BAYWOOD REPRINTS

**Persons with Depressive Symptoms and the
Treatments They Receive:
A Comparison of Primary Care
Physicians and Psychiatrists**

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PERSONS WITH DEPRESSIVE SYMPTOMS AND THE TREATMENTS THEY RECEIVE: A COMPARISON OF PRIMARY CARE PHYSICIANS AND PSYCHIATRISTS*

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ABSTRACT

Objective: To determine if demographic differences exist in patients with depressive symptoms as the principal reason for visits to primary care physicians (PCP) versus psychiatrists. To estimate the likelihood of these patients receiving a range of mental health services from each provider group. *Methods:* Review and analysis of all outpatient visits made by patients with depressive symptoms using the National Ambulatory Medical Care Surveys (NAMCS) conducted in 1995 and 1996. *Results:* A significantly greater proportion of visits by persons with depressive symptoms as the principal reason for visit were made to psychiatrists than to primary care physicians ($T = -3.56$, $p = .000$). However, men, African-Americans, other Non-White persons, and persons aged 65 to 74 and 75 years and over were

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proportionately more likely to visit a PCP than a psychiatrist. Women, whites, and persons aged 45 to 64 were proportionately more likely to make a visit to a psychiatrist than to a PCP. The overall intensity of care delivered by PCPs for patients with depressive symptoms was significantly lower than that provided by psychiatrists ($t = -2.03$, $p = .02$). Analysis of individual services also revealed significant differences in service provision. *Conclusions:* Demographic differences among the patient caseloads of these physician groups have implications for mental health service delivery because of known distinctions in prevalence rates, symptom presentation, and functionality among depressed patient subgroups.

INTRODUCTION

Patients with depressive symptoms mood visit general and specialist physicians for mental health treatments in large numbers and constitute a significant proportion of estimated total visits to these providers [1-4]. Depressed mood may precipitate significant impairment characterized by dysphoria, and accompanied by physioogical, motor, cognitive, and interpersonal signs that limit personal functioning [5]. An extensive literature exists on the biology, cognitive patterns and behavioral correlates, and psychodynamics of both normal human emotions and mood disorders [6-9]. The economic, psychological, physical, and social burden of depressive symptoms have also been well-documented [10, 11]. In response to these burdens, health and mental health professionals use and continue to refine a variety of treatments, which have been the subject of considerable research to assess their clinical effectiveness [12, 13].

Among physicians, psychiatrists and primary care physicians receive the majority of ambulatory visits from patients who exhibit depressive symptoms and whose condition may go undetected [14] or be subsequently diagnosed and treated [15-17]. The epidemiology and clinical characteristics of depressive symptoms in primary care is complicated by patients who have a range of signs and symptoms that are either below threshold or do not meet the standard criteria for mental disorders [18] noted in the Diagnostic and Statistical Manual of Mental Disorders (DSM) [19]. While psychiatrists have been found to generally treat patients with more complex and serious psychopathology (including mood disorders) than primary care providers [20], a sizeable percentage of the latter nonetheless report evaluating patients with complicated depressive symptoms (e.g., history of sexual abuse or suicide potential) [16]. For both provider groups, similar patterns of antidepressant medication usage have been found [21].

These complexities have prompted researchers, clinicians, and payers to explore the question of which depressed patients are most effectively treated by which provider group and in which setting. Among physicians, primary care physicians have been a focus of considerable investigation to determine the effectiveness of these providers alone [22, 23], as referral agents [16], or in collaboration with mental health [24, 25] or allied health specialists [26]. Evidence from several sources suggests that psychotropic medication prescribed by either physician group for persons with mild depressive symptoms is not effective [10, 16, 23]. Treatment studies of psychotherapies provided by mental health professionals for patients with either mild to moderate depression [27] or major depression [13] suggest equal effectiveness as compared to psychotropic medication.

While the clinical features of major depression have been reported as more similar than different across age, gender, and ethnic groups [13], important epidemiologic, utilization, and outcome differences have been noted among these patients [27-29]. Women have been found to more likely experience an affective disorder during their lifetime than men [30]. Prevalence rates of major depressive disorders among primary care patients have been found to vary between 4 percent and 9 percent, yet less severe forms of depressive symptoms are even more prevalent in primary care settings [31]. Furthermore, reviews of mental health treatment illustrate, and in some instances validate, that demographic characteristics are important independent variables that affect the choice of treatment and subsequent clinical outcomes among patients with depressive symptoms [27, 32, 33].

In primary care settings, patient demographic characteristics represent important indicators for the identification of and response to treatments for depressive symptoms. For example, compared with Whites, African Americans have shown unique, and at times adverse, responses to some classes of antidepressant medications [34], but higher rates of participation in psychotherapy [35]. Compared to child psychiatrists, primary care physicians have been found less effective in diagnosing depressive symptoms in children [36]. It is generally recognized that older adults present to primary care physicians with symptoms of cognitive impairment that complicate the establishment of a differential diagnosis and selection of treatment [37].

To date, no study has used a large and nationally representative sample of patient visits to determine if important demographic differences exist among the patient caseloads of primary care physicians in comparison to psychiatrists. This is noteworthy because recent studies assessing the effectiveness of depression treatment in primary care have either failed to address patient demographic characteristics [26] or have used a relatively homogenous set of study participants [24]. The latter studies have generally used patients who were predominantly female, middle-aged, and white. One extensive review of the depression treatment literature has concluded that a majority of clinical trials and other treatment

effectiveness studies are measures of the prevalence of depression and efficacy of depression treatment in women alone [27]. Studies that have taken patient demographic characteristics into account have been limited to selected age groups, to patients with DSM-IV diagnoses (this may result in under-representation as primary care physicians may not use formal depression diagnoses) [21], or to small study samples [38].

The present study had two aims: 1) to determine whether demographic differences exist among patients with depressive symptoms who visit primary care physicians and psychiatrists, and 2) to examine whether patients with depressive symptoms receive the same range of mental health services during a visit when physician provider group is taken into account. The existence of demographic differences among patients with depressive symptoms who visit these providers may provide elements of a systematic portrait of depression treatment by physicians that combines patient population characteristics and physician specialty characteristics.

Methods

Source of Data

The National Ambulatory Medical Care Survey (NAMCS) is conducted annually by the National Center for Health Statistics (NCHS) [3, 4]. It is a national and representative database of patient office-based visits to practicing, nonfederal physicians. Our data is based on the combined results from the 1995 and 1996 surveys, which represented the most recent NAMCS survey results available at the time of data analysis. Diagnoses are made and recorded using the International Classification of Diseases, [7th] Revision Clinical Modification [39]. Psychiatric diagnoses in the ICD manual conform to diagnoses set forth in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) [19].

Survey Design

The basic sampling unit for the NAMCS is the physician-patient encounter or visit. Only visits to the office of a nonfederal employed physician classified by the American Medical Association (AMA) or the American Osteopathic Association (AOA) as "office-based patient care" were included in both NAMCS surveys. The NAMCS utilizes a multi-stage probability design that involves probability samples of primary sampling units (PSUs), physician practices within PSUs, and patient visits within practices.

The first stage included PSUs of counties, county equivalents, or towns and townships. The second stage consisted of a probability sample of practicing physicians selected from the master files maintained by the AMA and AOA. Within each PSU, eligible physicians were stratified into 15 specialty groups (e.g.,

Cardiology, Family Practice, etc.). The final stage was the selection of patient visits within the annual practices of the participating practitioners. The final stage involved a two-step process of first partitioning the physician sample into 52 subsamples that corresponded to the 52 weeks in the survey years, and subsequently conducting a systematic random sample of patient visits to the physician during the assigned week. The physician, office staff, or NCHS staff records each encounter on a Patient Record Form (PRF). Information gathered from each visit is broadly divided into three characteristics: physician characteristics (specialty, geographic region), patient characteristics (age, ethnicity, race, and sex), and visit characteristics (e.g., reason for visit, diagnoses, medications, expected sources of payment, and health plan type). The NAMCS does not measure other physician information such as age and gender. Nor does it provide additional patient information such as education level or occupation. Analyses were subsequently undertaken with the data made available.

Physician Sample and Response Rate

A sample of 3,724 physicians was selected for the 1995 NAMCS and 3,173 physicians were selected for the 1996 NAMCS. Screening out physicians who did not meet eligibility requirements (e.g., federal physicians or full time hospital practice) resulted in 2,587 and 2,142 eligible physicians for the 1995 and 1996 NAMCS, respectively. This included 744 primary care physicians and 186 psychiatrists in 1995, and 661 primary care physicians and 110 psychiatrists in 1996. The following two mutually exclusive groups were developed for this study: psychiatrists (including child psychiatry and adult psychiatry, excluding psychoanalysis), and primary care physicians (family and general practice, internal medicine, obstetrics-gynecology, and pediatrics). Psychoanalysts were excluded from this study because their practices depart significantly from those of primary care physicians and subsequent comparisons between the latter group and psychiatrists would have been confounded with the inclusion of that specialty group.

One thousand eight hundred and eighty-three physicians responded to the 1995 NAMCS for an overall rate of 73 percent. One thousand five hundred physicians responded to the 1996 NAMCS for an overall rate of 70 percent. Five hundred and forty-six primary care physicians and 135 psychiatrists responded to the 1995 NAMCS for response rates of 73 percent and 72 percent, respectively. Four hundred and seventy primary care physicians and 79 psychiatrists responded to the 1996 NAMCS for response rates of 71 percent and 72 percent, respectively.

Population Estimates and Patient Demographics

The base population used in computing annual visit rates is based on provisional estimates for the civilian noninstitutionalized population provided by the U.S. Census Bureau. These estimates are presented for the purpose of providing

denominators for rate computation and are generally not considered to be official population estimates. Data on the demographic composition of patients who made ambulatory visits in the two study years are available in publications from the NCHS [1, 2].

Mental Health Profile of Patient Visits

The patient's documented complaints, symptom(s), or other reasons for an ambulatory visit represent one of the most important items of the NAMCS. The NAMCS categorizes all possible reasons for the visit into eight separate and distinct Modules that include separate code ranges for each module. Up to three separate "Reasons for Visit" can be documented on the PRF used in the survey. The patient's first and initial reported complaint to the physician constitutes the principal Reason for Visit.

The present study developed a subset of all visits confined to those that were associated with patient-reported depressive symptoms. These depression visits were further classified into whether symptoms were the principal reason for the visit or whether the physician assigned them as the second or third reason for the visit. The designation of a depression visit was made if it corresponded to one of the following three characteristics: 1) routine symptoms of depressed mood (e.g., crying, sadness, grief); 2) disturbances of sleep; and 3) social adjustment problems (e.g., loneliness or social isolation). These depression-like characteristics correspond to types of "conspicuous psychiatric illness" [22] that are recognized by primary care physicians and recorded in medical charts.

The study design emphasized patient presenting problems, rather than an exclusive focus on physician diagnosis of depression, because of certain features specific to primary care settings. First, rates of DSM-IV based diagnoses in primary care vary due to physician [16], patient [38], and health care setting [40] characteristics. The use of DSM diagnoses could have controlled for differences in severity of patient presentation to the physician groups. However, this strategy would have greatly reduced the number of patient visits to primary care physicians that were available for analysis. The potential result would have been to underestimate the number of patients with depressive symptoms that visit these physicians. Second, eliciting the expression of the patients' presenting problems by primary care physicians has been found to increase overall improvement in depression recognition and subsequent service delivery [41].

The study design emphasized a comparison of the proportion of ambulatory visits made to each provider group based on patient demographics, rather than a comparison of patient visits based solely on different symptomatology (e.g., depressive symptoms versus sleep disturbances versus adjustment problems). This strategy was employed for two reasons. First, previous research has documented that patient demographic characteristics are an important factor that influence mental health demand and need [42]. Second, an examination of the pattern of

visits based on each of the three depressive characteristics revealed insufficient unweighted cases available for analyses due to patient demographic characteristics (e.g., race or age group).

Thus, while not a valid diagnosis of DSM-IV Major Depressive Disorder, the study criteria correspond, at a minimum, to a reliable marker of emotional and/or psychosocial distress among patients seeing these physicians. Existence of this distress marker is then used to examine demographic differences in caseloads and to assess for the likelihood of services offered by both provider groups based on patient presentation.

Statistical Design

T tests were first computed to test for differences in the proportion of depressive symptom visits to each provider group. We then tested for the presence of significant differences in the demographic composition of patients who presented with depressive symptoms to primary care physicians versus psychiatrists. The NAMCS demographic variables selected were age group, gender, and race. For Chi square analyses, the Pearson statistic was corrected for the complex survey design and converted into an *F* statistic.

Linear regression and logistic regression with adjusted odds ratios were used to estimate the likelihood of differences in services rendered by primary care physicians versus psychiatrists for patients with depressive symptoms as the principal reason for visit. This subsample was selected for analysis because it was reasoned that using all patient depression visits, including those in which general medical symptoms were the principal reason for visit, would underestimate mental health services delivered by primary care physicians and bias results. This odds ratio was computed after controlling for the following factors: patient age, gender, race, insurance status, health plan type, region of the country, and metropolitan/nonmetropolitan status.

We also controlled for the likelihood of receiving services due to patients having more than one source of insurance. Each paysource variable included in the analyses was restricted to only those observations where the patient had one source of insurance. To assess for the effect of multiple sources of insurance, we constructed a variable to account for visits where the patient had more than one source of insurance.

The primary dependent variable was an indicator of the intensity of care for a depressive symptom visit. This indicator was the total of eight components: patient seen before for a depression visit, physician conducting a mental status examination; receipt of a DSM-IV diagnosis; any medication ordered during a depression visit; psychotropic medication administered, continued, injected, ordered, or supplied during a depression visit; provision of mental health counseling; delivery or referral for psychotherapy; duration in minutes for the depression visit; and physician order for the patient to return at specified time for a depression visit.

Analysis of individual components was planned if significant differences emerged from analysis of the composite.

In order to provide estimates of office-based visits for any given year, the NAMCS uses a complex visit weight that is computed from an annual estimate of the U.S population provided by the U.S. Census Bureau. For this study, the number of visits and percentages reported are based on the weighted estimates. Estimates for the 1995 and 1996 surveys represent the annualized mean of the two years. Standard errors (along with F- and t-tests) are adjusted for the weighting and sampling design (stratification) using procedures for complex survey data implemented in STATA [43]. Analyses took into account the sample stratification, probability weights assigned to each observation, and computed adjusted Wald F tests.

RESULTS

Depression Visits

The proportion of depression visits to the four primary care specialties is presented in Table 1. An estimated 7,436,944 visits (47 percent of mental health visits) were made to primary care physicians that included some notation of patient depressive symptoms (e.g., depressed mood, insomnia, or adjustment problems) by the physician. In contrast, an estimated 8,364,256 visits (53 percent of mental health visits) were made to psychiatrists that included some notation of patient depressive symptoms by the physician. The difference is not statistically significant ($T = -1.52$, $p = .12$). During that same time period, an estimated 3,588,770 visits (37 percent) were made to primary care physicians that involved depressive symptoms as the principal reason for visit. In contrast, an estimated 6,151,027 visits (63 percent) were made to psychiatrists that involved depressive symptoms as the principal reason for visit. The difference is statistically significant ($T = -3.58$, $p = .000$). The proportion of patients with primary visits for symptoms of depressed mood (sadness, crying, grief, etc.) was greater to psychiatrists than to primary care physicians ($F = 1108$, $p = .000$).

Table 1. Proportion of Patient Visits Types with Depressive Symptoms to Primary Care Specialties

	General Practice/ Family Physician	Internal Medicine	Pediatrics	Obstetrics/ Gynecology
Any Depression Visit	47.4	35.1	12.1	5.4
Depression Principal Visit	50.2	39.6	8.7	1.5

Demographic Factors

Significant demographic differences were also found between the two physician groups for patients with depressive symptoms as *any reason for visit*. Women, Whites, patients aged 25 to 44, and patients aged 45 to 64 made proportionately more visits to a psychiatrist than to a primary care physician. Men, African Americans, other Non-White persons, and patient's under 15 years of age, between 65 to 74, and 75 years and over made proportionately more visits to a primary care physician than to a psychiatrist. There was no difference in the proportion of visits by patients aged 15 to 24 who visited either physician groups (see Table 2).

Significant demographic differences were also found among patient visits with depressive symptoms as *the principal reason for visit* to the two physician groups. Women, Whites, and persons aged 45 to 64 made proportionately more visits to a

Table 2. Proportion of Patient Visits with Any Depressive Symptoms
by Patient Demographics to Physician Groups

	Primary Care Physician (%)	Psychiatrist (%)
Gender		
Female	58.7	65.8
Male	41.3[a]	34.2
Race		
White	87.0	92.0
African American	9.0[b]	6.0
Other	4.0	2.0
Age Group		
<15 years	13.4[c]	2.2
15-24 years	5.2	6.1[d]
25-44 years	31.2	42.4[e]
45-64 years	26.1	36.7[f]
65-74 years	14.3[g]	8.1
>75 years	9.8[h]	4.5

[a] $F_{(1.96, 2771.61)} = 6.22, p = .002$
[b] $F_{(3.47, 4915.10)} = 2.39, p = .057$
[c] $F_{(1.66, 2349.75)} = 24.69, p = .000$
[d] $F_{(1.51, 2134.04)} = 1.05, p = .331$
[e] $F_{(1.93, 2735.47)} = 5.09, p = .006$
[f] $F_{(1.94, 2739.56)} = 6.10, p = .002$
[g] $F_{(1.94, 2745.87)} = 4.45, p = .013$
[h] $F_{(1.90, 2687.33)} = 8.67, p = .000$

psychiatrist than to a primary care physician. In contrast, men, African Americans, other Non-White persons, and persons aged 65 to 74 and 75 years and over made proportionately more visits to a primary care physician versus a psychiatrist. There were no observed differences in the proportion of visits by persons aged 25 to 44 who visited a primary care physician versus a psychiatrist. Tests of association for visits by patients aged less than 15 years and 15 to 24 who presented with depressive symptoms as the principal reason for visit could not be reported. This was due to the fact that the number of unweighted patient visits by persons in these age groups to primary care physicians did not meet the minimum necessary for reliable calculations (see Table 3).

Mental Health Services

Linear and logistic regression analyses were employed to measure the likelihood of patients with depressive symptoms (e.g., any of the three symptom types)

Table 3. Proportion of Patient Visits with Depressive Symptoms as Principal Reason by Patient Demographics to Physician Groups

	Primary Care Physician (%)	Psychiatrist (%)
Gender		
Female	58.2	67.3
Male	41.8[a]	32.7
Race		
White	85.5	92.1
African American	8.9[b]	6.5
Other	5.6	1.4
Age Group		
<15 years	8.1[c]	1.6
15-24 years	7.1[d]	5.7
25-44 years	35.2	41.4[e]
45-64 years	22.5	37.4[f]
65-74 years	15.6[g]	9.1
>75 years	11.4[h]	4.2

[a] $F(1.93, 2735.08) = 7.17, p = .000$
[b] $F(3.59, 5087.63) = 2.81, p = .028$
[c] $F(1.95, 2798.90) = 10.74, p = .000$
[d] $F(1.43, 2023.08) = 0.46, p = .565$
[e] $F(1.90, 2689.24) = 1.22, p = .293$
[f] $F(1.98, 2804.62) = 8.47, p = .000$
[g] $F(1.87, 2653.30) = 4.31, p = .015$
[h] $F(1.86, 2641.51) = 8.39, p = .000$

as a principal reason for visit receiving a range of mental health services from primary care physicians. The control group was patients with depression who visited psychiatrists. The overall intensity of care delivered by primary care physicians for patients with depressive symptoms was significantly lower than that provided by psychiatrists (i.e., primary care physicians were less likely to provide services on three of the eight indicators). The result is significant and independent of the effect of patient age, gender, race, insurance plan, payment source, region of the country, and metropolitan/nonmetropolitan status (see Table 4).

Overall, patients with depressive symptoms who visited primary care physicians were less likely to receive a DSM-IV diagnosis and less likely to be provided or be referred for psychotherapy in comparison to visits with psychiatrists. These patients received an appointment duration for their principal visit that was, on average, 32 minutes less than what patients with depression received from

Table 4. Likelihood of Mental Health Service Delivery by Primary Care Physicians versus Psychiatrists for Persons with Depressive Symptoms

Mental Health Services	Coefficients[a]/ Odds Ratios	Std. Error	T	P Value
Intensity of care	−0.92	.40	−2.30	.021
Prior appointment for condition	18.68	27.48	1.99	.047
DSM diagnosis	0.56	.05	−3.19	.001
Any medication ordered	1.30	1.24	.27	.785
Psychotropic medication ordered	0.55	.46	−.70	.485
Office-based mental health counseling	0.53	.45	−.73	.465
Psychotherapy provision or referral	.00	.00	−3.67	.000
Follow-up appointment	0.48	.40	−.86	.388
Duration of treatment in minutes	−32.29	4.16	−7.74	.000

[a]Coefficients calculated only for the Intensity of care and duration of treatment in minutes. Odds ratios calculated for all other services.

psychiatrists. These results are significant and independent of the effects of patient age, gender, insurance status, health plan type, region of the country and metropolitan/nonmetropolitan status. Patients with depressive symptoms were no less likely to previously visit their primary care physician, receive any medication during a depression visit, to have their primary care physician provide a psychotropic drug, to be offered office-based mental health counseling, or to be requested to return for a follow-up appointment (see Table 4).

DISCUSSION

Using a large and nationally representative sample of ambulatory patient visits, this study suggests that the caseloads of patients with depressive symptoms among primary care physicians and psychiatrists differ along demographic characteristics. Based on these results, clinical trials and demonstration projects that measure the effectiveness of particular provider groups in combination with specific depression treatments should target patient groups whose proportion of visits to primary care is large relative to psychiatry—men, African Americans, other Non-White persons, children, and the elderly.

The existence of demographic differences among persons with depressive symptoms who visit these physicians is important for three reasons. First, significant differences have been found in the prevalence rates of depressive symptoms among different demographic groups. Rates of depression for older adult men were found to increase with advancing age when symptoms of grief are included in the symptom picture [44]. The lifetime prevalence of depression in women is generally known to be greater than for men [30] However, men are more likely to experience alcohol and drug dependence symptoms, which either masks depression or have a significant comorbidity with depression [45]. Second, differences in symptom presentation, social functioning, and levels of other comorbid mental health symptoms have been observed for depressed African Americans in comparison to whites [35]. Depressed older adults have a greater likelihood of mortality from medical symptoms than similar younger adults [37]. Third, patient demographic characteristics are one set of "competing demands" that also include physician and practice setting characteristics that uniquely influence the delivery of treatments for persons with depressive symptoms [46].

The unit of analysis in this study was the visit not the patient. It is possible that patients with more extensive or continuing problems would visit a psychiatrist, or that particular patient groups would be more likely to do the same. However, our analyses suggest that when patient gender, race, and age are taken into account there is no significant difference in the likelihood of these patients either being seen before by a primary care physician or being asked to return for a follow-up visit by a primary care physician. Thus, our focus on patient visits does not overlook previous or continuing services provided by either physician group.

In comparison to previous work that found high rates of primary care visits by women for depressive symptoms [10, 38], this is the first study to find that a greater proportion of men were more likely to visit primary care physicians than psychiatrists. While the caseloads of both provider groups are still dominated by women with these characteristics, a greater proportion of male patients with these symptoms choose or are referred to primary care physicians than to psychiatrists. This finding may be of some clinical significance, given the fact that for other symptoms treated by physicians men are less likely than women to use preventive services [47]. Particular psychological, social, or economic factors, not addressed in this study, may account for this finding.

The measure of depressive symptoms in this study does not assume that patients warranted a DSM-IV diagnosis at the time of the visit. It is possible that the symptoms noted in this study are age-appropriate life changes (e.g., loss of the idealization of a parent for children with associated distress), transient (e.g., adjustment disorders), or that more serious psychopathology underlies the depressive-like symptoms [48]. The primary care patients in this study that did not receive a diagnosis may also represent individuals who do not yet need formal mental health services. "Watchful waiting" is a perspective frequently endorsed by primary care physicians as a clinical strategy for persons with depressed mood [16].

Primary care physicians have acknowledged concerns and reported their opinions regarding the skills needed to deliver mental health services [16, 49]. Given the heterogeneous nature of their caseload of patients with depressive symptoms, primary care physicians are no doubt challenged in their ability to tailor interviewing, prescribing and counseling techniques to these patients. Among these challenges is the fact that the "person in the patient" (e.g., their age, gender, and race) represent significant factors that primary care physicians must take into account in their selection of mental health treatments.

A considerable body of theory [8, 9, 30] and empirical evidence [27, 50] suggests, and in some cases demonstrates, that patient demographics represent important factors in the choice of treatments and subsequent outcomes for depressed persons. A smaller, but still relevant, body of research suggests that these same factors are relevant to mental health service delivery in primary care [51, 52]. According to proponents of the biopsychosocial model, quality of care in primary care is enhanced when providers take a comprehensive view of patients and their circumstances of living. To accomplish the goals of this model, many primary care physicians utilize systemic principals that focus treatment on the patient and their family [52].

The rates of secondary depressive symptoms for children and adolescents found in this study (e.g., not the principal reason for visit) may be due to the increased likelihood of visits to their provider and subsequent detection of the depressive symptoms. The prevalence and burden of all mental health problems in children has been documented [53]. Difficulties in primary care physician's detection,

treatment, and referrals for child mental health problems have also been reviewed [36]. Given these realities, primary care physicians would likely benefit from research that outlines the forms of mental health treatments that are effective for children in primary care. Non-pharmacological treatments for depression [54] should be considered given the relative lack of evidence that demonstrates the safety, efficacy, and outcomes from psychotropic medication use among preschoolers [55], children, and adolescents [56].

Similar challenges confront primary care physicians in their treatment of depressed patients at the other end of the age spectrum. These challenges include the fact that older adults routinely have a sizeable number of chronic medical symptoms, which challenge the physician to set treatment goals and effectively manage this set of patient problems. For older women patients, menopausal symptoms (e.g., night sweats) may contribute to sleeplessness and further complicate the differential diagnosis. The extensive burden of depression on older adults has been previously noted, with particular emphasis on persons whose depressive symptoms may mask cognitive impairments, such as dementing disorders [57].

Our results also revealed overall differences in intensity of care for depressed patients between primary care physicians and psychiatrists. The observed differences are due to the primary care physician's reduced rates of making a DSM-IV diagnosis, providing or making referrals for psychotherapy, and the duration of time spent with these patients in comparison to psychiatrists. Yet, the lower rate of service provision among primary care physicians may simply be due to the existence of other medical symptoms that require the physician's attention.

The limited use of formal mental health diagnoses by primary care physicians has been well documented. While primary care physicians infrequently use formal psychiatric diagnoses, their selection of mental health treatments can, nonetheless, be meaningfully understood from a number of perspectives. One perspective is that these physicians treat on the basis of the patient's predominant symptom presentation, rather than use a formal diagnostic process prior to initiating treatment [58]. Clinicians using systems perspectives derived from family therapies bypass the use of individualized psychiatric diagnoses and instead treat the patient in the context of their family or social network [52]. Nor are these physicians required to provide DSM-IV diagnoses for billing purposes, unlike psychiatrists.

In a review by Schulberg, limitations in the usefulness of the DSM model to mental health diagnosis in primary care were outlined [18]. For example, the extensive criteria needed to be present for a physician to make a diagnosis of Somatization Disorder, and the underemphasis on psychosocial problems in the DSM diagnostic scheme, have been cited as issues that hamper the primary care physician's efforts at diagnosis and treatment. Thus, the unique demands of primary care practice, the existence of different and competing models of mental health diagnosis, along with possible limitations in the DSM model, may combine to complicate primary care physician's ability to conceptualize and diagnose problems they already feel inadequately trained to address.

Primary care physicians were observed to be less likely to provide or refer for psychotherapy in comparison to psychiatrists. This result is consistent with a sizeable number of other studies that document factors that limit such services, including lack of psychotherapy training, time constraints, and obstacles involving referrals to and consultations with mental health professionals. Despite these factors, the results of this study suggest that primary care physicians may need to consider alterations in their referral patterns for psychotherapy. As noted, the reported large proportion of children with depressive symptoms who visit primary care physicians may warrant the use or referral for nonpharmacologic treatments such as family therapy. One study has recorded the effects of family therapy interventions with depressed children [54]. Clinical case studies involving family therapy conducted in primary care settings [52] have also noted effective results.

The results of this study also have particular relevance for the ongoing mental health service role of psychiatrists. First, psychiatrists in this study were found to be the main provider of treatment for patients with depressive symptoms as the principal reason for visit. The estimated total number of visits to psychiatrists by these patients was 40 percent more than to primary care physicians. Second, when the category of overt depressed mood (e.g., crying or sadness) was independently examined in relation to physician group, these patients were more likely to visit a psychiatrist than a primary care physician. Third, both of these features of mental health service utilization hold significance when viewed in the context of continued declines in the number of medical graduates choosing psychiatry [59], and the challenges faced by primary care physicians in providing consistent and accurate mental health diagnoses. Whether primary care physicians become active collaborators or substitutes for psychiatrists and other mental health professionals is an important issue not best left to chance by the daily demands of office practice.

Study Limitations

Several limitations must be noted. First, the unit of analysis was the visit not the person; a focus on visits might conceal underlying demographic differences in the overall prevalence of depressive symptoms and subsequent pattern of mental health utilization. However, epidemiological differences for depressive symptoms have not been consistently found for African Americans in comparison to whites [34] and, as noted, the prevalence of depression in women versus men is confounded by the existence in men of high rates of other disorders that may mask depression (e.g., alcohol and drug dependence) [45]. Second, the demographic differences in the proportion of these visits to both provider groups may obscure essential differences in patient insurance and income status between these patients. Thus, the observed demographic differences may be the result of certain patient group's inability to access psychiatrists because of a lack of resources or the referral techniques of their health plan. Third, the measure of depressive symptoms used in this study may also have obscured important differences in the

severity of depressed patients between the two physician groups. In managed care and other integrated delivery systems, psychiatrists are routinely referred only those patients with the most problematic and severe symptoms. However, even if psychiatrists treat patients with more complex depressive symptoms, this study found that the diverse caseloads of primary care physicians present them with unique challenges to provide effective care. Finally, aggregating four primary care specialties into one category might have obscured important differences between individual physician groups, as indicated in the recently observed divergence between family physicians and general internists in referral rates to psychiatrists [60], and in diagnosis, treatment and referral for patients with depression [16]. The demands of data analysis required that specialties be collapsed to meet sample size requirements.

In many existing health care systems, primary care physicians are being asked to treat an increasing number of patients with complex problems [61]. The trend in office-based primary care has also been in the direction of increased services for depressed patients [2]. The results of this study suggest that particular subgroups of depressed patients constitute a significant proportion of the caseloads of primary care physicians. Given these realities, mental health services by primary care physicians may need to be enhanced by continued research and demonstration projects that examine the effectiveness of these providers, alone or in collaboration with mental health specialists, in the treatment of selected subgroups of depressed patients.

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