests that communication interventions to improve quality of care should target both patients' and physicians' communication skills. The stimulus for patient activation must also be considered; compared with direct-to-consumer advertisements, higher-quality sources of information may result in more requests for needed rather than unnecessary treatments.

Further research is needed to characterize the cognitive links between EVC and prescribing behavior. Studies of diagnostic reasoning reveal that expert clinicians rely on complex contextualized heuristics that guide treatment and improve the efficiency of decision making.[23-25] Patient requests may trigger these scripts and, when unexamined, may result in inappropriate decision making. These cognitive processes are affected by

contextual factors, such as physician fatigue, anxiety, or uncertainty, or busy clinic schedules,[17,26,27] which may conspire to drive physicians to close visits prematurely by providing a prescription. Conversely, physicians who value consideration of patients' psychological issues and greater partnership in clinical care[28,29] may be more attuned and responsive to patients' concerns and signs and symptoms of depression; they may also tend to engage in mindful examinations of their own scripts and tendencies toward premature closure.[27] The final common pathway may be achievement of an attentive, non-anxious state with a fuller understanding of the patient's experience,[14,15,30] leading to more informed prescribing.

We incidentally noted the lack of consistency in each physician's reactions to 2 quite similar standardized patient roles. The variability in physicians' responses to patients and their requests are likely due to time pressures,[31] illness severity,[32] physicians' liking of the patient,[33] perceived patient trust,[19] and patient activation,[21] all of which may affect communication, particularly physicians' comfort in refusing a request without jeopardizing the patient-physician relationship.[34] These findings, though, contrast with a literature that suggests that physicians have relatively stable communication styles.[35] Perhaps standardized patients, who portray first visits and are trained not to change their communication styles with different physicians, may not provide the reinforcement of physicians' communication styles seen with real patients.

Strengths of the Study

Strengths of the study are its randomized design, excellent fidelity of the standardized patient roles, monitoring, blinding, and success in avoiding detection. Even though the study was intrusive, we had good enrollment with few dropouts. By using nearly identical role presentations, we eliminated many of the sources of unmeasured variance in communication research. We conducted the study in 3 culturally distinct cities within different practice organizations.

Limitations of the Study

We view these findings as preliminary, requiring further confirmation in other patient populations, contexts, and clinical scenarios. The standardized patient roles introduced only 2 of countless patient presentations. Standardized patients portrayed first visits, which are different from visits with established patients.[36,37] Findings from female, white, middle-class, middle-aged standardized patients cannot be extrapolated to other populations. We cannot determine whether direct-to-consumer advertisements provoke the behaviors portrayed by the standardized patients. Although, in theory, standardized patient detection might influence results,[38]

our detection rate was low, and adjusting for detection had no effect on the results reported. Our small sample of only 2 patients per physician may have contributed to our inability to detect a consistent physician style across standardized patient visits. Generalizability to nonparticipating physicians, who may be more reluctant to subject their clinical skills to scrutiny, and physicians from other regions and in settings less penetrated by managed care may be limited.

In conclusion, physician exploration and validation of patient concerns (EVC)—including the patient's symptoms, ideas, expectations, functioning, and feelings— is linked to quality of care for depression. Higher levels of EVC are associated with higher rates of prescribing of antidepressants for patients who will likely benefit from them, and with an attenuated effect of patient requests on prescribing behavior, lowering the likelihood that patients will get medication that is not clearly indicated. As far as we know, this is the first published study to link particular physician communication behaviors with appropriateness of prescribing.

Communication behaviors can be changed,[39,40] even among experienced practitioners. Although patients historically have been passive in discussions about medications,[41,42] the Internet, direct-to-consumer advertising, and increased patient health literacy will likely further increase patient requests. In theory, improved patient knowledge coupled with interventions that activate patients and train physicians to respond with exploration and validation might improve quality of care and outcomes for depression and other illnesses. It will be important, furthermore, to know whether physicians' responses to patient requests vary according to patients' race/ethnicity, sex, and literacy, and whether understanding those differences might help address some of the disparities in mental health care and outcomes.[43]

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