Primary Care Patients with Depression Are Less Accepting of Treatment Than Those Seen by Mental Health Specialists

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OBJECTIVE: This study examined whether depressed patients treated exclusively in primary care report less need for care and less acceptability of treatment options than those depressed patients treated in the specialty mental health setting after up to 6 months of treatment.

DESIGN: Cross-sectional study.

SETTING: Forty-five community primary care practices.

PARTICIPANTS: A total of 881 persons with major depression who had received mental health services in the previous 6 months and who enrolled in 3 of the 4 Quality Improvement for Depression Collaboration Studies.

MEASUREMENTS AND RESULTS: Patients were categorized into 1 of 2 groups: 1) having received mental health services exclusively from a primary care provider (45%), or 2) having received any services from a mental health specialist (55%) in the previous 6 months. Compared with patients who received care from mental health specialists, patients who received mental health services exclusively from primary care providers had 2.7-fold the odds (95% confidence interval [CI], 1.6 to 4.4) of reporting that no treatment was definitely acceptable and had 2.4-fold the odds (95% CI, 1.5 to 3.9) of reporting that evidence-based treatment options (antidepressant medication) were definitely not acceptable. These results were adjusted for demographic, social/behavioral, depression severity, and economic factors using multiple logistic regression analysis.

CONCLUSIONS: Patients with depression treated exclusively by primary care providers have attitudes and beliefs more averse to care than those seen by mental health specialists. These differences in attitudes and beliefs may contribute to lower quality depression care observed in comparisons of primary care and specialty mental health providers.

KEY WORDS: attitudes; depression; quality improvement.
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Depression is a common mental disorder that may afflict as many as 1 in 4 people over their lifetime.^{1,2} In addition to causing considerable personal suffering, depression imposes significant social costs in terms of disability, suicide, marital conflict, parenting problems, and medical costs.^{1–10} Depression increases the risk of coronary artery disease, alters immune function, and may predispose individuals to substance abuse and tobacco dependence.^{11–14} Despite depression's high prevalence and significant costs, few patients with depression currently receive an adequate course of therapy (<30%).^{15,16}

Most patients with depression will receive their depression care in the general medical sector.^{17,18} Community surveys have suggested that primary providers are less likely to provide high-quality depression care than mental health specialists (20% vs 81%).^{9,15} In a recent study, primary care physicians identified patient attitudes and beliefs as the primary impediments to implementing guidelines for congruent care.¹⁹ Low perceived need for depression treatment and negative attitudes toward antidepressant medication and counseling treatment are associated with poor quality treatment, reduced compliance, and worse outcomes in community settings.^{15,20–22} Less favorable patient attitudes with regard to treatment options may contribute to the lower quality of care observed in general medical settings.

Seeking mental health services is a multistep process that includes choosing a provider and completing a course of treatment.²³ Beliefs about the helpfulness of different types of providers and treatment simultaneously influence the initial decision to seek care for depression and the choice of provider.^{24–27} It is not known whether these differences in beliefs and attitudes between primary care and mental health specialty patients persist during treatment for depression. We hypothesize that differences in attitudes between depressed mental health specialty and primary care patients with regard to treatment options are likely to be present even after several months of treatment. The purpose of this study is to determine whether differences in attitudes with regard to need for care and the acceptability of treatment between depressed patients treated exclusively in the primary care setting and those cared for by mental health specialists are present after as long as 6 months of treatment in community settings.

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METHODS

Study Design and Instrument

We completed a secondary data analysis of the baseline questionnaire responses of 881 participants in the Quality Improvement for Depression Collaboration (QID). The QID study is a cooperative study that included 4 projects designed to evaluate the effectiveness of depression treatment quality improvement interventions in primary care offices. We included patients from 3 of the 4 projects in our study: the Hopkins Quality Improvement in Depression Project (HQID) based at Johns Hopkins University, the Mental Health Awareness Project (MHAP) sponsored by the VA Greater Los Angeles/RAND/UCLA, and the Quality Enhancement by Strategic Teaming Project (QuEST) organized by the investigators currently at the University of Colorado. Because it did not measure acceptability of treatment with the same items as the other studies, the fourth project (Partners in Care, RAND/UCLA) was not included in this analysis. The QID study consisted of 4 projects and evaluated 6 separate depression quality improvement interventions. Two of the projects (HQID and MHAP) tested specified quality improvement interventions and a third (MHAP) evaluated a process for developing a quality improvement intervention. All the projects used manual-based chronic disease management interventions to improve the quality of depression treatment in primary care.²⁸

The 4 health care organizations and 62 separate practice sites (of the 3 included studies) were intended to be representative of the current primary care practice environment. Half the patients were drawn from staff/group model organizations and half from network model systems. A minority of the health care organizations had gatekeeper requirements for mental health services. Practice sites included urban and rural settings and 3 different geographic regions (Northeast, West, and South). For-profit and nonprofit types of practices were included with varying physician compensation plans. The mean number of adult patients seen/week was 72 (included family practice sites) with a mean of 7.6% of all visits with depressed patients.²⁸

Study Sample

All 3 studies used a 4-level nested design sampling strategy: recruiting community-based health care organizations, primary care practices within organizations, primary care clinicians within practices, and patients within practices. The goal of the patient sampling was to obtain a representative sample of consecutive patients in each practice who met eligibility criteria. Patients completed a depression screener that asked about symptoms of depression for at least 2 weeks during the last year and 1 week out of the last month. Exclusion criteria included: age <18 years, presence of an acute life-threatening condition, cognitive impairment, pregnancy, current breastfeeding, <3 months postpartum, not intending to receive care from that clinic on an ongoing basis, no telephone access, a

lifetime history of mania or alcohol dependence, and current bereavement. Screen-positive patients who either met criteria or had 1 symptom less than needed for meeting the criteria of major depression during the past year on a subsequent structured interview using the Composite International Diagnostic Interview (CIDI) were included in this study.²⁸ We flagged the records of these patients who were subthreshold for meeting the criteria for major depression in order to exclude them from our analyses when necessary. For the purposes of this analysis, we excluded any patient who had not received mental health services from any provider in the previous 6 months at baseline. However, we provide a comparison of the untreated patients in terms of their characteristics and attitudes toward treatment with our study sample in our results.

Dependent Variable

Receiving mental health services from a PCP was defined as having had at least 1 mental health visit to a primary care provider and none to a mental health specialist (MHS). A visit to a primary care provider was characterized as a mental health visit if the patient reported that they had "brought up problems with emotions, nerves, alcohol, drugs, or mental health." The remainder of the participants, which included those seeing only a mental health specialist and those who saw both types of providers, were considered to have received care for a mental disorder primarily from a specialist (MHS). We chose to define our dependent variable as receiving mental health services only from a PCP (vs receiving any treatment from an MHS) because PCP patients are much less likely to receive high-quality treatment for depression.¹⁵

Independent and Covariates Variables

A complete list of all the study variables with descriptions can be found in Table 1. The variables of interest in our study pertained to perceived need for care and acceptability of treatment options for depression. The development of these questions has been described in previous work.²⁹⁻³¹ The baseline questionnaire included assessment of demographic, socioeconomic, illness, and social/behavioral factors known to influence the choice of type of mental health services provider.^{23,25,27,32} Demographic variables include age, gender, and marital status. Illness variables included the revised 23-item Center for Epidemiologic Studies Depression scale (CESD), the Short Form 36 (SF-36) mental health and physical component scores, and the number of chronic medical conditions (from a list of 14 conditions).³³⁻³⁵ For social/behavioral factors, we used the Medical Outcomes Social Support Survey and the number of adverse life events with a negative effect on the patient's life.³⁶ We assessed socioeconomic status using the number of years of school finished, total household income, and employment/disability status in the past year. In addition to insurance coverage status, we constructed several variables to measure the economic impact of service use

Table 1. Study Variables

Type of Variable	Name of Variable	Variable Description and Construction
Dependent variable	Primary care vs mental health specialty mental health services	PCP mental health services defined as receiving mental health services from a PCP but not from an MHS in the last 6 months.
Independent variables	"Get over it naturally"	Acceptability of "Wait and get over it naturally" rated on a 4-point Likert scale. A "not sure" was also included. Indicator variables constructed for each rating level for each of the attitude variables.
	Antidepressant medication	Acceptability of "Use antidepressant drugs" rated.
	Individual counseling	Acceptability "Seek one-on-one counseling from a mental health specialist" rated.
	Group counseling	Acceptability of "Group counseling with 6 or more patients led by a mental health professional" rated.
Demographic characteristics	Age	Chronological age and age categories in bivariate analysis
	Gender	Male vs female
	Ethnicity	White vs all other ethnic groups
Socioeconomic characteristics	Marital status	Married vs unmarried
	Education	Patient report of number years of school completed Total years of education. A separate variable was constructed for levels of education for the bivariate analysis.
	Total household income	Total income from all household members
	Employment status	Any income from employment in past year
	Unemployment/disability status	Any income from unemployment or disability in the past year
Illness factors	CES-D score	Modified Center for Epidemiologic Studies-Depression Scale score to assess depression severity
	SF-36 Mental and Physical Component Scores	Used to assess functional status
	Number of chronic conditions	Total number of chronic medical conditions from a list of 14
Social/behavioral factors	Total social support	Medical Outcomes Social Support Scale total score
	Physical social support	Medical Outcomes Social Support Scale physical support scale
	Adverse life events	Total number of adverse events with negative impact
Access to care	Insurance status	Yes or no
	Mean out-of-pocket Costs or MHS and PCP visits	(Total out of pocket costs in sector of care)/(total number of visits in that sector) = out of pocket costs for PCP or MHS sectors Outliers above \$100/visit were eliminated
Health care utilization	Travel time to PCP or MHS	(Travel time) + (waiting time) for type of provider = total travel/wait time for each type of provider
	Total mental health visits	(PCP mental health visits) + (MHS mental health visits) = total Mental health visits in last 6 months
	Total primary care visits	Number of visits to PCP for all purposes in last 6 months
	Medication treatment	Medication treatment for depression or anxiety in the last 6 months

CES-D, Center for Epidemiologic Studies-Depression Scale; SF-36, short form 36; MHS, mental health specialist; PCP, primary care physician.

including out-of-pocket costs/visit and travel/wait times for providers. We also constructed variables to allow us to compare groups based on the number of mental health (all types of providers) and PCP visits (all types of visits).

Statistical Analysis

We used bivariate analysis to compare the responses of the PCP and the MHS patients in terms of the covariates, perceived need for treatment, and attitudes toward treatment. Comparisons are made with either *t* tests or standard χ^2 distributions with two-sided *P* values. Results are reported as means or percentages as appropriate. We used the statistical program Stata 7.0 (Stata Corporation, College Station, TX).^{38,39}

The goal of the multiple logistic regression analysis was to examine the association of each one of the attitudinal variables individually with the outcome after adjusting for the covariates. These included demographics (age, gender, ethnicity, and marital status), socioeconomic status (years of education, total household income, employment status, and unemployment/disability), social/behavioral factors (total social support and number of adverse life events), illness severity (CES-D score, SF-36 mental and physical component score, and number of chronic conditions), and access factors (insurance status, out-of-pocket costs/PCP visit, and total travel/wait time for PCP visit). Because the PCP patients had no visits to mental health specialists, we did not incorporate MHS cost per visit and travel/wait times into the model. The associations were measured in terms of the odds of being in the PCP group compared to the MHS group.

We conducted Hosmer-Lemeshow goodness-of-fit tests and several sensitivity analyses. We tested our model's sensitivity to the removal of outliers and the exclusion of those who were subthreshold for diagnosis of major depression. We examined the effects of adjusting for the greater number of mental health visits by the MHS group by adding total number of mental health visits to the model. We also compared the model results to those obtained when incorporating design effect adjustment (clustering, stratification, and enrollment weights). For the primary levels of stratification and clustering, we used the health care organizations and individual clinicians. The design effect adjustment assumes a complex multilevel survey design (for example, practice level clustering in addition to physician) and incorporates this assumption into the standard error estimates (Stata 7.0).³⁹ To explore whether there were differences between those who were seen exclusively by an MHS and those who were seen by both MHSs and PCPs for services, we examined attitudes of whether participants received mental health services by a PCP only, an MHS only, or an MHS and a PCP.

Analysis of Treatment Process and Attitudes

We performed further analyses to examine two possible explanations for the differences in attitudes between the

PCP and MHS groups after several months of treatment: 1) self or PCP referral of patients with more favorable attitudes to an MHS and 2) differing levels of treatment exposure. In order to determine whether those who preferred to have future depression treatment provided exclusively by an MHS had more favorable attitudes toward treatment, we constructed a variable to model the preference for future care in the mental health specialty sector rather than the primary care setting. Patients who stated that they would like to be cared for by a psychiatrist but not a PCP were defined as having a future preference for MHS treatment. We chose this variable to model a preference for specialty care rather than primary care mental health services because psychiatrists can provide both medication and psychotherapy. The attitude questions for the provider preferences analysis included whether they believed that they currently need treatment for depression and whether they thought that antidepressant medications were an effective treatment. In order to determine whether PCPs are more likely to refer those with more favorable attitudes, we constructed a variable for having received a referral to see an MHS during the baseline visit. We used this variable to determine whether those who received a referral to an MHS had more favorable attitudes than those who did not. We tested the hypothesis that greater treatment exposure leads to more favorable attitudes by incorporating a variable for medication treatment and for the number of mental health visits into our multivariate models.

Analyses of Study Design

We examined whether those who were excluded differed meaningfully from the patients we included in this analysis. We compared the demographic, illness, socioeconomic, sociobehavioral, attitudinal, and health services utilization characteristics of the participants who did and did not receive mental health services. To examine the validity of dependent variable construction, we constructed a variable for receiving mental health services exclusively from an MHS or from an MHS and a PCP, from a PCP only, and receiving no mental health services. This variable allowed us to determine whether meaningful differences existed between those who received services from an MHS and a PCP and an MHS alone.

RESULTS

Characteristics of the Study Sample

The sample includes 881 patients from 62 primary care practices representing a wide variety of organizational models from multiple geographic regions. Of the 1,131 patients enrolled in the 3 included studies, 250 persons were excluded because they had not received mental health services in the 6 months before the baseline. A total of 125 patients were subthreshold for meeting criteria for major depression. Table 2 shows the characteristics of the study sample according to whether and where the patients received mental health services. More than 88,000 persons

Table 2. Sample Characteristics by Provider Chosen for Mental Health Services in the Previous 6 Months

Characteristics	Provider of Mental Health Services ($\pm$ SE)		
	Primary Care Mental Health Services N = 387	Mental Health Specialist Services N = 487	No Mental Health Services N = 250
Total sample	34.8 (1.7)	43.1 (1.7)	22.1 (0)
Demographic factors			
Age			
<45, %	51	52	50
45–64, %	40	41	39.2
65+, %	9	7	10.2
Gender Female, %	76.6 (2.1)*	67.9 (2.1)*	68.8 (2.9)
Race ethnic minority, %	25.6 (2.2)	26.5 (1.9)	36.4 (3.0)*
Married, %	47.7 (2.5)	41.4 (2.2)	37.6 (3.0)
Socioeconomic characteristics			
Education			
Less than high school, %	15 [‡]	12 [‡]	11.2 [‡]
High school graduate, %	36	27	27.6
Some college, %	32	38	36.4
College graduate, %	17	23	24.8
Mean income household income, %	30,234 (1,883)	34,906 (2,273)	30,393 (2,261)
Employment income, % receiving any in past year	70.6 (2.2)	67 (2.1)	73.9 (2.8)
Unemployment benefits, % receiving any in past year	29.4 (2.2)	35.7 (2.0)	26.8(2.7)*
Illness factors			
Mean CES-D score	36.0 (0.7)	37.5 (0.7)	30.7 (0.9)*
Mean SF-36 mental health score	29.3 (0.5)	30.0 (0.5)	34.8 (0.7)
Mean SF-36 physical component score	44.9 (0.7)	43.4 (0.5)	44.8 (0.8)
Mean number comorbid conditions	2.0 (0.1)	2.2 (0.1)	2.0 (0.1)
Social/behavioral factors			
Mean physical average (social) support	3.5 (0.5)	3.4 (0.5)	3.5 (0.7)
Mean total social support	32.0 (0.4)	31.0 (0.4)	31.5 (0.6)
Mean total adverse life events (with negative effect)	3.2 (0.1)*	3.5 (0.1)*	2.9 (0.2)*
Access factors			
Insurance status, % with coverage	92.8 (1.5)	94.1 (1.5)	92.0 (1.7)
Mean PCP visit cost, \$	11.7 (0.9)	9.2 (0.7)	11.9 (1.1)
Mean mental health specialist visit cost, \$	Not available	11.1 (0.8)	Not available
Mean wait + travel time to primary care physician, min	51.4 (2.0))	52.5 (2.1)	50.2 (2.0)
Mean wait + travel time to mental health specialist, min [†]	45.4 (2.0)	39.5 (2.1)*	43.8 (1.5)
Health service utilization (last 6 months)			
Mean total mental health visits (all types of providers)	2.9 (0.2)*	15.1 (1.3)*	0
Mean total primary care visits	6.4 (0.4)*	10.1 (0.6)*	5.4 (3.2)*
Medication treatment	11 (1.5)*	26.9 (2.0)*	5.0 (2.0)*

* P value t test comparing primary care group or no mental health services group with the mental health specialty group < .05.

[†] Information available on only part of the sample.

[‡] P value χ^2 comparing all groups < .05.

CES-D, Center for Epidemiologic Studies-Depression Scale; SF-36, short form 36; MHS, mental health specialist; PCP, primary care physician.

completed the initial depression screening. The final enrollment rate for eligible subjects in the multistage process was 56% across all the QID studies.²⁸ The sample had considerable diversity in terms of age (age 18–82 with a mean age of 44) and ethnic background (white 74%, Native American 6.9%, Hispanic American 6.8%, African American 9.5%, and Asian American 2.8%).⁴⁰ There were fewer married persons than in the general population (44% in sample vs 58% in the U.S. population). The sample mean individual income of \$26,269 is near the national average. The percentage receiving disability or unemployment benefits was high (32%), but the overall labor force participation rate of 68% was equal to that of the general population.⁴⁰ The 620 patients included in the analysis of preferences for future care included all the treated and untreated patients in the

HQID and the QuEST studies. This group differed from those in the excluded study (MHAP) only in terms of having a lower mean income and slightly lower level of depression severity.

Bivariate Analysis

The PCP and the MHS mental health services groups were very similar in terms of demographic, illness, social/behavioral, socioeconomic, and economic characteristics with a few exceptions (Table 2). The MHS patients were more likely to have been male and been high school or college graduates. The PCP patients also had a slightly higher mean number of adverse life events in the past year. The MHS group had a higher number of total PCP visits. The

Table 3. Patient Attitudes by Type of Provider Used for Mental Health Services During the Previous 6 Months

Attitude	Provider of Mental Health Services			χ^2 P Value
	Primary Care Physician only, % N = 394	Mental Health Specialist, % N = 487	Received No Mental Health Services, % N = 250	
"Wait and get over it naturally (sadness)"				
Definitely not acceptable	11.9	24.2	8.8	≤.005
Probably not acceptable	15.4	19.5	10.0	
Probably acceptable	46.2	37.2	43.6	
Definitely acceptable	24.9	17.4	36.4	
Not sure	1.6	1.7	1.2	
"Use antidepressant drugs"				
Definitely acceptable	34	46.3	14.8	≤.005
Probably acceptable	34	31.6	29.2	
Probably not acceptable	17.6	11.2	15.2	
Definitely not acceptable	13.1	8.9	37.2	
Not sure	1.3	2.0	3.6	
"Seek one-on-one counseling"				
Definitely acceptable	32.7	70.8	32.8	≤.005
Probably acceptable	45.3	23.6	40.8	
Probably not acceptable	12.9	3.2	11.6	
Definitely not acceptable	7.4	1.8	12.4	
Not sure	1.7	0.6	2.4	
"Seek group counseling"				
Definitely acceptable	13.9	26.4	14.0	≤.005
Probably acceptable	32.7	27.3	28.8	
Probably not acceptable	22.5	17.0	19.6	
Definitely not acceptable	29.4	26.3	35.2	
Not sure	1.5	3	2.4	

PCP group had fewer total mental health visits than the MHS group.

Compared with the MHS patients, the PCP patients were much more likely to believe they did not need treatment and that various forms of treatment were not acceptable (Table 3). The most pronounced differences were seen in the extreme ends of the Likert scale (definitely acceptable and definitely not acceptable). The patients who received mental health services from a PCP were much more likely to believe that they should "get over it naturally" compared to those who received services from an MHS. Antidepressant medication, individual counseling, and group counseling were much less acceptable to patients in the PCP group compared to those in the MHS group.

Multivariate Results

Receiving care exclusively from a PCP was associated with lower perceived need for care and lower levels of acceptability of treatment options in the multivariate analysis (Table 4). Female gender and lower level of education were associated with receiving mental health services from a PCP. There was no association between depression severity, medical comorbidity, convenience factors, social support, physical and mental functional status, employment/disability status, insurance coverage, and receiving mental health services from a PCP rather than an MHS. Sensitivity and goodness-of-fit tests performed on this model were satisfactory. Exclusion of outliers and those individuals whose

diagnosis of depression was just below the diagnostic threshold did not change the results. Adjusting for the effects of complex survey design (clusters, strata, and enrollment weights) did not change the significance of the results.

Treatment Process and Attitudes

We explored the effects of the care-seeking process and treatment exposure on the differences in attitudes with regard to treatment between the MHS and PCP groups. We compared the perceived need for treatment between PCP patients who received a referral to an MHS and those who did not to evaluate whether PCPs tended to refer those with more favorable attitudes to MHS treatment. The PCP patients who received a referral to an MHS were more likely to believe that receiving no treatment was unacceptable compared with those who did not receive a referral (odds ratio [OR], 2.2; 95% confidence interval [CI], 1.1 to 4.6 for definitely not acceptable vs definitely acceptable OR, 1.0, unadjusted). Those who preferred to see a psychiatrist and not a PCP were much more likely to believe they "needed treatment now" (strongly agree OR, 2.8; 95% CI, 1.2 to 6.3 vs strongly disagree OR, 1.0, unadjusted). However, those who preferred a psychiatrist were not more likely to believe they "should get over it naturally." To examine whether the associations between attitudes and type of provider seen were solely related to a different number of mental health visits in the last 6 months, we added the total number of

Table 4. Odds Ratios for Having Received Mental Health Services Exclusively from a Primary Care Physician Versus a Mental Health Specialist and Patient Attitudes Toward Depression Treatment

Attitude	Odds Ratios (95% CI*) Unadjusted	Odds Ratio (95% CI*) Adjusted†
“Wait and get over it naturally (sadness)”		
Definitely not acceptable	1.0	1.0
Probably not acceptable	1.6 (1.1 to 2.6)	1.5 (0.9 to 2.5)
Definitely acceptable	2.5 (1.6 to 3.8)	2.5 (1.7 to 4.3)
Probably acceptable	2.9 (1.9 to 4.5)	2.7 (1.6 to 4.4)
Not sure	1.8 (0.6 to 5.7)	3.8 (0.8 to 17.4)
“Use antidepressant drugs”		
Definitely acceptable	1.0	1.0
Probably acceptable	1.6 (1.2 to 2.2)	1.6 (1.2 to 2.3)
Probably not acceptable	2.3 (1.5 to 3.5)	2.7 (1.7 to 4.3)
Definitely not acceptable	2.3 (1.5 to 3.5)	2.4 (1.5 to 3.9)
Not sure	0.8 (0.3 to 2.4)	1.0 (0.3 to 3.5)
“Seek one-on-one counseling”		
Definitely acceptable	1.0	1.0
Probably acceptable	4.2 (3.1 to 5.6)	4.5 (3.2 to 6.5)
Probably not acceptable	8.5 (4.7 to 15.5)	7.7 (4.0 to 14.5)
Definitely not acceptable	8.6 (4.0 to 18.8)	6.0 (2.6 to 13.9)
Not sure	8.0 (1.6 to 40.2)	13.6 (1.4 to 130.3)
“Seek group counseling”		
Definitely acceptable	1.0	1.0
Probably acceptable	2.3 (1.5 to 3.4)	2.4 (1.6 to 3.7)
Probably not acceptable	2.5 (1.6 to 3.9)	2.7 (1.6 to 4.3)
Definitely not acceptable	2.1 (1.4 to 3.2)	2.0 (1.2 to 3.0)
Not sure	0.8 (0.3 to 2.4)	0.5 (0.1 to 2.1)

* Confidence interval.

† Odds ratio for attitudes adjusted for years of education, CES-D score, gender, minority ethnic group, wait and travel time to primary care physician (PCP), short form 36 (SF-36) physical and mental component scores, total social support, total number of comorbid conditions, presence of earned income and/or unemployment benefits in past year, total household income, health insurance status, and total number of adverse life events with negative impact. Odds ratios for attitudes are not adjusted for their effects on one another.

mental health visits to the model. While the odds ratios were moderately reduced, the same relationships persisted and were statistically significant (data not shown). Whether the patient had taken a medication for depression or anxiety was a predictor in the model. However, it did not reduce the odds of having more negative attitudes and having received mental health services from a PCP rather than an MHS.

Analyses of Study Design

We examined several aspects of our study design to ensure our results were not an artifact of our methods. We first evaluated our exclusion criteria. The no mental health services group was similar in terms of demographic characteristics but less severely depressed than the 2 treatment groups (Table 2). The patients who received no mental health services were much less likely to believe they needed treatment than both the MHS- and PCP-treated patients (Table 3). The no treatment patients were just as or even more averse to treatment options than those who received mental health services from a PCP.

We examined the attitudes of the patients seen by an MHS only and those seen by a PCP and an MHS to determine whether there were meaningful differences in their

attitudes toward treatment. Of the patients classified as MHS patients in this study, 69% saw both an MHS and a PCP. Despite the heterogeneity of providers in this group, attitudes with regard to perceived need for treatment and treatment options were very similar for those who saw an MHS alone and those who saw both types of providers. For example, 70.6% (95% CI, 65.1 to 74.9) of those seen by an MHS and a PCP believed that seeking one-on-one counseling was definitely acceptable versus 72.5% (95% CI, 64.8 to 79.1) of those who saw an MHS only.

DISCUSSION

In this study, lower perceived need for care and lower levels of acceptability of evidence-based treatments for depression were associated with having received mental health services exclusively from a primary care provider. Those who were seen by primary care physicians and mental health specialists for mental health services were indistinguishable in terms of depression severity, medical comorbidity, social support, and number of adverse life events, personal characteristics, and functional status. Lower educational level and lower household income were also associated with seeing a primary care physician for mental health services. Preferring that a psychiatrist rather

than a primary care physician provide future care for depression or being referred to an MHS was associated with a higher level of perceived need for treatment.

The reader should consider the limitations of the cross-sectional study design. Several selection biases should be considered. The patients who had received no mental health services were less ill and motivated to seek care. We believe they had indeed not sought care and should not be included in an analysis comparing groups of treated individuals. Because this study recruited patients in the primary care setting, we may have enrolled a greater proportion of chronically depressed, nonadherent patients with more negative attitudes who prefer to remain under PCP care and not enrolled patients who have more favorable attitudes and/or who have been successfully treated by an MHS.⁴¹ These possible enrollment biases would tend to balance each other. Use of enrollment weights and accounting for complex survey design ensured that different enrollment rates across the 3 studies and clustering by physician and site are accounted for.

The analytical approach of this study has several limitations. The construction of the dependent variable of PCP versus MHS "after the fact" for this secondary data analysis may have created an artificial distinction. The decision to combine the patients seen by an MHS alone and/or an MHS and a PCP is supported by the two groups' similarity to one another in terms of attitudes. Physician or practice level clustering may have biased our results. Adjustment for the complex survey design did not change the results. The use of odds ratios in this study with a relatively common outcome may tend to exaggerate the observed relationships compared to prevalence ratios. For instance, the prevalence ratio for reporting that receiving no treatment was definitely acceptable was 1.7 versus the unadjusted odds ratio of 2.9. Because this study design does not allow us to know the composition of the original cohort of individuals who began seeking care 6 months before the baseline, we do not believe that reporting the results as prevalence ratios would be appropriate.³⁹

We believe the results of this study are representative of the population of depressed patients who attend primary care clinics. Nearly all patients with depression are seen in primary care settings during the period of their illness.¹⁷ The sample is reasonably representative of the U.S. population in terms of demographics, education, and income and is similar in disease severity to other populations of depressed persons seen in clinical settings.^{40,42} Physicians who agree to participate in a quality improvement study may be better patient educators than the average physician in community settings. If this is the case, our results may underestimate the differences in attitudes between patients seen in the MHS and PCP sectors. Patients who enroll in randomized controlled trials may be more willing to consider and accept all treatment options.⁴³ This enrollment bias would also tend to reduce differences in attitudes between these 2 treatment groups and potential respondents in community settings.

Mental health specialty and primary care patients appear to differ little in terms of disease severity (1 study shows slightly higher severity).^{25,44,45} If the MHS group were more severely depressed when they began treatment, their higher levels of treatment might explain why no differences in illness severity were observed at the baseline interview. Attitudes and beliefs influence the initial choice of provider.^{25,44} Our finding that those who preferred MHS care in the future or who were referred to MHS care at the baseline visit had more favorable attitudes suggests that the differences in attitudes between the MHS and PCP group existed before they initiated care.

The finding that major differences in attitudes with regard to the overall need for treatment and acceptability of various forms of treatment between MHS and PCP patients persist after up to 6 months of treatment is new. Differences in treatment exposure and current level of illness might explain the differences in attitudes after several months of treatment. Attitudes may become more positive toward a behavior the more often it is repeated, such as in the case of having multiple MHS visits or medication use.⁴⁶ However, adjustment for medication treatment, and number of mental health visits and several measures of depression severity, did not change the associations between less favorable attitudes and treatment in primary care settings.

The presence of substantial differences in attitudes by provider type after up to 6 months of care suggests these attitudes have significant strength and perhaps stability over time.^{47,48} The theory of cognitive dissonance may best explain the apparent durability of these attitude differences. Cognitive dissonance is an unpleasant feeling that arises when individuals believe there is inconsistency between 2 or more attitudes or between attitudes and behavior. The motivational basis for cognitive dissonance is avoidance of behaviors or beliefs that would undermine an individual's self-concept.⁴⁹ Many patients who are more reluctant to accept mental health treatment select general medical providers because they do not believe they are receiving "psychiatric care."^{15,25,26} Being treated (by a PCP), but not receiving psychiatric care, may be reassuring to many patients because it does not threaten their sense of autonomy and "moral goodness."^{49,50,51} Patients may seek the type of provider who will confirm their belief systems and subsequently reject information offered by the physician that contradicts their beliefs.⁵² To change attitudes, individuals must be motivated to do so and have the opportunity to access and review their belief systems.⁴⁹ Primary care physicians may be less effective or have less time than mental health specialists in undertaking this complex task of helping patients identify important motivations for change and exploring belief systems.^{15,43,46,53}

The results of this study have clinical, research, and policy implications. Adverse selection of the patients least receptive to treatment to the primary care sector may partially explain the "quality gap" observed between the primary care and specialty mental health sectors.^{15,54}

Researchers comparing quality of depression treatment for primary care and specialty mental health should consider adjusting for patient attitudes. Primary care physicians need to recognize that up to half of their patients with depression may be reluctant to accept evidence-based treatment for depression. Many patients may not raise objections to treatment plans but subsequently do not follow their physician's recommendations. Gaining the patient's trust and understanding with regard to the proposed treatment may be essential to adherence and to obtaining a good outcome.^{20-22,53} Quality improvement interventions should include short assessments of patient attitudes with regard to evidence-based treatments and incorporate tailored education programs. Reimbursement policies that restrict primary visits to short periods may be inappropriate for the provision of high-quality mental health services. Decision makers and health care organizations should consider the possibility that for primary care physicians to obtain results comparable to those of mental health specialists, they may need comparable visit lengths to ensure adequate patient understanding and acceptance of evidence-based treatments.

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