Who Is at Risk of Nondetection of Mental Health Problems in Primary Care?

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OBJECTIVE: To determine patient and provider characteristics associated with increased risk of nondetection of mental health problems by primary care physicians.

DESIGN: Cross-sectional patient and physician surveys conducted as part of the Medical Outcomes Study.

PARTICIPANTS: We studied 19,309 patients and 349 internists and family physicians.

MEASUREMENTS AND MAIN RESULTS: We counted "detection" of a mental health problem whenever physicians reported, in a postvisit survey, that they thought the patient had a mental health problem or that they had counseled or referred the patient for mental health. Key independent variables included patient self-reported demographic characteristics, health-related quality of life (HRQOL), depression diagnoses according to the *Diagnostic and Statistical Manual of Mental Disorders,* and physician demographics and proclivity to provide counseling for depression. Logistic regression analysis, adjusted for HRQOL, revealed physicians were less likely to detect mental health problems in African Americans (odds ratio [OR], 0.63; 95% confidence interval [CI], 0.46 to 0.86), men (OR, 0.64; 95% CI, 0.54 to 0.75), and patients younger than 35 years (OR, 0.61; 95% CI, 0.44 to 0.84), and more likely to detect them in patients with diabetes (OR, 1.4; 95% CI, 1.0 to 1.8) or hypertension (OR, 1.3; 95% CI, 1.1 to 1.6). In a model that included DSM-III diagnoses, odds of detection remained reduced for African Americans as well as for Hispanics (OR, 0.29; 95% CI, 0.11 to 0.71), and patients with more-severe DSM-III diagnoses were more likely to be detected. Physician proclivity toward providing counseling for depression influenced the likelihood of detection.

CONCLUSIONS: Patients' race, gender, and coexisting medical conditions affected physician awareness of mental health problems. Strategies to improve detection of mental health problems among African Americans, Hispanics, and men should be explored and evaluated.

The need to improve detection and treatment of mental health problems, particularly depressive disorders, among patients receiving general or subspecialty medical care is widely recognized.[1–7] Mental health disorders are highly prevalent in primary care populations,[8,9] cause significant morbidity,[10–12] and are associated with increased primary care visits.[13,14] We also know that depressed patients, for example, are more likely to seek primary care for their symptoms than to self-identify to mental health specialists. The link between patient characteristics and physician detection of a mental health problem, however, has received relatively little attention in the literature.

Some aspects of detection of mental health problems in primary care have been studied. Depression, the most common serious mental health problem among primary care patients, has been the subject of several studies addressing the relationship between detection and severity of illness,[15–17] showing that more severely affected patients are more likely to be detected. The Medical Outcomes Study (MOS) addresses detection in relationship to patient gender—medical practitioners are less likely to correctly diagnose depression among depressed men than similarly afflicted women.[18] Features of physicians' usual style of counseling patients with depression, such as the extent to which they prefer to personally provide counseling, also affect detection.[19]

We found no studies, however, that examine how other sociodemographic characteristics such as patient race influence detection of mental health problems in primary care. A number of studies have indicated that African-American and Hispanic populations underutilize specialty mental health care[20–23] or may be less likely to receive guideline-concordant care.[24] However, none of these studies addressed the issue of detection. For example, are mental health problems less likely to be identified among these populations at primary care visits, or do patients with recognized problems simply have less access to mental health care? Do minority populations tend to receive or seek care from physicians whose attitudes and behavior are less oriented toward care mental health concerns? Some have theorized that primary care encounters present "competing demands" such that clinicians have inadequate time to address mental health issues.[25–26] However, there is little empiric evidence addressing the impact of chronic medical illness, which would present competing demands, on detection of mental health problems.

The objective of this study was to determine whether some types of patients visiting primary care physicians are less likely to be identified by their physicians as having a mental health problem than others, given the same level of mental health functioning. The study is based on data from the MOS, a study of variations in medical practices and outcomes of care. Since the MOS was conducted, some changes have occurred in primary care practice that might influence the manner in which mental health disorders are identified. These include dissemination of clinical guidelines on depression, the availability of more easily managed antidepressants, and provision of mental health services through separately managed contracts. However, while selective serotonin reuptake inhibitors have influenced treatment of depression, they have not necessarily changed detection of depression. And despite guideline dissemination that occurred after the MOS, current work has found no improvement in depression detection and inadequate quality of depression care in primary care settings under managed care.[27] The MOS is a unique source of clinically detailed information including both the patient and physician perspective that can yield important clues that are currently relevant to detection of mental health disorders in primary care patients.

METHODS

Medical Outcomes Study Design Overview

The MOS was an observational study designed to assess the effects of system of care, physician specialty, intensity of resource use, and other variables on patient outcomes. The design has previously been described in detail.[28–29] In brief, 3 cities were selected for the study—Boston, Chicago, and Los Angeles. In each city, large and small group practices, solo practices, and one staff-model HMO were selected. Physicians were recruited from each practice site with participation rates of 79% for HMOs and large groups, and 58% for small groups and solo practices. Physician specialties included family medicine, general internal medicine, endocrinology, cardiology, and psychiatry. English-speaking adults were sampled among patients visiting these physicians during 9-day screening periods in 1986. Seventy-one percent of patients of internists and family physicians agreed to participate.

Patient Samples and Data Collection

This article describes results for 3 nested patient samples. The overall MOS sampling strategy has been previously described in detail.[10] The first of the 3 samples described here is the *screening sample*, consisting of all 19,309 patients of 349 internists and family physicians who completed the brief initial self-administered screening survey including a brief depression symptom screen.[30]

Not included among these 19,309 patients are another 2,239 patients of mental health specialists and 914 patients for whom the main outcome variable for our analysis was unavailable. Physicians completed postvisit questionnaires for each screening sample patient concerning diagnoses made and treatment and referrals provided.

The second patient sample is the *Health Status Evaluation* (HSE) sample. This group consists of the random one half of patients who received a version of the initial screening survey that included a health status evaluation that measured physical, mental, social, role function, pain, and general health perceptions. Of 9,740 patients in this sample, values for all variables in our regression analysis were available for 7,769. We used the HSE sample to assess correlates of detection while controlling for health and functional status measures.

The third patient sample is the *Diagnostic Interview Schedule (DIS) sample.* This group consisted of patients meeting the following criteria: (1) screened positive for symptoms of depression (3,237 of 19,309 patients); (2) eligible for the DIS telephone interview because of the presence of 1 of 4 MOS tracer conditions and had an ongoing relationship with an MOS physician (2,579 of 3,237 patients); (3) subsequently completed the DIS telephone survey (1,610 of 2,579 patients). The DIS assigns diagnoses based on the *Diagnostic and Statistical Manual of Mental Disorders, Third Editon (DSM-III)* of subthreshold depression, current major depression, history of depression, and dysthymia and allowed us to examine detection among patients with these specific diagnoses.[31] A previous MOS study found few differences between respondents and nonrespondents on the DIS.[10] Finally, because our analysis used health and functional status measures in addition to DIS-based diagnoses, only patients who were also in the random one half of patients who had received the HSE at the initial screening visit (823 of 1,610 patients) were included in this sample. Of these 823 patients, data for all the variables used in our regression analyses were available for 661.

Definition of "Detection" of a Mental Health Problem

In order to avoid underestimating detection rates, we were intentionally inclusive in our approach to defining detection. Rather than requiring that physicians seeing patients with symptoms of mental health dysfunction make a specific diagnosis, we asked whether there was any evidence that the physician had detected any mental health problem. We defined worse mental health functioning as a lower score on the MHI-5; previous work has found that scores in the lowest 25th percentile of the MHI-5 are highly predictive of a mental disorder.[32] We defined depression, in the DIS sample, as a diagnostic score on the DIS. We counted detection of a mental health problem if the physician reported at least 1 of the following on a postvisit sur-

vey: (1) a mental health problem as the main reason for the visit; (2) that the patient had been depressed at some time during the previous 12 months; (3) counseling the patient for mental health problems at the visit; or (4) referring the patient to a mental health specialist.

Data Analysis

The univariate relationship between patient characteristics and detection were examined for all 3 patient samples (screening, HSE, and DIS samples) using unweighted data. Logistic regression models to evaluate detection of depression were developed using the 4-component definitions of detection of a mental health problem as the dependent variable. One model evaluates detection in the HSE and another model assesses detection in the DIS sample. The variables included in the models were identical except that in the DIS sample model, DIS-based diagnoses were used rather than the MHI-5 measure of mental health functioning. Other patient characteristics included in the models are shown in Tables 4 and 5. Models were adjusted for clustered sample design (multiple patients per physician) and for time elapsed since the last physician visit. The possible interaction between race and gender was tested in both models. Odds ratios with 95% confidence intervals were determined for all variables. In both models, the joint significance of groups of related dummy variables was evaluated with the Wald test. For example, the overall significance of ethnicity/race dummy variables was assessed by testing the combined significance of "white," "African American," "Hispanic," "Asian," and "other." We considered results for specific dummy variables to be significant only if the Wald test was significant for the group of related dummy variables.

We examined the multivariate models both without and with the inclusion of physician characteristics to evaluate whether their inclusion altered the observed associations between patient characteristics and detection of mental health disorders. Four physician characteristics were used in these analyses: age, gender, ethnicity/race, and physicians' self-reported preference for personally providing patients with counseling for depression. The physician's preference for depression counseling measure is a previously validated 4-item scale shown to be associated with detection of depression.[19] Using multiple linear regression that controlled for DIS depression diagnoses, we also explored the relationship between patient race and physician preference for providing depression counseling.

RESULTS

Characteristics of Sample

Characteristics of patients in each of the 3 patient samples—those who were screened, those who were screened and randomly selected to undergo full health status evaluation (HSE), and those who were screened,

underwent health status evaluation, had positive depression symptom screens, and also completed the full diagnostic interview (DIS)—are shown in Table 1. Compared with the screened sample, patients in the HSE and DIS subsamples were younger, and patients in the DIS subsample were more likely to be female (73.5 % were women in the DIS, compared with 61.6% and 61.2% in the screened and HSE samples, respectively). The DIS subsample was also more likely to be African American or Hispanic than were the other 2 groups (22.3% of the DIS, compared with 16.5% of the screened and HSE samples, were African American or Hispanic). As expected, patients in the DIS subgroup had lower general health perceptions, reflecting the selection of patients for DIS evaluation based on the presence of symptoms indicating a high probability of depression on the brief screening instrument. Similarly, DIS subsample patients had lower mental health functioning (lower MHI-5 scores) than did the HSE subgroup. On the basis of the DIS, among patients who scored positive on the depression symptom screen, 34.2% had major depression in the past, or currently, or in combination with dysthymia, 9.4% had dysthymia alone, and 30.0% had subthreshold depression. Slightly more than 26% scored positive on the depression symptom screen but did not meet further criteria for a depressive disorder.

Detection of Mental Health Problems

Actions reported by physicians representing detection of a mental health problem among patients in the HSE and DIS subgroups are shown in Table 2. Results for the screening sample are not shown but were nearly identical to those shown for the HSE subsample. All physician actions were more frequent for DIS patients, again reflecting the higher prevalence of depression in this subsample. The most common action reported was counseling patients for a mental health problem, which occurred for 17.1% of HSE and 38.4% of DIS subsamples. Physicians indicated awareness of depression in the prior 12 months for 12.3% of HSE patients and 35.2% of DIS patients. Despite being aware of mental health problems or depression among many of their patients, however, physicians reported that a mental health problem was the main reason for the sampled visit for only 2.7% of HSE and 8.5% of DIS patients. Referral to mental health specialty care was the least frequently reported indicator of physician detection of mental health problems, occurring for 1.4% of HSE patients and 4.2% of DIS patients. Physicians reported at least 1 of these 4 actions in 22.2% of HSE patients and 48.7% of DIS patients.

Demographic and Clinical Characteristics Associated with Detection of a Mental Health Problem

Univariate analysis (data not shown) revealed that a mental health disorder was more frequently detected among patients who were older, female, white, not mar-

Table 1. Patient Characteristics in Screening, Health Status Evaluation, and Diagnostic Interview Schedule Samples

Patient Characteristic	Screening Visit to Medical Physician (*N* = 19,309)	Health Status Evaluation (HSE) (*N* = 7,769)	Diagnostic Interview Schedule (DIS) (*N* = 661)
Age, %			
< 51 y	57.1	62.5	61.6
≥ 51 y	43.0	37.5	38.4
Gender, %			
Male	38.4	38.8	26.5
Female	61.6	61.2	73.5
Ethnicity/race, %			
African-American	12.6	11.6	15.6
Hispanic	4.8	4.9	6.7
Asian American	2.6	2.5	1.5
White	77.8	79.3	74.1
Other	2.1	1.7	2.1
General health perceptions, %			
Excellent, very good, or good	75.9	81.4	62.4
Fair or poor	18.1	16.5	35.6
Coexisting conditions, %			
Hypertension	28.3	25.8	28.0
Diabetes	8.7	7.7	9.1
Heart disease	4.4	3.7	4.5
Depression symptom screen positive (probable case of depression)	16.8	17.9	100.0
MHI-5 score (lower score indicates more psychological distress), %			
67–100	—	74.6	26.6
40–66	—	20.3	52.0
0–39	—	5.2	21.3
DIS-based DSM-III diagnosis, %			
Depression symptom screen positive only	—	—	26.5
Subthreshold depression	—	—	30.0
Dysthymia	—	—	9.4
Major dep. (lifetime)	—	—	15.0
Major dep. (current)	—	—	11.8
Major dep. plus dysthmia	—	—	7.4

ried, less educated, or who had less income. As shown in Table 3, detection of mental health problems occurred more often among patients who scored positive on the depression symptom screen (*P* < .001), had lower MHI-5

mental health functioning scores (*P* < .01), or had a more severe DIS-based diagnosis (*P* < .01).

Multivariate Analyses: Factors Associated with Detection of a Mental Health Problem

Table 4 shows results from multivariate logistic regression that includes patient demographics, socioeconomic status, health-related quality of life (HRQOL), and chronic medical illness. The model also controls for physician specialty and type of insurance (prepaid or fee for service). Significant reductions in the odds for physician detection of a mental health problem, controlling for all other factors, occurred among patients younger than 35 years compared with those older than 65 years, men compared with women, and African Americans compared with whites. We found no significant interaction between race and gender. Significant increases in the odds for physician detection occurred for patients with hypertension or with diabetes compared with patients without those diseases.

Results are shown in Table 5 for multivariate logistic regression in the DIS subsample. This model controls for

Table 2. Contribution of Components to Overall Measure of Detection of Mental Health Problem (irrespective of presence of a condition)

Outcome Component (Physician action at office visit)	Health Status Evaluation (*N* = 7,769), %	Diagnostic Interview Schedule (*N* = 661), %
Counseled patient for mental health problem	17.1	38.4
Physician aware of patient depression past 12 mo	12.3	35.2
Mental health problem listed as main reason for visit	2.7	8.5
Referred patient to mental health specialist	1.4	4.2
"Detection" = any 1 of above 4 actions	22.2	48.7

Table 3. Association of Clinical Severity Markers with Detection

Severity Marker	Patients in Severity Category, %	Patients in Severity Category Detected by General Medical Physician, %	*P* Value for Pearson χ^2 Test
Depression symptom screen (*N* = 19,309)			
Negative	83.2	18.0	
Positive	16.8	44.9	< .001
MHI-5 Score (*N* = 7,769)			
67–100	74.6	15.7	
40–66	20.3	37.3	
0–39	5.2	56.3	< .001
DIS-based *DSM-III* diagnosis* (*N* = 661)			
Depression symptom screen positive only	26.5	38.3	
Subthreshold depression	30.0	46.5	
Dysthymia	9.4	56.5	
Major depression (lifetime)	15.0	52.5	< .01
Major depression (current)	11.8	59.0	
Major depression plus dysthmia	7.4	61.2	

*DIS indicates Diagnostic Interview Schedule; DSM-III, Diagnostic and Statistical Manual of Neural Disorders, Third Edition.

depressive disorders in addition to HRQOL. Regression results confirm the reduced odds of detection among African Americans and men that we found in the larger HSE sample reported above. In addition, Hispanics were significantly less likely to be detected than whites after adjusting for diagnoses.

The DIS-based diagnosis was related to the likelihood of detection. For example, patients with current or lifetime major depression, or with depression concurrent with dysthymia had increased odds ratios for detection compared with those who scored positive on the depression symptom screen but were without a specific diagnosis.

In both multivariate regressions, the Wald test for the joint significance of related dummy variables was significant (*P* < .05) for race/ethnicity, gender, and the presence of medical conditions (hypertension, diabetes, or heart disease). Education was of borderline significance (*P* = .07) in both models. In addition, in the HSE subsample age variables were significant (*P* < .001), and in the DIS subsample depressive disorders were significant (*P* < .01).

In further analyses, physician age, gender, ethnicity/ race, and preference for providing counseling were added to the multivariate models (data not shown). Neither physician gender nor ethnicity/race was strongly associated with de-

Table 4. Multivariate Logistic Regression Results for Model 1: Detection of Mental Health Problem by Internists and Family Physicians (among the Health Status Evaluation subsample, a random half of the screened sample, *N* = 7,769)

Variable*	Wald χ^2 *P* Value	Adjusted Odds Ratio	95% Confidence Interval
Age (compared with > 65 y)	< .001		
< 35 y		0.61[†]	0.44 to 0.84
35–50 y		1.05	0.77 to 1.42
51–65 y		0.92	0.70 to 1.20
Male gender	< .001	0.64[‡]	0.54 to 0.75
Race/ethnicity (compared with white)	< .05		
African American		0.63[†]	0.46 to 0.86
Hispanic		0.94	0.59 to 1.51
Asian		0.68	0.40 to 1.35
Other		0.73	
Coexisting medical conditions	< .01		
Hypertension (vs no hypertension)		1.33[†]	1.10 to 1.61
Diabetes (vs no diabetes)		1.36[§]	1.01 to 1.82
Heart disease (vs no heart disease)		1.32	0.94 to 1.83

*In addition to variables shown here, results control for the following variables (P values for Wald χ^2): mental health index (P < .001), physical functioning/general health perceptions/role function/social function/pain (< .001), patient education (NS), patient income (NS), physician specialty (NS), and prepaid vs fee for service (NS). NS indicates not significant.
[†]P < .005.
[‡]P < .001.
[§]P < .05.

Table 5. Multivariate Logistic Regression Results for Model 2: Detection of Mental Health Problem by Internists and Family Physicians Among Patients with Depression Symptom Screen Scores Indicating Symptoms of Major Depression (N = 661)

Variable*	Wald χ² (P Value)	Adjusted Odds Ratio	95% Confidence Interval
Male gender	< .05	0.52†	0.31 to 0.87
Race/ethnicity (compared with white)	< .05		
African American		0.42‡	0.23 to 0.76
Hispanic		0.29†	0.11 to 0.71
Asian		0.82	0.13 to 5.00
Other		0.56	0.18 to 1.72
Coexisting medical conditions	< .05		
Hypertension (vs no hypertension)		1.79†	1.13 to 2.85
Diabetes (vs no diabetes)		1.68	0.75 to 3.76
Heart disease (vs no heart disease)		1.05	0.36 to 3.09
DIS-based *DSM-III* diagnosis (compared with depression symptom screen positive only)§	< .01		
Subthreshold depression		1.12	0.66 to 1.91
Major dep. (lifetime)		3.12‡	1.57 to 6.18
Dysthymia		1.79	0.90 to 3.55
Major dep. (current)		2.26†	1.07 to 4.79
Major dep. plus dysthymia		3.78‡	1.67 to 8.56

In addition to variables shown here results control for the following variables (P values for Wald χ²): age, patient education, physical functioning/general health perceptions/role function/social function/pain, patient income, physician specialty, and prepaid vs fee for service. None of these was statistically significant.

†P < .05; ‡P < .005.

§*DIS indicates Diagnostic Interview Schedule;* DSM-III, Diagnostic and Statistical Manual of Mental Disorders, Third Edition.

tection in either subsample, though in the HSE subsample older physicians were less likely to detect mental health disorders (*P* < .05). Physician preference for providing counseling was significantly associated with detection in both the HSE and the DIS subsamples (*P* < .01). After physician age, gender, race/ethnicity, and counseling proclivity were added to the HSE subsample model, the evidence for associations between patient characteristics and detection was only marginally affected. In the DIS subsample model, the evidence for an association between the patient ethnicity/race variables and detection was slightly weaker after adding the physician variables (African Americans odds ratio [OR], 0.49; 95% confidence interval [CI], 0.25 to 0.96; *P* = .04 and Hispanics OR, 0.41; 95% CI, 0.16 to 1.10; *P* = .08).

To further explore the role of physician counseling proclivity in the observed racial disparities in detection of mental health problems, we compared physician counseling proclivity among patient race/ethnicity groups. In analyses that controlled for patient DIS depression diagnoses, we found that African-American patients (*P* < .05) and Hispanic patients (*P* = .05) had physicians who were less oriented toward personally providing counseling for depression than physicians of white patients.

DISCUSSION

As expected, primary care physicians responded to the severity of depression symptoms in their patients. Physicians were more likely to detect depression among patients with more serious DIS diagnoses, such as major

depression concurrent with dysthymia, than among patients with milder symptoms. This can be viewed as reassuring evidence that more severe symptoms trigger recognition of mental health problems in primary care settings. A disturbing finding, however, was that patient race/ethnicity and gender influenced physician recognition of mental health problems.

Several studies have demonstrated that race and ethnicity affect receipt of a variety of medical services,[33–36] including mental health specialty care.[20–23] Different causes for these mental healthcare disparities have been suggested, including patient and family feelings of stigma related to mental health disorders[37] and low patient education about depression and its symptoms. However, neither the rates at which patients report discussing mental health problems with primary care providers, nor their desire for mental health treatment varies by race.[38,39]

Surprisingly few studies have focused on provider behaviors, such as the tendency to detect depression, as potential barriers to mental health care for minority patients. We found that primary care physicians were less likely to detect mental health problems among African-American and Hispanic patients than among whites. Poor primary care provider detection of depression is a major barrier to appropriate care for these patients because they are even more unlikely than nonminority populations to access care for this illness from any other source[40] Measurement bias could be responsible for our results if the MOS measurement instruments were more likely to classify African Americans or Hispanics than whites as hav-

ing a mental health problem, but this is not the case. Several of the items in the MOS brief screening instrument have been demonstrated to be not more, but less sensitive to depressive symptomatology among African-American men compared with other race-gender groups.[41]

Adding physician characteristics to our multivariate models reduced the significance of ethnicity in predicting detection, though it remained significant at conventional levels. When we investigated this decrement, we found that a contributing factor to the lower detection rate for minority patients was their tendency to receive care from physicians with lower proclivities for depression counseling. The factors underlying this difference should be further studied, especially in light of other recent evidence suggesting that the degree to which patients view their physicians' style as receptive to patient involvement in treatment decision making varies by patient race, with African Americans less likely to perceive a participatory style.[42] Further research will be needed to increase our understanding of how race and ethnicity influence the manner in which patients express and physicians interpret symptoms reflecting mental health problems and how these elements of patient-physician communication are translated into clinical decisions.

Our findings on gender extend those of a previous study of detection among men and women in the MOS that found physicians were more likely to report being aware of depression among women than among men.[18] Our study similarly examined whether physicians' reported awareness of depression, but also assessed whether physicians reported a mental health problem as the reason for the office visit and whether they counseled the patient for a mental health problem or referred the patient to a mental health specialist for any reason. Using this more liberal definition of detection, we also found that physicians were more likely to be aware of or act on mental health issues for women than for men.

Physicians detected nearly 60% of patients in this study with major depression, but detected fewer of the patients with dysthymia, subthreshold depression, or symptoms of depression that did not meet a DIS diagnosis. These absolute rates of detection are consistent with many other studies that indicate the need for better depression recognition. The presence of a common medical illness (hypertension or diabetes) raised detection rates significantly. One explanation for this relationship is that patients with medical conditions are seen more frequently and thus their physicians can more accurately interpret their symptoms of mental distress. Our models are weighted for the length of time since the last visit; this may not completely account for differences in visit frequency. Alternatively, medical physicians may feel more responsible for patients with medical conditions, or these patients may feel more comfortable presenting their problems to their physicians. More research is needed to determine why awareness of psychological distress may be better among patients with coexistent medical problems, and not worse, as a competing demands model would predict.

Certain limitations to this study should be recognized. Our assessment of detection is cross-sectional and may not reflect physician actions before or after the study visit. In addition, physicians may have recognized psychological distress at the screening visit in ways not captured by our measure of detection. For example, physicians may have prescribed antidepressants or may have recognized a mental health problem as a secondary, rather than a primary reason for a visit. We chose not to use antidepressant prescriptions as an indicator of detection because they are frequently prescribed for conditions other than mental health disorders, such as pain. Although we use comprehensive measures of health and functional status in the screening sample model, and *DSM-III* diagnoses in the DIS sample, differences in detection among patient subgroups may be related to unmeasured differences in severity of psychological distress. Furthermore, we did not have diagnostic information about mental health problems other than depressive syndromes (e.g., substance abuse). The association between detection of mental health problems and the concurrent presence of hypertension or diabetes may be even stronger than we found, because some patients without those conditions had other chronic diseases that may enhance detection.

We conclude that patients' race, gender, and coexisting medical conditions affect physician awareness of mental health problems. More severe psychological distress increases the likelihood of detection, but detection also varies substantially in relation to patient ethnicity/race and gender. Strategies to improve detection of mental health problems in African Americans, Hispanics, and men should be explored and evaluated. Future research should identify the determinants, including those related to provider characteristics, of low rates of detection of mental health problems in these populations, and should evaluate interventions to eliminate racial, ethnic, and gender disparities in depression care.

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