Primary Care Physician Office Visits for Depression by Older Americans

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BACKGROUND: Older patients mostly receive depression care from primary care physicians, but it is not known whether depression treatment is primarily received from family/general practice physicians or internal medicine physicians and whether the type of depression treatment offered varies between these types of primary care physicians.

OBJECTIVE: To assess what proportion of visits for depression are to family/general practice physicians or to internal medicine physicians and whether the type of depression treatment offered varies by primary care physician specialty.

DESIGN: Data from the 2000 and 2001 National Ambulatory Medical Care Surveys, a nationally representative survey of visits to office-based practices using clustered sampling, were used.

PARTICIPANTS: Office-based physician practices in the United States.

RESULTS: There were an estimated 9.8 million visits made to office-based providers by older patients for depression in 2001 to 2002, of which 64% were to primary care physicians. Visits to primary care providers were evenly split between Internists and family/general practice physicians. There was no significant difference in the rate of antidepressant prescribing between visits to Internists versus family/general practice (55.9% vs 48.0%; P=.42). Mental health counseling or psychotherapy was offered more often during visits to family/general practice physicians than to Internists (39.4% vs 14.0%; P=.07).

CONCLUSIONS: Visits for depression by elderly patients continue to take place in primary care settings to both family/general practice physicians and Internists. Interventions aimed at improving depression care in primary care should focus on both types of primary care physicians and emphasize improving rates of diagnosis and referral for counseling or psychotherapy as a viable treatment option.

KEY WORDS: depression; office visits; elderly; physician specialty; antidepressants.
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Depression in late life is well recognized as a significant public health problem, with approximately 15% of older persons having clinically significant depressive symptoms.[1,2] Depression in late life is often manifested differently than in younger patients. Most elders with clinically significant depressive symptoms do not meet the criteria of major depression, but the cumulative morbidity associated with minor depression in this population exceeds that for major depression.[3] Depression in older patients has significant negative impacts on quality of life, physical and social functioning, outcomes after acute medical events such as myocardial infarction, and mortality rates.[4–7] Depression in late life is also associated with greater medical costs and out-of-pocket expenditures.[8,9] Although effective treatments for late life depression exist,[10–12] undertreatment is common in this population.[13–15] Previous studies have shown that the majority of depression care received by older patients is provided in the primary care sector,[16,17] where rates of adequate depression care are markedly lower than in the specialty mental health sector.[18,19] Studies have shown that collaborative care models that incorporate mental health specialty treatment into primary care settings, such as those used in the IMPACT and PROSPECT studies, result in significant improvements in depression outcomes for older primary care patients.[20,21] Given the differences in the manifestation of depression among older persons, stronger preference for treatment in primary care settings compared with younger patients, and higher rates of undertreatment, it is important to understand how depression is treated in this population.

Although previous research has shown that in 1997 to 1999, for elderly patients, nearly 60% of physician office visits where an antidepressant was prescribed and 51% of visits where a depression diagnosis was recorded took place in the primary care sector, it did not distinguish between primary care visits to Internists versus family practice physicians.[16] It is also not known whether the type of depression treatment and the rate at which it is offered significantly differs between Internists and family practice physicians. Older patients were shown to be 55% less likely to be diagnosed with depression in primary care settings compared with younger patients, even when presenting with the same symptoms, and family practice physicians were 65% more likely to diagnose depression than Internists.[22] Given this, understanding where elderly patients receive primary care depression treatment and the type of treatment received is important. Significant improvements in the rates and quality of depression care offered to older patients may be realized by targeting primary care physicians who are most likely to underdiagnose depression and those physicians who are less likely to offer treatment during office visits and/or those physicians who have patients who are less likely to accept a depression diagnosis and treatment.

This study builds on previous studies by using more recent data on physician office visits to assess not only whether treatment occurs in the primary care sector or the mental health sector, but also what type of physician in the primary care sector. We hypothesized that the majority of depression visits will to take place in the primary care sector and that

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these visits will primarily be to physicians specializing in internal medicine.

METHODS

Data from the 2001 and 2002 National Ambulatory Medical Care Survey (NAMCS) were used to assess patterns of depression diagnosis and treatment provided during physician office visits made by patients aged 65 and older. Multiple years are pooled to increase sample size. The NAMCS is a nationally representative survey of physician office visits in the United States conducted annually by the National Center for Health Statistics.[23] Visits to physicians in primary care and all specialties (including psychiatry) are included in the sample except for visits to anesthesiologists, pathologists, and radiologists. Encounters not included in the NAMCS are those made by telephone, those made outside of the physician's office, and those made in hospital and other institutional settings. The NAMCS sample of visits is obtained using a 3-stage sampling design selecting primary sampling units (PSUs), physician practices within PSUs, and patient visits within practices. Physicians were asked to record information on visits made over a randomly selected 1-week period during the year. Depending on the size of the practice, the sample of visits during the 1-week period ranged from a 100% sample to a 20% sample. A full description of the NAMCS sampling procedures is provided elsewhere.[24]

There were 24,281 visits included in the 2001 sample and 28,738 visits included in the 2002 sample. The analysis is limited to all visits during 2001 and 2002 made by patients age 65 and over (N=14,372). For each office visit, the survey provided information on physician specialty, medical procedures performed, up to 3 diagnoses, and up to 6 medications prescribed, continued, or renewed during the visit.

Depression Visits

The NAMCS includes up to 3 listed diagnoses for each visit. Physician office visits for depression were identified using the 3 listed diagnoses assigned by providers during the visit using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). Depression visits were all visits with ICD-9 codes of 296.2 (major depressive disorder, single episode), 296.3 (major depressive disorder, recurrent), 300.4 (neurotic depression/dysthymia), 311 (depressive disorder, not elsewhere classified), and 298.0 (depressive type psychosis). Using this definition, there were 366 visits by elderly patients included in the study sample. Treatment rates were only assessed for visits with a diagnosis of depression. Although antidepressant prescribing and patient reported symptoms could also theoretically be used to identify depression visits using NAMCS data, identification using antidepressant medications would bias the sample to include visits where treatment was provided and would include visits where antidepressants were prescribed to treat conditions other than depression, while using patient-reported symptoms would include visits where the physician decided that the symptoms were not at a level that warranted a depression diagnosis.

Antidepressant Drug Visits

Antidepressant drugs that were prescribed, supplied, administered, ordered, or continued were identified by drug name. The drugs included in the class of antidepressants were amitriptyline, amoxapine, bupropion, citalopram, clomipramine, desipramine, doxepin, fluoxetine, fluvoxamine, imipramine, isocarboxazid, maprotiline, mirtazapine, nefazodone, nortriptyline, paroxetine, phenelzine, protriptyline, sertraline, tranylcypromine, trazodone, trimipramine, and venlafaxine. There were 717 visits where an antidepressant was prescribed during visits made by elderly patients in the sample.

Psychotherapy/Mental Health Counseling Visits

Psychotherapy and mental health counseling visits were identified by a checkbox on the survey form, indicating whether psychotherapy or mental health counseling was provided or ordered during the visit. This response did not distinguish between referral for psychotherapy/counseling or whether the patient was referred. Therefore, referrals (for any reason) were identified from a question regarding visit disposition.

Reason for and Type of Visit

Visits were identified by the physician using a checkbox as being either for an acute condition or a chronic condition. Physicians also identified via checkbox whether the visit was an initial visit or a follow-up visit.

Medical Specialties

Physicians were classified into 4 groups: psychiatrists; internal medicine; general/family practice; or all other specialties. Visits to physicians with specialties in internal medicine or general/family practice together comprise visits defined as primary care visits.

Statistical Analysis

The goal of this analysis was to provide national estimates of the number and proportion of depression visits made by elderly patients to internal medicine, family/general practice, or psychiatry. Additionally, for those visits to primary care providers with a diagnosis of depression (N=124), rates of antidepressant prescribing and referral to psychotherapy or mental health counseling for visits to internal medicine physicians and to family/general practice physicians were assessed. The NCHS includes weights in the NAMCS to enable the sample to be nationally representative and to estimate standard errors and 95% confidence intervals (CIs) that account for the complex survey design. Statistically significant differences between groups were determined using linear hypothesis tests. All statistical analyses used the survey procedures of Stata statistical software to account for the sampling design of the NAMCS.[25]

RESULTS

Depression Visits by Care Sector

There were an estimated 9.75 million visits (95% CI: 8.3 to 11.2 million) to office-based providers made by older patients for depression in 2001 to 2002 (Table 1). Of these visits, 6.22 million (95% CI: 4.6 to 7.8 million) were to primary care providers, representing 64% of all depression visits made by this population. The visits for depression to primary care providers

Table 1. Physician Office Visits in 2001 to 2002 by Older Patients with a Depression Diagnosis by Physician Specialty

	Percentage of Visits With Depression Dx		Total Number of Visits With Depression Dx	
	%	95% CI	N*	95% CI
All visits (N=14,372)	2.2	1.7 to 2.6	9.75	8.30 to 11.20
Primary care (N=3,605)	2.8	2.0 to 3.6	6.22	4.62 to 7.82
Family/general (N=2,060)	3.2	1.9 to 4.5	3.16	1.84 to 4.48
Internal medicine (N=1,545)	2.5	1.8 to 3.3	3.06	2.13 to 3.99
Psychiatrists (N=293)	58.4	50.7 to 66.2	2.51	1.71 to 3.31
All other specialists (N=10,474)	0.4	0.3 to 0.6	1.02	0.58 to 1.46

Data are from the 2001 to 2002 National Ambulatory Medical Care Surveys and include all physician office-based visits by patients aged 65 and older. The sample sizes listed are unweighted frequencies.
*N *for total number of visits is in millions; CI, confidence interval.*

were almost evenly split between family/general practice and internal medicine, with 3.16 million visits (95% CI: 1.8 to 4.5 million) to family practice and 3.06 million visits (95% CI: 2.1 to 4.0 million) to internal medicine. A total of 2.51 million visits (95% CI: 1.7 to 3.3 million) were made to psychiatrists, meaning that only about a quarter (25.7%) of all office visits for depression made by older patients were to psychiatrists.

Overall, 2.2% of all physician office visits made by older persons had a depression diagnosis, while 2.8% of visits to primary care providers had a depression diagnosis (Table 1). The difference in the proportion of visits to family/general practice physicians and to internal medicine physicians with a depression diagnosis (3.2% vs 2.5%) was not statistically significant (P=.33).

Depression Treatment by Care Sector

Next, rates of treatment with antidepressant medication and/or psychotherapy or mental health counseling were examined (Table 2). An antidepressant medication was prescribed during 5.1% of all visits made by older patients to physicians in office-based practices, while they were prescribed during 7.2% of all primary care visits. There was no significant difference (P=.62) in the rate of antidepressant prescribing between all visits to family/general practice (7.6%) and all visits to Internists (6.8%). Antidepressants were prescribed during 51.9% of all visits to primary care providers where a depression diagnosis was also recorded. There was no statistically significant difference between the rate of antidepressant prescribing during depression visits to Internists versus family/general practice (55.9% vs 48.0%; P=.43). Overall, when an antidepressant was prescribed during a depression visit made by an elderly person, a selective serotonin reuptake inhibitor (SSRI) or an atypical antidepressant was prescribed 92.8% of the time. An SSRI or atypical antidepressant was prescribed during 94.1% of these types of visits to primary care physicians.

Mental health counseling or psychotherapy was ordered or provided less frequently than antidepressant medication during visits to primary care providers where a depression diagnosis was recorded. Overall, mental health counseling or psychotherapy was ordered or provided during 26.9% of depression visits. Mental health counseling or psychotherapy was offered more often during visits to family/general practice physicians than during visits to Internists (39.4% vs 14.0%), although this difference was only significant at the $P<.10$ level (P=.08). The lack of a significant difference at the $P<.05$ level is likely because of the relatively small sample size (N=114). It appears that these psychotherapy or counseling visits were primarily not through referrals, though, as only 7% and 8% of depression visits to family practice physicians and Internists, respectively, resulted in a referral. Although family/general practice physicians were more likely to offer mental health counseling or psychotherapy than Internists, when the probability of any treatment (either psychotherapy/counseling or antidepressants) was examined, there was no significant difference between family/general practice and internal medicine (67.5% vs 64.3%; P=.81).

Some of the observed differences in treatment rates by physician specialty may be due to differences in the type of visit. For depression visits made to family practice physicians, 23% were identified as being for acute conditions and 67% were identified as being for treatment of chronic conditions, while for depression visits made to Internists, 12% were for acute conditions and 80% were for chronic conditions. Also, 15% of depression visits to family practice physicians were in-

Table 2. Rates of Treatment During Physician Office Visits by Older Patients with a Diagnosis of Depression in 2001 to 2002 by Physician Specialty

	Antidepressant Rx		Psychotherapy		Any Treatment	
	%	95% CI	%	95% CI	%	95% CI
All visits (N=366)	54.2	43.6 to 64.8	42.1	34.1 to 50.2	71.9	62.3 to 81.5
Primary care (N=124)	51.9	38.7 to 65.1	26.9	19.1 to 34.6	66.0	55.1 to 76.8
Family/general (N=74)	48.0	33.9 to 62.1	39.4	26.9 to 51.9	67.5	55.4 to 79.7
Internal medicine (N=50)	55.9	36.4 to 75.4	14.0	0 to 28.7	64.3	43.1 to 85.5
Psychiatrists (N=177)	65.9	50.8 to 81.0	84.7	78.4 to 91.0	91.8	86.0 to 97.7
All other specialists (N=65)	39.6	17.0 to 62.1	30.5	5.1 to 55.9	58.8	34.2 to 83.4

Data are from the 2001 to 2002 National Ambulatory Medical Care Surveys and include all physician office-based visits by patients aged 65 and older with a diagnosis of depression. The sample sizes listed in the table are unweighted frequencies. CI, confidence interval.

itial visits, while 8% of depression visits to Internists were initial visits.

CONCLUSIONS

The majority of office-based physician visits for depression by older Americans continue to take place in the primary care sector. In fact, the proportion of depression visits that take place in primary care increased from 51% in 1997 to 1999[16] to 64% in 2001 to 2002. However, it appears that depression in older patients continues to be underdiagnosed. While previous studies have demonstrated prevalence rates for significant depressive symptoms in primary care of about 20%,[26,27] less than 3% of primary care visits by older patients have a recorded depression diagnosis. Efforts need to be made to improve recognition and diagnosis of late-life depression.

Surprisingly, half of all primary care depression visits made by older patients were to family practice physicians. It was hypothesized that the majority of primary care visits in this population would be to Internists. Consistent with previous findings,[16] a relatively small proportion of depression visits made by older persons are to psychiatrists. In fact, the proportion decreased from 36.4% of visits in 1997 to 1999 to 25.7% of visits in 2001 to 2002. Apparently, the reluctance of older patients to see mental health specialists continues, even though these providers are more likely to provide combination therapy (both antidepressant medication and psychotherapy), which has been shown to be the most efficacious in treating late-life depression.[11]

For older patients who see primary care providers for depression, overall rates of antidepressant treatment do not differ between visits to family/general practice physicians and internal medicine physicians. However, it appears that family/general practice physicians are more likely to provide mental health counseling. Psychotherapy is at least as effective as antidepressant medication for older patients with mild to moderate depression,[28] and could be a good treatment option for older patients who are either reluctant to take antidepressant medication or are taking other medications that may interact with antidepressant medications. However, we found very low rates of referrals for both specialties, suggesting the utility of collaborative care models to improve referral rates.[20,21] Given that rates of antidepressant prescribing are similar between these types of primary care providers, it is likely that patients who receive care from family/general practice physicians are more likely to receive combination therapy than those patients who see Internists, although this was not directly tested in this study. But, no form of formal depression treatment is offered during a third of depression visits to both family/general practice and internal medicine physicians, suggesting that there remains significant room for improvement in depression treatment during visits to primary care providers.

There are several limitations to the analysis and to the NAMCS data that should be recognized. First, the analysis of treatment rates during primary care visits with a diagnosis of depression made by elderly patients had a limited sample size ($N=114$). As a result, large observed differences in treatment rates still failed to meet conventional levels of statistical significance. The data do not represent visits in emergency departments, hospital outpatient clinics, and specialized mental health facilities. Visits to nonphysician providers, such as psychologists and social workers, are also not included in the sample. In addition, the data are based on physician report and there has not been an assessment of the reliability or validity of psychiatric diagnoses in this survey. In fact, it is generally believed that lack of recognition of depression in primary care practice is common. Therefore, it should be remembered that this study presents the rates at which diagnoses of depression are recorded and does not estimate the prevalence of depression. Furthermore, the NAMCS survey only allows for 3 diagnoses and 6 medications to be listed. If patients had more than 3 conditions and/or more than 6 medications, it is possible that a depression diagnosis was recorded and/or antidepressant medication was provided but not included in the survey. If this "crowding out" of diagnoses or medications were more likely to occur for one specialty versus others, this would bias the results. Additionally, because the observations are office visits, the results do not necessarily generalize to individuals; severely ill patients are more likely to have frequent office visits and are more likely to be included in the sample. The data are cross-sectional. Therefore, the adequacy of treatment for depression over time cannot be adequately addressed with these data. It is not known how many patients crossover from one sector of care to another during the same treatment episode. Thus, care should be exercised when making inferences regarding patients as opposed to office visits. Another limitation is that provider sector differences are likely to exist in the severity of depression that are not measured or controlled for in the data, and thus the analysis. Even with these limitations, the NAMCS provides the most complete data available on office-based visits to physicians and the results are still informative.

The results of this study suggest that primary care practice-based interventions to improve depression care should focus on both internal medicine and family/general practice specialties. These interventions should emphasize referral for counseling or psychotherapy as a treatment option, as this modality of treatment appears to be underutilized and is at least as effective as medication for mild-to-moderate depression.[28] In particular, interventions aimed at primary care providers, such as collaborative care models, should educate them about psychotherapy as a viable and effective treatment option in this population.[11,28]

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