

Quality of Care for Primary Care Patients With Depression in Managed Care

Kenneth B. Wells, MD, MPH; Michael Schoenbaum, PhD; Jürgen Unützer, MD, MPH; Isabel T. Lagomasino, MD; Lisa V. Rubenstein, MD, MSHS

Objective: To evaluate the process and quality of care for primary care patients with depression under managed care organizations.

Method: Surveys of 1204 outpatients with depression at the time of and after a visit to 1 of 181 primary care clinicians from 46 primary care clinics in 7 managed care organizations. Patients had depressive symptoms in the previous 30 days, with or without a 12-month depressive disorder by diagnostic interview. Process indicators were depression counseling, mental health referral, or psychotropic medication management at index visit and the use of appropriate antidepressant medication during the last 6 months.

Results: Of patients with depressive disorder and recent symptoms, 29% to 43% reported a depression-specific process of care in the index visit, and 35% to 42% used antidepressant medication in appropriate dosages in the prior 6 months. Patients with depressive disorders rather than symptoms only and those with comorbid anxiety had higher rates of depression-specific pro-

cesses and quality of care ($P < .005$). Recurrent depression, suicidal ideation, and alcohol abuse were not uniquely associated with such rates. Patients visiting for old problems or checkups received more depression-specific care than those with new problems or unscheduled visits. The 7 managed care organizations varied by a factor of 2-fold in rates of depression counseling and appropriate antidepressant use.

Conclusions: Rates of process and quality of care for depression as reported by patients are moderate to low in managed primary care practices. Such rates are higher for patients with more severe forms of depression or with comorbid anxiety, but not for those with severe but "silent" symptoms like suicide ideation. Visit context factors, such as whether the visit is scheduled, affect rates of depression-specific care. Rates of care for depression are highly variable among managed care organizations, emphasizing the need for process monitoring and quality improvement for depression at the organizational level.

Arch Fam Med. 1999;8:529-536

From RAND, Santa Monica, Calif (Dr Wells, Schoenbaum, and Rubenstein); the Department of Psychiatry and Behavioral Sciences, University of California Los Angeles Neuropsychiatric Institute and Hospital, University of California, Los Angeles (Drs Wells and Unützer); the Charles R. Drew Medical University, Los Angeles (Dr Lagomasino); and the Center for Healthcare Provider Behavior, Veterans Administration Medical Center, Sepulveda, Calif (Dr Rubenstein).

BETWEEN 40% and 60% of persons with depressive disorder in the United States receive their only health care from general medical providers.^{1,2} For example, based on data from managed care and fee-for-service practices in the late 1980s, only 40% to 55% of patients with recent depressive disorders were known by their primary care providers to be depressed at the time of a visit. In addition, only 25% to 30% of those with major depression received antidepressant medication at any time during a 6-month period, while a higher percentage received inappropriate long-term minor tranquilizer medication.³ Similar rates have been reported for a variety of primary care practices.⁴⁻⁶ Recent research in a staff-model health maintenance organization has found that fewer than 50% of depressed primary care patients receive a

course of antidepressants that meets guideline standards for dose and duration.⁷⁻⁹ As a result of low treatment rates, the cost-effectiveness of care for depression may be low in primary care.^{10,11}

In 1993, the Agency for Health Care Policy and Research (AHCPR) released practice guidelines for the treatment of depression in primary care¹²; these guidelines have been disseminated through disease management protocols and innovative treatment programs.^{7,13} In addition, the advent of selective serotonin reuptake inhibitors, which are easier to administer and have fewer troublesome adverse effects than previous antidepressants, may have made it easier for primary care providers to treat depression.⁹ Yet patients and families remain concerned that cost-containment pressures under managed care could result in low rates of treatment for serious psychiatric disorders such as depression.¹⁴

SUBJECTS AND METHODS

DESIGN

Data are from the baseline phase of the Partners in Care study, a longitudinal, experimental trial of quality improvement for depression in managed primary care.¹⁶ The sites were selected to be geographically diverse, to overrepresent Hispanics, and to include a range of organizational structures. All primary care clinics with at least 2 clinicians and all clinicians within clinics were asked to participate in the study. Organizational characteristics are described in **Table 1**. The sites included staff-model health maintenance organizations, primary care networks contracting with a single prepaid insurer, multiple prepaid insurers, prepaid and managed fee-for-service insurers, and 1 rural public health system. Two clinics declined participation, while 46 clinics accepted. All but 2 of the 183 eligible primary care providers agreed to participate (n = 181). The providers were physicians (internists, family practice physicians, and general practitioners) (87%) and nurse practitioners (13%).

The Partners in Care study screened and enrolled patients between June 1996 and March 1997. In a 5- to 7-month period for each clinic, a consecutive sample of English- and Spanish-speaking patients of participating providers were asked to complete a self-assessed survey containing the "stem" items for major depressive and dysthymic disorders from the *Composite International Diagnostic Interview (CIDI)*.^{17,18} This instrument assesses whether a 2-week period of sadness or loss of interest occurred in the last 12 months (2 items), and whether a 2-year period of daily depression occurred that extended into the past 12 months (3 items). We added 2 parallel items based on the *CIDI* format assessing whether there was at least 1 week of daily sadness or loss of interest in the last 30 days. Individuals with positive response scores to both a 12-month and 30-day item were scored as having probable depressive disorder. Based on a sample (n = 1485) that completed the full affective disorders section of the *CIDI*, 55% of those with probable depressive disorder had 12-month major depressive or dysthymic disorder as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.¹⁹ Because 30-day symptoms were required, all patients were currently symptomatic. Because the 12-month *CIDI* depressive disorder classification requires a positive stem item, sensitivity by definition is 100%.

Adults were eligible for the longitudinal study if they screened positive for probable depressive disorder, intended to use the clinic as their main source of primary care for the following year, and had insurance that covered care from the behavioral health care providers for the Partners in Care quality improvement interventions. Of 33 880 patients eligible for the survey, 27 334 (81%) agreed to

complete it; of these, 3918 (14%) screened positive and intended to use the clinic. During the multistage enrollment process, some patients had to leave the clinic or receive care and thus could not be approached about the study, and others were found to be ineligible. Of 2417 eligible (62%) who were still available and were asked to hear about the study, 241 (10%) had ineligible insurance, 322 (13%) had left the clinic, and 1854 (77%) had actually heard about the study, of whom 35 (2%) had ineligible insurance, 74 (4%) disenrolled later, and 1376 (74%) remained enrolled through baseline. Of these, 21 had partial or inconsistent data on their dimensional screening items; we included them in the analysis in this article. The data are weighted for probability of enrollment to the full eligible sample.

Patients and providers signed written consent forms to participate in the longitudinal Partners in Care study, with human subjects protection review by RAND and the managed care organizations. After enrollment, patients completed the full affective disorders section of the *CIDI*, in person or by telephone (88% completed within 2 weeks of screening, with an eventual 100% response); a telephone instrument that included the anxiety disorders section of the *CIDI* as well as questions assessing wealth and income (88% completed within 2 weeks of screening, eventual 100% response); and a self-administered Patient Assessment Questionnaire (PAQ) (72% completed within 4 weeks of screening, with an eventual 88% response).

The analytic sample includes the 1204 patients (88% of the enrolled sample) who completed the PAQ. Respondents on the PAQ did not differ significantly from enrolled nonrespondents in physical or mental health status, but were somewhat older, better educated, and more likely to be women; response rates also differed somewhat by study site. We weighted the data for PAQ response, but conclusions were unaffected by weighting. We also controlled for patient demographics and site in these analyses. To explore effects of delayed PAQ return for some subjects, we controlled for the interval between the screening visit and returning the PAQ. This variable did not affect our substantive conclusions.

DATA AND MEASURES

Process and Quality of Care

The PAQ asked respondents about the care they received during the index screening visit. Items assessed (1) whether the clinician had discussed or treated depression; (2) whether the clinician had counseled the patient for at least several minutes about depression, anxiety, alcohol use, or other personal or emotional problems; (3) whether the clinician had referred the patient to a mental health specialist for counseling; and (4) whether the clinician had initiated medication for personal or emotional problems or had

RESULTS

Table 2 presents descriptive information on the patients in our sample and on the measures of visit context. Of the sample, 71% are women, 28% are Hispanic, and 47% have a high school education or less. About 79% of patients report having at least 1 chronic medical condition. The age range is 18 to 90 years, and mean (SD) age is 44 (15) years.

The top panel of **Table 3** presents adjusted rates of depression care by depression status. Patients with more severe types of depressive disorder have significantly higher rates of mental health care. The depression disorder set is significant in each analysis; the lowest χ^2_3 is 12.6, $P = .006$. The highest treatment rates are for patients with double depression. The adjusted rates of care are about 20% to 30% lower for patients with either ma-

adjusted the dosage of existing prescriptions (ie, medication management activity).

From these measures, we derived indicators of having any depression care (ie, any treatment or counseling about depression) and any mental health care (ie, any of the 4 types of care). We retained separate indicators of depression counseling by the primary care provider, mental health referral, and psychotropic medication management (ie, starting or adjusting a psychotropic medication). We consider these to be process measures, not quality of care indicators, because they have not been linked consistently to improved outcomes. However, they represent evidence from the patient perspective that detection or treatment for depression has occurred, and we interpret them in this broader context. We previously observed a significant association between a higher rate of using either counseling for depression (including primary care counseling) or appropriate antidepressant medication and improvement in 2-year functioning outcomes.¹⁰ Thus, primary care counseling for depression could also be a quality indicator. Using patient reports of the name and daily dosage of each prescribed medication they used, we derived an indicator of use of any antidepressant in an appropriate daily dosage, either any day in the prior 30 days or daily for at least 1 month in the prior 6 months. Criteria for appropriate dosages were defined by the Agency for Health Care Policy and Research guidelines, which we updated for newer antidepressants.^{20,21} We considered this a quality of care indicator.

Studying a particular visit could underestimate care provided over a longer period. We thus also examined whether respondents reported any depression care either at the index visit or at the most recent prior visit to the same clinic among patients with a visit within the last 30 days prior to the screening visit.

Explanatory Variables

Independent variables include depression and physical health status, measures of visit context, patient demographics, and study site. We combined measures from the survey, the full *CIDI*, and supplemental survey items to construct a 4-category classification for depressive disorder: (1) "double depression," defined as 12-month major depressive plus 12-month dysthymic disorder, a very high risk category for recurrent and/or chronic depression;²² (2) "single depression," defined as 12-month major depressive disorder or dysthymic disorder only (grouped because only 39 patients had dysthymic disorder only); (3) "lifetime disorder only," defined as having 30-day symptoms, no 12-month disorder, and probable lifetime history of depressive disorder; and (4) "symptoms only," defined as having 30-day symptoms but no 12-month disorder or probable lifetime history. Probable lifetime history of depressive disorder was based on patient

self-reports of having depression for at least 2 weeks prior to the past year, as well as having other associated symptoms at the same time.

In addition, we used the *CIDI* items to construct indicators for recurrent major depression (ie, more than 2 prior lifetime episodes); suicidal ideation in the past year; and 12-month comorbid anxiety disorder (ie, panic disorder, generalized anxiety disorder, agoraphobia, or social phobia). Recent alcoholism was assessed through a 4-item battery included in the survey.²³ Using survey questions on the prevalence of chronic medical conditions (asthma, arthritis lung disease, diabetes, hypertension, advanced coronary artery disease, heart failure, other heart disease, neurologic conditions, gastrointestinal problems, eye problems, or migraines), we constructed a count of having 0, 1, 2, 3, or more conditions. For some analyses, we included the Short Form-12²⁴ measures of global physical and mental health from the survey.

We also controlled for whether the index visit was scheduled and whether it was for the purpose of a checkup or for an old or new problem (as reported in the PAQ). We also separately controlled for whether it was the first visit to that clinic and for the recency of the patient's last visit to this clinic as reported on the survey. In addition, we controlled for age (18-39 years, 40-62 years, and ≥ 63 years), sex, education (<12 years of education, 12 years, 13-15 years, or ≥ 16 years), race/ethnicity (any Hispanic origin; African American, Asian, and Native American, grouped; and white), and socioeconomic status (wealth) measured by the value of owned housing and all nonhousing assets. Finally, we included indicator variables for the 7 managed care organizations.

Analysis

In addition to examining overall levels of care, we used multiple logistic regressions to estimate patterns of association between particular aspects of care on one hand and respondent attributes, visit-context characteristics, and study site on the other. To determine if the association between depression severity and treatment patterns varied by study site, we also tested interactions between depression status and study organization in our regressions.

We used χ^2 tests to assess the statistical significance of sets of variables (eg, the depression status indicators) in our models. Because study patients were clustered within clinics, we adjusted SE estimates using the intraclass correlation model or the Huber method.^{25,26} We do not use a formal Bonferroni correction²⁷ to adjust for the multiple statistical comparisons; instead, we generally consider results to be significant if they are at the $P = .005$ level or better and interpret findings in the context of multiple comparisons. Finally, to show effect sizes, we use predictions adjusted for all covariates through a direct method.

major depression or dysthymia than for those with double depression. For example, 29% of persons with single depression report receiving any depression care during the index visit, compared with 43% with double depression. Patients with only lifetime depression or only current symptoms have adjusted levels of depression care that are 30% to 60% lower compared with patients with double depression.

There were 981 patients whose index visit occurred within 30 days of a prior visit to the same clinic. Rates of depression care are 15% to 20% higher within each disorder category when counting both visits rather than only the index visit. All data are given as percentage (SE) unless otherwise indicated. For example, of patients with double depression who visited twice in the last 30 days, only 42% (4.4) received any depression care in the index

Table 1. Characteristics of Managed Care Organizations in Study

Study Site, Payer/Plan (Single/Multiple)	Plan Mix (% Prepaid)	Provider Groups (Single/Multiple)	Carving
A, multiple (1 owner)	85	Single	Both
B, single	100	Multiple (single for study)*	Out
C, multiple	50 (prepaid or point of service)	Single	Both (only carve-in for study patients)*
D, multiple	80-90 (100 for study)*	Single	Both (only carve-in for study)*
E, multiple	50 managed care, Medicare, 30 private mixed, 20 uninsured	Single	Out
F, single	100	Multiple	Out
G, multiple	80-90 (100 for study)*	Single	Both (only carve-in for study patients)*

*Organizational characteristics differed by design for study patients, relative to all organizational patients.

Table 2. Characteristics of Primary Care Patients With Depression Analytic Sample (n = 1204)

Characteristic	No. of Patients	Weighted Mean, %*
Female sex	881	71.1
Education completed (67 missing)		
Less than high school	162	17.6
High school	309	29.7
Some college	399	32.1
College	267	20.6
Ethnicity (78 missing)		
Hispanic	285	27.6
Any other minority	147	13.0
White (Euro American)	432	59.3
Recurrent major depression (>2 lifetime episodes)	776	61.3
Suicidal ideation in last 12 mo (124 missing)	592	54.3
Depressive disorder status†		
12-mo double	151	11.4
12-mo single	570	44.8
Lifetime	255	21.5
Symptoms only	228	22.3
12-mo comorbid anxiety disorder (30 missing)	521	42.0
Probable recent alcohol abuse disorder (19 missing)	71	6.2
Chronic disease count (71 missing)		
0	236	22.1
1	269	23.7
≥2	628	54.2
First visit to clinic (33 missing)	57	4.9
Visit context (20 missing)		
Walk-in	148	13.0
Scheduled checkup	266	23.3
Scheduled new problem	363	30.3
Scheduled old problem	407	33.3

*Based on nonmissing responses, number with missing data are listed in parentheses for each variable. Means are weighted for probability of enrollment and nonresponse on the Patient Assessment Questionnaire.

†All patients have 1-month depressive symptoms. 12-month double indicates major depressive and dysthymic disorder in last 12 months; 12-month single, either major depressive or dysthymic disorder in last 12 months; lifetime, probable depressive disorder more than 12 months ago; symptoms only, no 12-month or probable lifetime depressive disorder.

visit, while only 48% (5.1) received any depression care in either visit. Otherwise, the same conclusions apply about factors associated with care for depression as in analyses limited to the index visit.

The presence of an anxiety disorder is associated with 20% to 30% higher adjusted rates of any mental health care, any depression care, depression counseling, medication management, and appropriate antidepressant use in the prior 6 months, and these differences are statistically significant (lowest rate, $t = 2.87$, $P = .004$, for any depression care) (Table 3). Further, the anxiety effect on specialty referral is of "borderline" significance ($t = 2.05$, $P = .04$), but we were unable to identify a significant effect of either recurrent major depression or 12-month suicidal ideation on mental health or psychosocial care in the index visit, and the effect sizes are small to moderate. For example, the largest effect size is for the unique contribution of 12-month suicide ideation to use of appropriate antidepressant medication ($t = 1.85$, $P < .10$), where 27% (1.6) of those without suicide ideation and 32% (2.1) of those with such ideation had appropriate medication use. The number of comorbid chronic medical conditions was not uniquely significantly associated with our measures of processes of care. A comorbid alcohol abuse problem was not significantly associated with any of the 6 aspects of care in Table 3, and was excluded from the models presented here.

Table 4 presents associations between visit context and levels of care. Depressed patients having scheduled visits for new problems or walk-in visits have significantly lower adjusted levels of mental health care relative to those with scheduled visits for old problems or checkups. The type-of-visit indicators are significant as a set for counseling for depression ($\chi^2_3 = 11.85$, $P = .008$) and medication management ($\chi^2_3 = 18.52$, $P = .001$), and are of borderline significance for any mental health care ($\chi^2_3 = 7.16$, $P = .08$) and any depression care ($\chi^2_3 = 9.59$, $P = .03$). Treatment rates are about 20% to 35% higher for scheduled visits for old problems compared with visits for new problems or walk-in visits, other factors being equal. In addition, new patient visitors report significantly lower rates of any appropriate antidepressant use in 6 months ($t = -3.24$, $P < .001$), other factors being equal.

Patients with higher socioeconomic status tend to have higher rates of care. The set of wealth and education variables is significantly and independently associated with any depression care ($\chi^2_8 = 16.21$, $P = .04$), specialty referral ($\chi^2_8 = 21.32$, $P = .007$), and use of antidepressants in the prior 6 months ($\chi^2_8 = 35.15$, $P < .001$).

Table 3. Adjusted Process of Care for Depressed Patients (N = 1204) by Clinical Status*

	Care in the Index Visit, SE (%)					Any 6-mo Use of Appropriate Antidepressant
	Any Mental Health Care	Any Depression Care	Depression Counseling	Counseling Referral	Psychotropic Medication Adjustment	
Depressive Disorder						
12-mo double	60.3 (4.3)	42.6 (4.1)	33.9 (3.9)	24.4 (3.5)	30.0 (4.6)	42.3 (4.4)
12-mo single	47.8 (1.6)	29.2 (1.8)	23.5 (1.7)	16.2 (1.4)	31.1 (1.8)	34.7 (1.9)
Lifetime only	40.7 (2.9)	20.6 (2.8)	15.9 (2.7)	11.5 (2.6)	21.6 (2.7)	19.9 (1.9)
Symptoms only	38.8 (3.5)	18.8 (2.2)	14.7 (2.4)	13.2 (2.9)	19.6 (2.8)	14.0 (2.7)
Comparisons						
Double vs single	12.4 (5.1)†	13.4 (4.5)‡	10.4 (4.4)†	8.1 (3.7)†	1.1 (5.4)	7.6 (5.5)
Double vs lifetime	19.6 (6.1)‡	22.0 (5.9)§	18.0 (5.4)§	12.9 (4.7)	8.4 (5.9)	22.4 (4.8)§
Double vs symptoms only	21.4 (5.1)§	23.8 (4.6)§	19.3 (4.8)§	11.1 (4.2)	10.5 (5.7)	28.3 (5.7)§
Single vs lifetime	7.2 (3.1)†	8.6 (3.1)†	7.6 (2.9)†	4.8 (2.9)	9.5 (2.8)‡	14.8 (2.7)§
Single vs symptoms only	9.0 (4.0)†	10.4 (2.9)§	8.9 (3.2)†	3.0 (3.1)	11.6 (3.6)‡	20.7 (2.9)§
Lifetime vs symptoms only	1.8 (4.3)	1.8 (3.3)	1.3 (3.1)	1.8 (4.6)	2.0 (3.7)	5.9 (3.2)
12-mo comorbid anxiety disorder						
Yes	52.4 (2.4)	32.0 (2.4)	26.8 (2.3)	18.0 (2.0)	32.5 (2.2)	34.7 (1.6)
No	40.8 (1.8)	22.4 (1.8)	17.0 (1.8)	13.6 (1.2)	21.6 (1.5)	23.6 (1.5)
Comparison						
Yes vs no	11.5 (3.3)§	9.5 (3.4)‡	9.8 (3.0)‡	4.5 (2.3)†	10.9 (2.6)§	11.2 (2.0)§

* Rates of care are adjusted for patient sociodemographics, site, comorbid anxiety disorder, chronic condition count, and type of visit. All patients have 1-month depressive symptoms.

†P < .05.
‡P < .005.
§P < .001.
||P < .01.

Table 4. Adjusted Process of Care for Depressed Patients (N = 1204) by Type of Visit*

	Care in the Index Visit, SE (%)					Any 6-mo Use of Appropriate Antidepressant
	Any Mental Health Care	Any Depression Care	Depression Counseling	Counseling Referral	Psychotropic Medication Adjustment	
Visit context						
Scheduled old problem	49.7 (2.6)	32.0 (2.4)	26.5 (2.4)	16.9 (1.8)	33.4 (2.4)	27.3 (1.8)
Scheduled checkup	47.8 (2.9)	26.7 (2.6)	21.3 (2.3)	14.2 (1.9)	24.4 (2.5)	26.5 (2.0)
Scheduled new problem	42.0 (2.6)	22.3 (2.2)	17.3 (2.0)†	14.7 (1.8)	23.3 (2.2)‡	30.0 (2.0)
Walk-in	42.0 (3.2)	22.9 (3.4)	17.3 (3.2)	15.8 (3.1)	19.3 (3.2)	29.6 (3.8)
Comparisons						
Old problem vs checkup	1.9 (3.7)	5.3 (3.5)	5.2 (3.2)	2.7 (2.3)	9.0 (3.1)§	0.1 (2.4)
Old problem vs new problem	7.7 (3.8)	9.7 (3.3)§	9.1 (3.0)§	2.3 (2.3)	10.1 (3.2)§	-2.7 (3.0)
Old problem vs walk-in	9.5 (4.4)	9.1 (4.4)	9.2 (4.0)	1.1 (3.5)	14.2 (4.3)§	2.3 (3.8)
Checkup vs new problem	5.8 (4.3)	4.4 (3.8)	3.9 (3.5)	-0.5 (2.6)	1.1 (3.9)	-3.5 (3.1)
Checkup vs walk-in	7.6 (4.4)	3.8 (4.2)	4.0 (4.0)	1.6 (3.3)	5.2 (4.1)	3.1 (4.5)
New problem vs walk-in	1.8 (4.6)	-0.6 (4.0)	0.1 (3.9)	-1.1 (4.3)	4.0 (4.1)	0.4 (4.6)
First visit to clinic						
Yes	45.0 (8.7)	23.1 (7.0)	13.3 (4.9)	22.2 (6.0)	33.3 (8.0)	15.4 (3.3)
No	45.3 (1.3)	26.3 (1.1)	21.1 (1.2)	15.0 (1.1)	25.9 (1.3)	28.71 (1.3)
Comparison						
Yes vs no	-0.2 (8.8)	-3.2 (6.8)	-7.8 (4.7)	7.2 (6.0)	7.4 (8.1)	-13.3 (3.3)

* Rates of care are adjusted for patient sociodemographics, depressive disorders states, site, comorbid anxiety disorder, and chronic conditions count. All patients have 1-month depressive symptoms.

†P < .0001.
‡P < .01.
§P < .005.
||P < .05.
¶P < .001.

The set of organization indicators is significantly associated with counseling for depression in the visit ($\chi^2_6 = 15.19, P = .002$). The specific rates vary 2-fold across sites; ie, 23.3% (3.6), 18.6% (2.5), 21.2% (3.7),

27.5% (2.3), 20.0% (3.3), 21.6% (4.1), and 13.1% (2.6). Similarly, use of any appropriate antidepressant in 6 months varies by more than 2-fold across organizations ($\chi^2_6 = 29.12, P < .001$). These specific rates are 18.5%

(2.8), 31.9% (1.5), 23.3% (4.1), 30.5% (3.5), 24.1% (2.5), 42.3% (4.1), and 26.9% (4.7). These rates are listed in a different order from the site descriptions in Table 1 to protect site confidentiality, but sites are in the same order for the counseling and medication indicators. Only one organization ranks high (in the top third) on rates of both processes of care.

A comorbid alcohol abuse problem is significantly associated with higher rates of alcohol abuse counseling in the index visit ($t = 3.55$, $P < .001$). Controlling for other factors, only 12.8% (SE = 3.9) of patients with a recent alcohol abuse problem are counseled about alcohol use, compared with 3.9% (0.8) of persons without an alcohol abuse problem. The association between depressive disorder status and counseling about alcohol use borderline significant ($\chi^2_3 = 7.18$, $P = .07$). For example, 7.2% (2.4) of patients with double depression but only 1.0% (0.7) of those with symptoms only are counseled about alcohol abuse. Finally, women are less likely to receive counseling about alcohol use, other factors being equal ($t = 4.41$, $P < .001$). Rates of alcohol abuse counseling differ by site, but significance is borderline ($\chi^2_6 = 14.05$, $P = .03$). Site-specific rates are 4.1% (1.7), 5.3% (2.2), 2.2% (0.8), 5.9% (1.4), 2.6% (0.5), 3.4% (0.9), and 6.6% (3.3). Other patient and visit context variables are not significantly associated with alcohol abuse counseling rates in the index visit.

In this article, we describe 1997 rates of depression-specific care, including quality indicators based on Agency for Health Care Policy and Research guidelines, for primary care practices under managed care. By managed care we mean practices relying at least 50% on capitation or operating under a fixed budget, or relying on utilization review or provider financial incentives to contain costs. We evaluate how clinical features of the presentation of depression affect treatment rates. We hypothesize that more severe forms of depression are associated with higher care rates and that "silent" or historical factors that require more interview time, such as the presence of recurrent depression, suicidal ideation, and alcohol use, will not uniquely affect treatment rates. In addition, we evaluate whether the visit context (eg, whether the visit is scheduled or not) affects treatment patterns. We hypothesize that factors such as urgent care problems, which compete with depression for the patient's and clinician's attention, will lower depression-specific treatment rates. Finally, we examine whether care of similar patients varies among managed care organizations. Based on our prior work,¹⁵ we expect to observe significant variations by organization.

COMMENT

There has been considerable interest in documenting quality of care in community-based managed care practices, especially for patients with treatable health conditions of societal consequence. In a diverse sample of such practices, we found evidence for low to moderate levels of depression-specific care, which in itself is not surprising. Specifically using very broad indicators of mental health and psychosocial care, 40% to 60% of patients

across disorder groups reported some sort of psychosocial care at the index visit, although all had depressive symptoms that month and most met criteria for disorder in the prior 12 months. Among those with a disorder, having symptoms in the last month would indicate a high risk for a continuing or recurrent disorder. For these patients, monitoring of depression status would be recommended, at minimum. We use our indicator of depression counseling to track this process, rather than to represent specific psychotherapy for depression. In this context, only 24% to 34% in the 12-month disorder categories had some discussion of depression in the visit, while about 48% to 60% had some type of mental health care, consistent with much of the prior literature. We found only somewhat higher rates of any depression care when including data from the prior visit that month. Similarly, Rost et al⁴ found only modest increases in rates of detection of depression in primary care when including follow-up a year after an initial assessment. Our best marker of quality of care is any use of antidepressant medication in the prior 6 months, and we find rates of 35% to 42% for those with a 12-month disorder plus 1-month symptoms.³

A clinically rational model of care would suggest higher rates of treatment for those with depressive disorder than those with symptoms only.¹² We observed this pattern, with the highest rate of care for patients with concurrent major depressive and dysthymic disorder. Similarly, we found higher rates of depression care for patients with recent comorbid anxiety disorder, a factor associated with poor depression outcomes.^{12,28} In contrast, some clinically important characteristics that are historical or otherwise hard to detect—recurrent depression and suicidal ideation—were not associated with significantly higher rates of care, other factors being equal. Yet history of recurrent major depression is an indication for both acute and maintenance treatment with antidepressant medication. Further, 12-month suicidal ideation is a risk factor for current suicide ideation and may increase the need for at least ongoing assessment. Evidence indicates that almost half of the people who commit suicide have seen a physician within the month before their death,²⁹⁻³² suggesting that primary care clinicians could have an important opportunity for identifying suicidal ideation in some patients. The risk of suicide may be low overall, however, among primary care visitors in managed care (0-43 per 100 000),³³ so clinicians may find it difficult to know which patients to target for assessment of suicidal ideation. Our findings suggest that depressed patients in general should be screened for suicidal ideation, as more than half had such ideation in the last year. We found that a comorbid recent alcohol abuse problem, which indicates a poor prognosis for course of depression and may alter the treatment approach,¹² was associated with significantly higher rates of counseling for alcohol abuse, but not with any other type of psychosocial care, including specialty referral. Although detecting substance abuse could result in deferring use of antidepressant medications, we would expect it to increase specialty referrals. The absolute rate of alcohol abuse counseling was extremely low—4% to 13%—even among patients with

a recent alcohol abuse problem, and depressed women were especially unlikely to be so counseled. Such counseling also tended to vary by site, although no site had a higher rate than 6%. Thus, providing appropriate counseling and referral for substance abuse among depressed patients is an important area for quality improvement efforts, especially because even brief primary care counseling may reduce drinking levels.³⁴

We observed lower levels of mental health care among depressed patients having walk-in visits or scheduled visits for a new problem, compared with scheduled visits for either checkups or old problems. During walk-in or new-problem visits, patients and clinicians may attend exclusively to a particular presenting problem and defer more systematic evaluations. Alternatively, there may be unobserved differences in patient characteristics across visit types; for instance, providers may be more familiar with the patients having checkups or presenting with old problems. We also found that first-time visitors to a given primary care clinic had lower rates of antidepressant use in the prior 6 months and lower rates of depression counseling at the index visit. These results may be due to clinicians having less time available for psychosocial care in first visits, to clinicians being less familiar with the patient, or to lower levels of recent service use for first visitors.

Finally, we found significant differences among managed care organizations in counseling for depression in the visit, a process measure, and in use of appropriate antidepressant medication in the prior 6 months, a quality indicator. The variation across organizations was 2-fold for each process indicator, a rather large variation given that demographics and severity were controlled. For use of antidepressant medication, the highest-ranking site had a rate comparable to a well-established health maintenance organization that has participated in multiple depression quality improvement programs (5-9), while the lowest-ranking site had a rate comparable to reports for primary care in the late 1980s, prior to widespread dissemination of selective serotonin reuptake inhibitors (3). Organizational rankings were not consistent across domains of care, suggesting that each domain should be monitored separately in a study of organizational variations. Also, absolute rates of depression care were moderate even at the sites with relatively high rates; for this reason, we mainly emphasize the need for quality improvement across all managed care, primary care practices.

While we must remain cautious about causal inference, the overall pattern of results suggests that factors that draw clinicians' and patients' attention to psychological distress or that permit time for such attention affect the depression care rate in visits. Such factors seem to have larger effects on care than do patients' sociodemographic characteristics other than socioeconomic status. Given the consistent concern in the literature about moderate rates of depression care, this conclusion suggests that practices may benefit from procedures that permit depression care to be less subject to clinician and patient attention. Such procedures might include assistance with screening for symptoms and other staff substitutes when practices are busy or in urgent care settings.

This study has important limitations. Participating managed care organizations were not selected randomly, but included diverse managed care practices. We cannot distinguish locations and organizational effects with a limited sample of only 7 organizations. Patient response rates are moderate and there was considerable sample loss during the complex enrollment process in busy practices. Because our sample is a consecutive patient sample, respondents may be sicker and have higher rates of care than less frequent visitors. The process measures are patient-reported. Other studies found moderate agreement between clinician and patient reports of visit-specific psychosocial care such as counseling for depression or health habits.^{35,36}

While current practice guidelines imply that all patients with major depressive disorder should be treated, socially efficient practice patterns would balance the cost-utility of care for depression with care for other conditions, and distributive justice would emphasize adequate levels of care for sicker or more vulnerable populations. In other work using these data, we found that primary care patients with depression have a lower utility for their current health for depression than do patients with most chronic medical conditions, suggesting that they have a very strong preference for treating depression and avoiding recurrences.³⁷ The rates of care reported here could thus be too low from the perspectives of both clinical quality and patient preferences, especially given that these are levels of care perceived by patients. Overall, our findings raise concerns about organizational variations in process and quality of care for depression in primary care practices and suggest that quality monitoring efforts should be multidimensional. Patients with "silent" but serious symptoms are at particular risk for not having depression-specific care even when recently symptomatic, especially during acute-care or unscheduled visits.

Accepted for publication January 13, 1999.

This work was funded by grant R01 HS08349 from the Agency for Health Care Policy and Research, Rockville and the Scientist Award MH01170-05 from the National Institute of Mental Health, Rockville, Md, and grant P50 MH54623 from the Research Center on Managed Care for Psychiatric Disorders, Los Angeles, Calif.

We thank Maureen Carney, MS, for coordinating the data implementation plan, Robert Bell, PhD, for his statistical advice on the analyses, and Bernadette Benjamin, MS, for meticulous programming. We also thank the participating managed care organizations, who provided access to their expertise and patients, implemented interventions, and provided in-kind resources: Allina Medical Group (Minneapolis and St Paul, Minn), Columbia Medical Plan (Columbia, Md), Humana Health Care Plans (San Antonio, Tex), MedPartners (Los Angeles, Calif), PacifiCare of Texas (San Antonio), and Valley-Wide Health Services (San Luis Valley, Colo); and their internal behavioral health organizations and participating contract behavioral health organizations: Alamo Mental Health Group (San Antonio), San Luis Valley Mental Health/Colorado Health Networks (San Luis Valley, Colo), and GreenSpring Mental Health Services (Columbia).

This study is a sister study to the National Institute of Mental Health Cooperative Agreement to Test Depression Practice Guidelines (Lisa Rubenstein, MD, MSHS; Kathryn Rost, PhD; and Daniel Ford, MD, MPH, principal investigators), and investigators from that project helped design the visit-specific quality of care indicators.

Corresponding author: Kenneth Wells, MD, MPH, RAND, 1700 Main St, Santa Monica, CA 90407 (e-mail: kenneth_wells@rand.org).

REFERENCES

- Katz SJ, Kessler RC, Lin E, Wells K. Medication management of depression in the United States and Ontario. *J Gen Intern Med.* 1998;13:77-85.
- Regier DA, Narrow WE, Rae DS, Manderscheid RW, Locke BZ, Goodwin FK. The de facto US mental and addictive disorder service system: epidemiologic catchment area prospective one-year prevalence rates of disorders and services. *Arch Gen Psychiatry.* 1993;50:85-94.
- Wells KB, Sturm R, Sherbourne CD, Meredith L. *Caring for Depression.* Boston, Mass: Harvard University Press; 1996.
- Rost K, Zhang M, Fortney J, Smith J, Coyne J, Smith GR Jr. Persistently poor outcomes of undetected major depression in primary care. *Gen Hosp Psychiatry.* 1998;20:12-20.
- Katon W, VonKorff M, Lin E, Bush T, Ormel J. Adequacy of duration of antidepressant treatment in primary care. *Med Care.* 1992;30:67-76.
- Simon G, VonKorff M, Wanger EH, Barlow W. Patterns of antidepressant use in community practice. *Gen Hosp Psychiatry.* 1993;15:399-408.
- Katon W, VonKorff M, Lin E, et al. Collaborative management to achieve treatment guidelines: impact on depression in primary care. *JAMA.* 1995;273:1026-1031.
- Katon W, Robinson P, VonKorff M, et al. A multifaceted intervention to improve treatment of depression in primary care. *Arch Gen Psychiatry.* 1996;53:924-932.
- Simon GE, VonKorff M, Heiligenstein JH, et al. Initial antidepressant choice in primary care: effectiveness and cost of fluoxetine vs tricyclic antidepressants. *JAMA.* 1996;275:1897-1902.
- Sturm R, Wells KB. How can care for depression be more cost-effective? *JAMA.* 1995;273:51-58.
- VonKorff M, Katon W, Bush T, et al. Treatment costs, cost offset and cost effectiveness of collaborative management of depression. *Psychosomatic Med.* 1998; 60:143-149.
- Depression in Primary Care, 1: Detection and Diagnosis.* Rockville, Md: Agency for Health Care Policy and Research, US Dept of Health and Human Services, Public Health Services; 1993. AHCPR publication 93-0550.
- Brown JB, Shye D, McFarland B. The paradox of guideline implementation: how AHCPR's Depression Guideline was adapted at Kaiser Permanente Northwest Region. *J Qual Improvement.* 1995;21:5-21.
- Hall LL, Edgar ER, Flynn LM. *Stand and Deliver: Action Call to a Failing Industry. The NAMI Managed Care Report Card.* Arlington, Va: National Alliance for the Mentally Ill; 1997.
- Rogers WH, Wells KB, Meredith LS, Sturm R, Burnam MA. Outcomes for adult outpatients with depression under prepaid or fee-for-service financing. *Arch Gen Psychiatry.* 1993;50:517-525.
- Wells KB. The design of Partners in Care: evaluating the cost-effectiveness of improving care for depression in primary care. *Soc Psychiatry Psychiatr Epidemiol.* 1999;34:20-24.
- World Health Organization. *Composite International Diagnostic Interview (CIDI) Core Version 2.1.* Interviewer's Manual. Geneva, Switzerland: World Health Organization; 1997.
- Andrew G, Peters L. The psychometric properties of the *Composite International Diagnostic Interview.* *Soc Psychiatry Psychiatr Epidemiol.* 1998;33:80-88.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* Washington, DC: American Psychiatric Association; 1994.
- Katon W, VonKorff M, Lin E, Bush T, Ormel J. Adequacy of duration of antidepressant treatment in primary care. *Med Care.* 1992;30:67-76.
- Wells KB, Katon W, Rogers B, Camp P. Use of minor tranquilizers and antidepressant medications by depressed outpatients: results from the Medical Outcomes Study. *Am J Psychiatry.* 1994;151:694-700.
- Keller MB, Lavori PW, Endicott J, Coryell W, Klerman GL. Double depression: two-year follow-up. *Am J Psychiatry.* 1983;140:689-694.
- Rost K, Burnam MA, Smith GR. Development of screeners for depression disorders and substance disorder history. *Med Care.* 1993;31:189-200.
- Ware JE, Kosinski M, Keller SA. 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Med Care.* 1996; 34:220-233.
- White H. A heteroscedasticity-consistent covariance matrix estimator. *Econometrica.* 1980;48:817-838.
- Searle SR. *Linear Models.* New York, NY: John Wiley & Sons Inc; 1971.
- Feller W. *An Introduction to Probability Theory and Its Application.* New York, NY: John Wiley & Sons Inc; 1968:110-142.
- Schulberg HC, Block MR, Modina MJ, et al. Treating major depression in primary care practice: eight-month clinical outcomes. *Arch Gen Psychiatry.* 1996; 53:913-919.
- Barracough B, Bunch J, Nelson B, Sainsbury P. A hundred cases of suicide: clinical aspects. *Br J Psychiatry.* 1974;125:355-373.
- Murphy GE. The physician's responsibility for suicide, II: errors of omission. *Ann Intern Med.* 1975;82:305-309.
- Rich CL, Young D, Fowler RC. San Diego suicide study, I: young versus old subjects. *Arch Gen Psychiatry.* 1986;43:577-582.
- Dijkstra RFW, van Egmond M. Suicide and attempted suicide in general practice, 1979-1986. *Acta Psychiatr Scand.* 1989;79:268-275.
- Simon GE, VonKorff M. Suicide mortality among patients treated for depression in an insured population. *Am J Epidemiol.* 1998;147:155-160.
- US Department of Health and Human Services. *Eighth Special Report to US Congress on Alcohol and Health.* Washington, DC: National Institute of Health, National Institute on Alcoholism and Alcohol Abuse, 1993. Special Report 94-3699.
- Meredith LS, Wells KB, Kaplan SH, Mazel RM. Counseling typically provided for depression: role of clinician specialty and payment system. *Arch Gen Psychiatry.* 1996;53:905-912.
- Wells KB, Lewis CE, Leake B, Schleiter MK, Brook RH. The practices of general and subspecialty internists in counseling about smoking and exercise. *Am J Public Health.* 1986;76:1009-1013.
- Wells KB, Sherbourne CD. Functioning and utility for current health of patients with depression or chronic medical conditions in managed, primary care practices. *Arch Gen Psychiatry.* 1999;56:897-904.

Clinical Pearl

Tongue-Biting Indicates Seizures

Tongue biting, particularly if it is lateral, is highly specific to generalized tonic-clonic seizures. (*Arch Intern Med.* 1995;155:2346-2349.)