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# The Treatment of Depression: Prescribing Practices of Primary Care Physicians and Psychiatrists

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**Background.** Depression is one of the most common mental disorders treated by primary care physicians. Concern has been expressed that primary care physicians underutilize antidepressants and overutilize anxiolytics in their management of depressive disorders.

**Methods.** Data from the 1980, 1985, and 1989 National Ambulatory Medical Care Surveys were used to examine the pharmacologic treatment provided by primary care physicians and psychiatrists during office visits with patients diagnosed as depressed. The number and proportion of these visits that included an antidepressant prescription or an anxiolytic prescription were determined.

**Results.** Primary care physicians and psychiatrists both prescribed antidepressants more commonly than other classes of psychotropic medications during visits that included a depression diagnosis. Compared with psychiatrists, primary care physicians more commonly pre-

scribed antidepressants for depressive disorders (1980, 55% vs 33%; 1985, 59% vs 41%; 1989, 57% vs 45%). In 1989, benzodiazepines were prescribed in 16% of the primary care visits for depression. More than half of these visits (56%) also resulted in an antidepressant being prescribed. Primary care visits for depression tended to be slightly longer than other primary care visits, but only about half as long as patient visits with psychiatrists.

**Conclusions.** The pharmacologic treatment of depression by primary care physicians may be better focused than previously assumed. Future research should examine the informal psychological treatment routinely provided by primary care physicians to patients with depressive disorders.

**Key words.** Depression; antidepressive agents; tranquilizing agents, minor; psychiatry; primary health care. *J Fam Pract* 1992; 35:627-635.

Depression remains one of the most prevalent mental illnesses seen in primary care medicine.<sup>1-3</sup> When rigorous criteria are applied, between 5.8% and 22.3% of patients in primary care are found to suffer from a diagnosable depressive disorder.<sup>4-6</sup> These patients are impaired to an extent that is comparable to or greater than patients with other major chronic conditions.<sup>7</sup>

Randomized controlled trials have demonstrated that antidepressant medications are highly effective in acute and chronic forms of depression.<sup>8,9</sup> Controlled trials also provide evidence that various types of psychotherapy are effective for certain depressive conditions.<sup>10</sup> Although benzodiazepines reduce anxiety and may elevate mood, they do not appear to alleviate core depres-

sive symptoms.<sup>11,12</sup> (The triazolo benzodiazepine alprazolam is a possible exception.<sup>13,14</sup>) Moreover, depressed outpatients treated with antidepressants generally do not benefit from the addition of a benzodiazepine.<sup>15,16</sup>

The treatment provided to depressed patients in primary care and community settings has been the subject of considerable investigation.<sup>17-21</sup> Previous research suggests that primary care physicians tend to underutilize antidepressants and overutilize anxiolytics. Gullick and King<sup>22</sup> reported that benzodiazepines were prescribed twice as frequently as antidepressants to a group of depressed primary care patients referred for specialized psychiatric care. Keller and colleagues<sup>17</sup> found that anxiolytics were prescribed more often (55%) than antidepressants (34%) for a group of depressed individuals treated in the community before seeking treatment at university health care facilities.

Some evidence suggests that anxiolytic use has recently declined while antidepressant use has increased.<sup>23-27</sup> Between 1970 and 1989, the number of prescriptions for sedatives or hypnotics dispensed by US pharmacies de-

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clined by two thirds.<sup>23</sup> Between 1975 and 1984, there was also a modest increase in prescriptions for antidepressants.<sup>24</sup> Similar trends have been reported in Europe.<sup>25,27</sup> It is not known whether these general trends signal a shift in the choice of medications that primary care physicians use to treat their depressed patients.

In broad terms, primary care physicians and psychiatrists tend to prescribe different classes of psychotropic medications.<sup>28,29</sup> A 1981 survey<sup>28</sup> revealed that primary care physicians were more likely to prescribe anxiolytics than antidepressants and that psychiatrists were more likely to prescribe antidepressants than anxiolytics. This finding may simply reflect differences in the patient populations served by the two provider groups, however, rather than differences in prescribing practices per se. As compared with patients seen by psychiatrists, mentally ill primary care patients tend to be less seriously ill and are more likely to suffer from neurotic conditions and other anxiety-related disorders.<sup>30</sup>

The current study examines recent national trends in the treatment of patients diagnosed as depressed by office-based primary care physicians and psychiatrists. An assessment is presented of the pattern of psychotropic and psychological treatment provided to these two patient populations.

## Methods

### *Data Source*

The source of data for this report is the National Ambulatory Medical Care Survey (NAMCS). The NAMCS, which is conducted periodically by the National Center for Health Statistics (NCHS), samples a nationally representative group of visits to physicians in office-based practice. The current report is based on results from the 1980, 1985, and 1989 NAMCS.

Approximately 58,000 office visits were sampled in 1980, 75,000 visits in 1985, and 38,000 visits in 1989. Data from patient visits were collected with a 1-page data form that was completed by the attending physicians or their office staff. The form contained items such as the patient's age and sex, diagnoses, and medications prescribed. Only minor modifications were made in the survey form between 1980 and 1989.

### *Survey Design*

The surveys were conducted using a three-stage sampling design. First, a probability sample was drawn of primary sampling units. A primary sampling unit was a county, a group of adjacent counties, or a standard metropolitan

statistical area. Second, a probability sample was drawn of practicing physicians within these primary sampling units. Finally, a systematic random sample was drawn of the visits to these physicians. The sampling frame was a 1-week period. Physicians expecting more than 10 visits per day recorded every second, third, or fourth visit according to a predetermined sampling interval. This procedure provided a systematic random sample of patient visits during the reporting period.

### *Sample of Physicians*

The current analysis was confined to visits to psychiatrists and primary care physicians. Visits to psychiatrists included visits to physicians specializing in general psychiatry or a psychiatric subspecialty such as child psychiatry or psychoanalysis. To provide a sample size sufficient for detailed analyses, visits to physicians specializing in general practice, family practice, and internal medicine were considered together as primary care visits.

The 1980 survey included 172 psychiatrists and 914 primary care physicians; the 1985 survey included 178 psychiatrists and 904 primary care physicians; and the 1989 survey included 74 psychiatrists and 427 primary care physicians. The response rate among the psychiatrists was 85% in 1980, 74% in 1985, and 78% in 1989. The response rate among the primary care physicians was 73% in 1980, 66% in 1985, and 70% in 1989. Each of the three surveys sampled independently from the entire pool of eligible physicians' practices.

### *Visit Sample*

Data from patient visits that resulted in a depressive disorder diagnosis were analyzed. Depressive disorder diagnoses included major depression (International Classification of Diseases, 9th Revision, Clinical Modification [ICD-9-CM]: 296.2, 296.3), depression not otherwise specified (311), and neurotic depression (300.40). The sample included patients diagnosed with a depressive disorder as either their first, second, or third listed diagnosis. In some analyses, a distinction was drawn between primary diagnosis (first listed diagnosis) and secondary diagnosis (second or third listed diagnosis). The analysis was limited to data from visits by patients who were at least 18 years of age at the time of the survey.

### *Psychotropic Drug Prescriptions*

Psychotropic drugs were classified by a modification of the scheme provided in *Drug Evaluations Annual*.<sup>31</sup> Antidepressant, anxiolytic (benzodiazepine and nonbenzo-

diazepine anxiolytic), and antipsychotic medications were considered.

Antidepressant drugs include tricyclic antidepressants, monoamine oxidase inhibitors, and atypical antidepressants (bupropion, fluoxetine, and trazodone). Trazodone was not licensed for general use in the United States at the time of the 1980 survey, and bupropion and fluoxetine were not licensed for use at the time of the 1980 and 1985 surveys.

Anxiolytics include benzodiazepines and nonbenzodiazepine anxiolytics. Nonbenzodiazepine anxiolytics include barbiturates, meprobamate, chloral hydrate, ethchlorvynol, ethinamate, glutethimide, methyprylon, buspirone, and the antihistamines. Alprazolam is classified as an anxiolytic rather than an antidepressant. Antipsychotic medications (eg, haloperidol and chlorpromazine) include the full range of neuroleptic medications.

### *Psychotherapy and Visit Duration*

The survey included a "psychotherapy" variable that was defined as a nonmedication treatment "designed to produce a mental or emotional response through suggestion, persuasion, reeducation, reassurance, or support." The survey also included a visit duration variable that was defined to measure the length of time the patient spent with the physician.

### *Statistical Methods*

One of the primary aims of the NAMCS is to provide national estimates of the volume and content of office-based care. Because the visit sampling is not entirely random, the NCHS weights each visit to inflate the sample and correct for sampling imperfections. The US Bureau of the Census population estimate for July 1 of each survey year is used to compute the annual visit rate. The percentages reported in the current report were based on the weighted estimates.

The construction of weights has three components: (1) inflation by reciprocals of sampling probabilities, (2) adjustment for nonresponse, and (3) a ratio adjustment to fixed totals. The adjustment for nonresponse replaces patient visits to nonrespondents with visits to respondents in the same specialty and same primary sampling unit. The ratio adjustment involves multiplying each visit by the ratio of physicians listed in the American Medical Association–American Osteopathic Association (AMA–AOA) master files for a given specialty over the number of sampled physicians in that specialty.

The NCHS provides tables for calculating the standard errors of the survey estimates. These tables were

used to compute *t* test statistics. Comparisons were made for statistical significance for the two-tailed *t* test with infinite degrees of freedom.

A logistic regression was used to estimate the relative risk that an antidepressant would be prescribed for primary care patients who were diagnosed as having a depressive disorder. Results are presented as odds ratios (ORs) with associated 95% confidence intervals (CIs). This computation was made with unweighted data.

## Results

Between 1980 and 1989, the total number of adult office visits provided annually by primary care physicians increased from 215.7 million to 244.0 million, and total annual visits to psychiatrists increased from 14.1 million to 15.3 million (Table 1). Visits that resulted in a depressive disorder diagnosis (herein termed "depression visits") accounted for a far smaller percentage of the primary care visits (1.6% to 2.1%) than of the psychiatric visits (35.8% to 42.6%).

In each survey year, depression visits to psychiatrists outnumbered depression visits to primary care physicians. In 1989, psychiatrists provided 49% more visits that resulted in a diagnosis of depression than primary care physicians. Depressive disorders were diagnosed in approximately one third of the mental disorder visits made by each provider group (Table 1).

### *Demographic Characteristics*

Selected demographic characteristics of the patients who made psychiatric and primary care depression visits are presented in Table 2. Whites and women accounted for a majority of both samples. Over time, demographic variables of age, race, and sex of psychiatric and primary care patients with depression visits remained remarkably constant.

The distribution of visits according to age differed between psychiatrists and primary care physicians. As compared with the visits to primary care physicians, only a small proportion of the depression visits to psychiatrists were by patients over the age of 65 years.

The two provider groups differed from one another in the distribution of payment sources they received for the depression visits. Visits to primary care physicians were more likely to be paid for by Medicare or Medicaid, and visits to psychiatrists were more likely to be paid for with personal resources or commercial insurance (Table 2).

Table 1. Trends in the Number of Mental Disorder and Depression Visits to Primary Care Physicians and Psychiatrists

Variable	1980		1985		1989	
	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists
Total patient						
Sample size	15,513	2767	19,938	2499	11,074	1083
National estimate (millions)	215.69	14.14	227.19	16.81	243.95	15.33
Visits with mental disorder diagnosis						
Sample size	951	2675	1045	2370	611	1033
National estimate (millions)	13.11	13.65	12.05	15.96	12.33	14.62
Percent of total	6.1	96.5	5.3	95.0	5.0	95.3
Visits with diagnosis of depression						
Sample size	331	1044	322	919	201	453
National estimate (millions)	4.55	5.30	3.75*	6.01	4.38†	6.53
Percent of total	2.1‡	37.5	1.6‡	35.8	1.8‡	42.6

Data are from the National Ambulatory Medical Care Survey. Visits are by patients 18 years of age or older to physicians specializing in either psychiatry or primary care (general practice, family practice, or internal medicine). Mental disorder includes visits with diagnoses ICD-9-CM: 290-319 and depression includes visits with diagnoses of 296.2, 296.3, 300.4, or 311.

\*P < .05 compared with psychiatrists.

†P < .01 compared with psychiatrists.

‡P < .001 compared with psychiatrists.

### Diagnostic Characteristics

Whereas primary care physicians diagnosed medical disorders (ie, nonmental disorders) in a majority of the visits in which a depressive disorder was diagnosed (1980, 59.5%; 1985, 64.8%; 1989, 66.1%), diagnoses of med-

ical disorders were less often made during depression visits to psychiatrists (1980, 11.9%; 1985, 9.0%; 1989, 8.8%). Hypertension was the most commonly coded comorbid medical diagnosis during primary care depression visits. It was diagnosed in 7.4% of the primary care depression visits in 1980, 7.0% in 1985, and 6.0% in 1989.

Table 2. Demographic Characteristics of Patients Who Made Depression Visits to Primary Care Physicians and Psychiatrists (in percent)

Variable	1980		1985		1989	
	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists
Age (y)						
18-35	24.2	37.9	19.1	34.5	24.9	31.0
36-50	26.1	38.9	26.9	41.7	24.4	39.9
51-65	29.5	18.0	25.9	23.8	22.6	17.9
>65	20.2*	5.1	28.1†	9.9	28.2‡	11.2
Sex						
Female	75.3	68.1	77.9	65.9	71.1	67.9
Male	24.7	31.9	22.1	34.1	28.9	32.2
Race						
White	95.4	94.0	94.4	96.2	92.7	96.2
Nonwhite	4.6	6.0	5.6	3.7	7.3	3.8
Payment source						
Self-pay	—	—	42.1	55.1	36.6†	68.8
Medicare/Medicaid	—	—	34.9*	9.4	30.9†	12.8
Commercial insurance	—	—	31.6‡	50.5	30.9	40.8
HMO/prepaid care	—	—	9.3	4.3	8.5	3.5
Other	—	—	2.1	4.9	3.5	4.0

Data are from the National Ambulatory Medical Care Survey. Visits are by patients 18 years of age or older to physicians specializing in either psychiatry or primary care (general practice, family practice, or internal medicine). Mental disorder includes visits with diagnoses ICD-9-CM: 290-319, and depression includes visits with diagnoses of 296.2, 296.3, 300.4, or 311. Percentages are based on weighted sampling. Payment source percentages do not sum to 100% because more than one choice was possible.

\*P < .001 compared with psychiatrists.

†P < .01 compared with psychiatrists.

‡P < .05 compared with psychiatrists.

HMO denotes health maintenance organization.

Table 3. Visit Status and Trends in Treatment by Primary Care Physicians and Psychiatrists of Patients With Depression

Variable	1980		1985		1989	
	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists	Primary Care Physicians	Psychiatrists
Visit status (%)						
Old patient	92.4	93.5	85.3	94.9	96.1	95.9
New patient	7.6	6.5	14.7	5.1	3.9	4.1
Psychotherapy provided (%)	36.8*	97.3	34.0*	88.9	29.0*	96.6
Visit duration (min)	22.3	45.3	18.9	42.3	19.2	42.9
Selected dispositions (%)						
Return appointment	68.3	94.1	73.4	94.0	75.3	96.2
Return as needed	25.7*	4.5	19.1†	4.9	22.5*	1.5

Data are from the National Ambulatory Medical Care Survey. Visits are by patients 18 years of age or older to physicians specializing in either psychiatry or primary care (general practice, family practice, or internal medicine). Mental disorder includes visits with diagnoses ICD-9-CM: 290-319 and depression includes visits with diagnoses of 296.2, 296.3, 300.4, or 311. Percentages are based on weighted sampling. Visit duration reported in mean number of minutes.

\* $P < .001$  compared with psychiatrists.

† $P < .01$  compared with psychiatrists.

When primary care physicians diagnosed a depressive disorder, it was often coded as a secondary diagnosis (1980, 43.4%; 1985, 53.6%; 1989, 50.3%) rather than as the primary diagnosis. Almost all of the primary diagnoses in these visits were of medical rather than mental disorders (1980, 88.6%; 1985, 82.1%; 1989, 94.6%). In contrast, depressive disorder was the primary diagnosis in the vast majority of the psychiatric depression visits (1980, 81.7%; 1985, 85.2%; 1989, 89.7%).

### Characteristics of Treatment

The vast majority of the primary care and psychiatric depression visits were made by patients who had previously seen their physician. In each sample, most of the visits also included a return appointment (Table 3). Instructions to follow-up on an as-needed basis were given more commonly during primary care depression visits than during psychiatric depression visits. Primary care depression visits seldom ended in referral to another physician (1980, 7.2%; 1985, 4.4%; 1989, 4.8%).

Primary care physicians more commonly offered a return appointment during visits of patients with depression than during visits of patients with other diagnoses (1980, 68.3% vs 57.9%,  $P < .05$ ; 1985, 73.4% vs 57.3%,  $P < .01$ ; 1989, 75.3% vs 59.9%,  $P = \text{NS}$ ). Return appointments were most commonly provided, however, to primary care patients with a number of other specific chronic medical conditions, eg, essential hypertension (88.5%), congestive heart failure (83.0%), chronic obstructive pulmonary disease (85.0%), rheumatoid arthritis (81.9%).

Psychotherapy was provided in the vast majority of psychiatric visits but in less than one third of primary care

visits. The mean duration of visits to primary care physicians that resulted in a diagnosis of a depressive disorder was approximately half that of visits to psychiatrists by patients with diagnoses of depressive disorders.

The mean duration of primary care visits that included a diagnosis of depression was significantly ( $P < .001$ ) longer than the duration of primary care visits that did not include a depressive disorder. This difference was greater in the 1980 survey (22.3 minutes vs 16.5 minutes) than in the later surveys (1985, 18.9 minutes vs 15.9 minutes; 1989, 19.2 minutes vs 16.4 minutes).

### Psychotropic Drug Prescription

Primary care physicians and psychiatrists prescribed antidepressants to their depressed patients more frequently than any other class of psychotropic medication (Figure 1). As compared with psychiatrists, primary care physicians tended to prescribe antidepressants for proportionately more patients with depressive disorders. Over the period studied, psychiatrists prescribed antidepressants during an increasing percentage of their depression visits (32.7% to 45.2%), while primary care physicians prescribed antidepressants for such patients at an essentially constant rate (55.4% to 59.5%).

Between 1980 and 1989, the percentage of depression visits to primary care physicians that included antipsychotic medications declined steadily ( $P < .05$ ) while the percentage of such visits to psychiatrists remained nearly constant. In 1980, antipsychotics were prescribed during a larger proportion of primary care depression visits than psychiatric depression visits ( $P < .05$ ). In that year, thioridazine and perphenazine (in combination with amitriptyline) accounted for a majority of the antipsychotics pre-

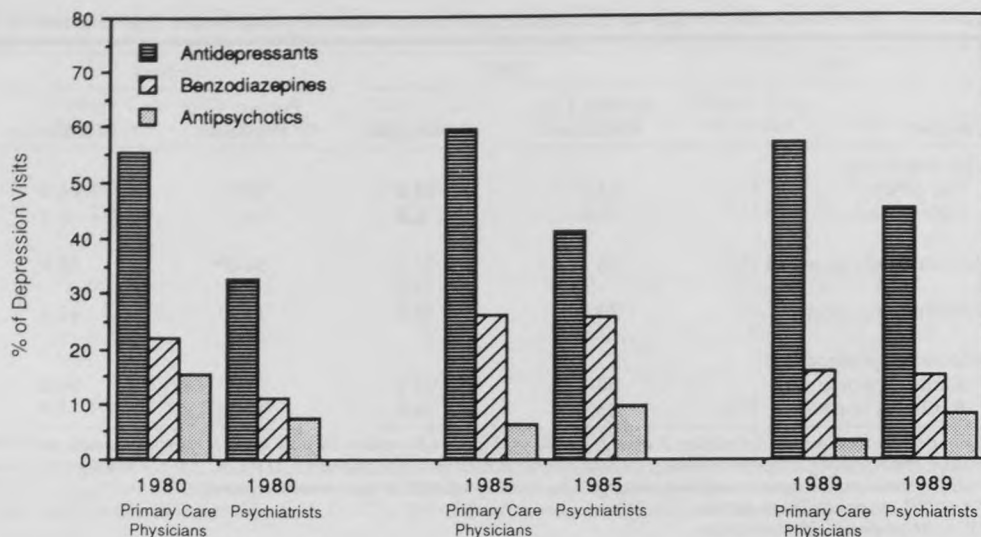


Figure 1. Trends in the pharmacologic treatment of depression visits by primary care physicians and psychiatrists.

scribed during the primary care depression visits (32.1% and 37.4%, respectively). By 1989, antipsychotics were more commonly prescribed in psychiatric depression visits than primary care depression visits ( $P < .02$ ).

During 1980, primary care physicians were significantly more likely than psychiatrists to prescribe benzodiazepines during visits in which depression was diagnosed ( $P < .05$ ). Between 1980 and 1985, psychiatrists significantly increased their prescription of antidepressants ( $P < .01$ ), so that the two provider groups prescribed antidepressants for a comparable proportion of their depressed patients. Between 1985 and 1989, both provider groups reduced their prescription of benzodiazepines during depression visits. In 1989, alprazolam was prescribed in 28.0% of the primary care depression visits and in 30.9% of the psychiatric depression visits that included a benzodiazepine prescription.

Throughout the study period, both provider groups prescribed nonbenzodiazepine sedatives or hypnotics in only a small percentage of their depression visits (psychiatrists, 0.4% to 1.5%; primary care physicians, 0.3% to 2.8%).

In the 1980 survey, nearly two thirds (63.6%) of the primary care depression visits that included a benzodiazepine prescription did not include an antidepressant. This percentage fell to 58.7% in 1985 and to 43.7% in 1989. In that year, 6.9% of the primary care depression visits included a benzodiazepine without an antidepressant, 8.9% of the visits included prescriptions for both types of medication, and 48.0% of the primary care depression visits included a prescription for an antidepressant without a prescription for a benzodiazepine.

### Antidepressant Prescription

A logistic regression was conducted to estimate the strength of the association between selected clinical variables and the provision of an antidepressant during primary care depression visits. The estimated relative risk of receiving an antidepressant was significantly increased for patients who were white and for patients who received an appointment for a return visit. Although visits by depressed primary care patients under 65 years of age were more likely to result in an antidepressant being prescribed than visits by younger patients, this association did not reach statistical significance (Table 4).

Table 4. Selected Risk Factors for Antidepressant Prescription During Depression Visits to Primary Care Physicians

Risk Factor	Odds Ratio (95% CI)
Sex of patient, <i>female</i>	1.42 (0.74–2.71)
Race of patient, <i>white</i>	4.58 (1.48–14.17)
Age of patient, <i>under 65 years</i>	2.27 (0.91–5.63)
Payment for visit, <i>Medicare or Medicaid</i>	1.66 (0.71–3.91)
Primary diagnosis, <i>depressive disorder</i>	1.72 (0.83–3.58)
Comorbid medical diagnosis, <i>present</i>	1.41 (0.65–3.04)
Provision of psychotherapy, <i>absent</i>	1.48 (0.75–2.93)
Disposition, <i>return appointment</i>	2.81 (1.37–5.78)

Data are from the 1989 National Ambulatory Medical Care Survey. Higher risk group is in italics. Visits are by patients 18 years of age or older to physicians specializing in general practice, family practice, or internal medicine. Depression diagnoses include ICD-9-CM 296.2, 296.3, 300.4, or 311. CI denotes confidence interval.

## Discussion

Previous reports of the NAMCS findings have focused on visits to office-based psychiatrists and other physician groups for the full range of mental disorders.<sup>30</sup> The current study builds on this earlier work by focusing on patients in whom depression was diagnosed.

### *Diagnostic Issues*

Concern exists that depression often escapes the detection of health professionals. In the current study, we did not address this issue directly, but rather accepted the diagnoses made by the treating physicians.

The relatively low frequency of depressive disorder diagnosis in the reported primary care samples (1.6% to 2.1%) was consistent with reports of significant underdiagnosis<sup>4-6</sup> and consistent with previous research that indicates primary care physicians fail to label a substantial proportion of their patients who are depressed as defined by psychiatric research criteria.<sup>32,33</sup> Because the NAMCS does not contain an objective measure of depression, however, firm conclusions can not be made about the rate of illness detection.

Reliance on coded diagnoses probably contributes to underestimates of the number of patients considered to be depressed by their primary care physician. Written diagnoses may be avoided because some third-party payers restrict reimbursement for the treatment of depression and other mental disorders. Some physicians may substitute diagnoses such as "fatigue" or "insomnia" in a conscious effort to reduce the stigma associated with making a formal diagnosis of depression. Other physicians may not code depressive diagnoses for visits that were focused on an acute medical problem rather than on a known chronic depressive condition. Depression may also not be coded when physicians treat medical problems in patients known to be receiving appropriate ongoing mental health care for depression from a mental health specialist.

### *Psychological Treatment*

Primary care physicians typically spend a few more minutes with their depressed patients than with their other patients. Although primary care physicians generally do not provide formal psychotherapy during these visits, it is possible that the added time is spent providing reassurance and support. A recent study of depression in psychiatric settings found that providing such "clinical management," which often consists of attention, encouragement, and sympathetic concern, is beneficial to mildly depressed patients.<sup>10,34</sup> We need to know more about the

provision and efficacy of less formal psychological interventions provided to depressed patients by primary care physicians.

At the conclusion of the visit, depressed primary care patients are usually scheduled for a return visit, especially if the patient is being treated with an antidepressant. Frequent contacts may be one strategy that primary care physicians use to support their patients through episodes of depression. In contrast, referral to another health care provider is relatively rare.

Lack of training in psychotherapy and reimbursement schedules that discourage extended patient visits make primary care physicians unlikely to increase their provision of time-intensive formal psychological interventions such as psychotherapy or psychological counseling. One option for primary care physicians is to employ a nurse or social worker to provide these services.<sup>35</sup> Under such an arrangement, the physician can refer those patients who do not respond to routine clinical management for a more extensive psychological intervention. This approach may be particularly well suited to group practices and health maintenance organizations.

### *Psychotropic Drug Prescriptions*

Primary care physicians prescribed antidepressants more commonly than any other class of psychotropic medication to the patients they diagnosed as suffering from depression. Interestingly, primary care physicians appeared to be somewhat more likely than psychiatrists to prescribe antidepressants for recognized cases of depression. This finding runs counter to claims that primary care physicians underutilize antidepressant medications. One reason that primary care physicians may be more likely than psychiatrists to prescribe antidepressants is that primary care physicians have less access to nonpharmacologic strategies such as psychotherapy. Direct comparisons between the prescribing practices of primary care physicians and psychiatrists are confounded, however, by differences in the two patient populations. In addition to differences in age and extent of comorbid medical illness noted above, the depressed patients treated by primary care physicians and psychiatrists may well differ from one another in the severity, complexity, and duration of their depressive conditions. Unfortunately, the current survey provides little data on these critical issues.

The presented pattern of psychotropic medications prescribed by primary care physicians in recognized cases of depression markedly contrasts with earlier reports of high rates of benzodiazepine prescription and low rates of antidepressant prescription. Sampling bias in the earlier studies may account for this discrepancy. The three

previous studies that found either high rates of prescribing anxiolytics or low rates of prescribing antidepressants were conducted on relatively small samples that had been referred for specialized psychiatric treatment.<sup>17,19,20-22</sup> This recruitment process biases selection toward more complicated cases. Before referral, these patients may have received less conventional treatment to control their symptoms. In contrast, the NAMCS samples a representative study of all office-based primary care visits.

During the 1980s, primary care physicians decreased their use of antipsychotics in the outpatient treatment of depression. Possible reasons for this decrease include an increased awareness of side effects associated with antipsychotics<sup>36</sup> and a decline in commercial efforts to promote the antipsychotic thioridazine for the treatment of agitation and depression in the elderly. The *Journal of the American Medical Association*, for example, contained 28 pages of advertisements for thioridazine in 1980, but none in 1989. Previous research has demonstrated that commercial factors exert a powerful influence over the prescribing behavior of physicians.<sup>37</sup>

One disconcerting finding to emerge from this study was that depressed nonwhite primary care patients appeared to be less likely to receive antidepressants than their depressed white counterparts. Previous research with community samples has indicated that substantially more depressed whites than depressed blacks receive mental health services.<sup>19,38</sup> The current findings suggest that racial inequities may persist following entry into the health care system. The possibility that racial factors influence the type or intensity of services that depressed persons receive raises serious concerns that demand closer study.

### Limitations

The current study is constrained by several limitations in the survey data. As discussed above, survey diagnoses are based on practitioner judgment rather than independent assessment by the investigators. For this reason, the results relate only to those recognized cases of depression that are coded as such.

The survey data also do not permit a detailed analysis of differences between the clinical characteristics of depressed patients seen in the two treatment settings. Some research suggests that depressed patients in outpatient psychiatric settings may have different symptom patterns<sup>39</sup> and be more severely impaired<sup>7</sup> than those in primary care settings. More detailed measures of symptom severity and complexity are needed to clarify the intricate relationships between symptom profile, prescribing practices, and treatment setting.

No information is provided on the length or dosage

of the medication trials. Previous research suggests that primary care physicians tend to prescribe antidepressants in dosages below accepted therapeutic levels for psychiatric patients.<sup>20,40</sup> In psychiatric populations, lower dosing regimens are associated with poorer outcome than higher dosing strategies.<sup>41</sup> However, comparable primary care studies have not been conducted.

The NAMCS measures office visits rather than individual patients and therefore oversamples frequent users of medical care. Furthermore, the survey is limited to office-based practice and so does not include the large number of medical visits that occur in medical clinics and other organized settings. With these limitations in mind, the NAMCS provides the only available national sample of outpatient treatment of depression by primary care physicians.

### Conclusions

There have been frequent claims that primary care physicians improperly use psychoactive medications for the management of depression and other mental disorders. In particular, there has been a concern that anxiolytics are used excessively and that antidepressants are underused.<sup>17,42</sup>

In the current study, data are presented that suggest that the primary care treatment of recognized cases of depression may be substantially better focused than was previously assumed. In 1989, more than half of the office-based primary care visits that resulted in a diagnosis of depression included a prescription for an antidepressant, and nearly three fourths (71.1%) included either an antidepressant or psychotherapy. Moreover, fewer than one in six of the primary care depression visits resulted in a benzodiazepine being prescribed, and less than one in ten included a benzodiazepine prescribed in the absence of an antidepressant.

Recent analysis of 1985 NAMCS data has revealed that a substantial proportion of the antidepressants prescribed to patients without mental disorders are prescribed for nonpsychiatric, antidepressant-responsive conditions.<sup>43</sup> Coupled with the current findings, these analyses suggest that the use of antidepressants in primary care is more sharply defined than has been suggested by earlier research.

Much remains to be learned about how primary care physicians routinely treat depression. Surveying clinical care in the manner employed by the NAMCS provides a general overview of treatment practices. Beyond such general surveys, detailed clinical research is needed to better understand what pharmacological and psychological strategies primary care physicians employ in their



routine daily work. As the primary care treatment of depression becomes better defined, researchers will have an opportunity to compare prospectively the relative efficacy and cost of this care with the treatments routinely provided by mental health specialists.

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