Improving Medication Management of Depression in Health Plans

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Objective: **Improving depression treatment is critical given low rates of appropriate care. Health plan performance measures that address quality of antidepressant medication management, specifically, have been stagnating at relatively low levels. Identifying health plan characteristics associated with better performance could contribute to quality improvement for this aspect of depression treatment.** _Methods:_ **Data for 2003 were linked from two sources: a nationally representative survey of 368 health plans about their behavioral health services and the National Committee for Quality Assurance's Health Plan Employer Data and Information Set (HEDIS) antidepressant medication management (AMM) scores, which reflect the percentage of eligible members whose care met specified criteria. The analytic sample present in both data sets totaled 361 products offered by 183 plans. Plan characteristics were grouped into organizational, provider, and consumer domains. Bivariate tests and regression analyses were conducted to estimate the relationship between these characteristics and health plan performance on three AMM measures: effective acute-phase treatment, effective continuation-phase treatment, and optimal practitioner contact.** _Results:_ **Mean HEDIS AMM scores were 60% for effective acute-phase treatment, 43% for continuation-phase treatment, and 22% for optimal practitioner contact. Individual feedback to clinicians about their performance, lower cost sharing for outpatient mental health, and greater access to selective serotonin reuptake inhibitors were significantly associated with better plan performance in terms of antidepressant medication management.** _Conclusions:_ **Health plan characteristics were significantly associated with the quality of one important aspect of depression care, antidepressant medication management. Many of the factors that were identified suggest actionable ways for plans to improve quality of depression care. (**_Psychiatric Services_ **59:72–77, 2008)**

I mproving depression treatment is critical given the low rates of appropriate care for this common and treatable disorder. About 17% of the population will have a major depressive disorder during their lifetime (1), and 7% of the population has had such a disorder in the past year (2). Deficiencies in depression care, especially in primary care, are well documented (3–6). Among persons with depression in the past year, only half received any treatment for it, and only 38% of those who received any care got at least minimally adequate treatment (3). An analysis of quality of care in the United States found that adults treated for depression received 58% of recommended care processes (5).

One approach to influencing care is the use of performance measures for accountability, comparison, and quality improvement purposes (7). Since 1999 the National Committee for Quality Assurance (NCQA) has tracked and reported on depression care in health plans, primarily health maintenance organizations (HMOs) and point-of-service (POS) plans, using a three-component antidepressant medication management (AMM) measure for patients with a diagnosis of major depression who are prescribed antidepressants. In contrast to measures for medical conditions such as diabetes, AMM measures have shown little improvement over time, stagnating at suboptimal levels, with rates from one-fifth to just over half depending on the measure (6).

Studies addressing improvement in depression treatment at the practice level show promising results (8). Other studies have addressed the connection between particular plan features, such as behavioral health carve-outs, and depression treatment (9,10). Plans influence quality independently from provider groups (11), and significant variation exists in plan structure, behavioral health contracting, and quality improvement efforts that could affect treatment (12). However, little is known about the relationship between a range of organizational

features and performance in depression treatment. Our results have implications for improving depression care by identifying actionable health plan factors that influence performance, informing plans and purchasers about ways to improve quality and facilitating value-based purchasing.

Methods

Data on health plan characteristics and practices for this study were from the Brandeis Survey on Alcohol, Drug Abuse, and Mental Health Services, a survey of 441 market area–specific private plans regarding mental health and substance abuse services in 2003. The response rate was 83% (N=368). The survey was a follow-on to a survey conducted in 1999. The telephone survey in 2003 included an administrative module addressing behavioral health contracting, benefits, network management, and provider payment and a clinical module addressing primary care screening and treatment, entry into specialty care, utilization management, prescription drug formularies, quality improvement, and other clinically oriented topics. Each plan was asked about its top three commercial managed care products. Items were asked at the product level within each market area–specific plan.

Typically, the executive director for the administrative module and medical director for the clinical module were able to respond to all topics in the survey, although some plans referred to the managed behavioral health organization (MBHO) for some information. For some national or regional plans, respondents at the corporate headquarters–level were interviewed regarding multiple sites. We found heterogeneity in plan operation among health plans with a presence in multiple market areas. For example, in some cases corporate-level respondents reported variation across markets, and in some other cases they directed us to contact market-level staff. In all cases we gathered information pertaining specifically to the market area. Active informed consent was obtained from each respondent, and the study was approved by the Brandeis University Institutional Review Board. Respondents were informed that their identities and those of the health plans they represented would remain confidential and that all data would be presented only in aggregate fashion.

The study is linked to the Community Tracking Study (CTS), a longitudinal study of health system change funded by the Robert Wood Johnson Foundation (13). The primary sampling units were the 60 CTS market areas selected to be nationally representative. The second stage consisted of selecting plans within market areas. Plans serving multiple markets were defined as separate plans for the study, and data were collected with reference to the specific market.

The 2003 sample included all of the 1999 sample plus a national sample of plans not previously operating in the sites. There were 441 eligible plans, of which 368 (83%) responded and reported on 812 products. Nonresponse analysis examined differences in terms of region and plan type; responding plans were more likely to offer HMO products.

We linked health plan survey data with antidepressant medication management data from NCQA's Health Plan Employer Data and Information Set (HEDIS) and plans' self-reported data on model type. The sample included 361 HMO and POS products representing 183 plans.

The goal of the HEDIS AMM measure is to monitor the degree to which plan members who receive a diagnosis of a new episode of major depression and who are treated with antidepressants receive effective treatment. The first two components focus on antidepressant prescribing during acute and continuation phases, and the third focuses on follow-up visit frequency. The specifications are generally concordant with treatment guidelines, such as those of the American Psychiatric Association (14), although HEDIS requires less frequent follow-up. Rather than determining phase of treatment according to the individual's condition, HEDIS uses number of weeks since the index prescription. Using time since initiation is a common approach to operationalizing treatment phase in administrative data. Each component of the measure is a dependent variable in our analyses.

Independent variables that may be related to the quality of depression treatment were categorized into organizational, provider, and consumer domains. The organizational domain included whether plans carve out mental health services, use depression disease management programs, and require mental health specialists to contact primary care physicians given patients' permission. The provider domain included whether the plan distributes written guidelines and provides related training, gives feedback to providers regarding their own performance relative to guidelines, and gives providers feedback regarding overall performance of the network. We also included whether, beyond medication management, plans allow primary care physicians to bill using other psychiatric procedure codes, such as for psychotherapy.

The consumer domain included cost sharing for outpatient mental health visits. Coinsurance exceeding 20% or copayments exceeding $20 were considered "high." We included whether plans allowed access to outpatient mental health care without gatekeeping or prior authorization. Finally, we examined how many of the four newer selective serotonin reuptake inhibitors (SSRIs) (sertraline, paroxetine, citalopram, and escitalopram), as of 2003, were available on tier 2 of the formulary without requirements for prior authorization or for first failing treatment with another drug. Copayments are typically lowest for generic drugs (tier 1), higher for brand drugs "preferred" by the plan (tier 2), and highest for "nonpreferred" brands (tier 3).

Multivariate analyses were conducted by using ordinary least squares regression to determine how organizational, provider, and consumer factors were related to plan performance on each component of the AMM measure. Analyses were conducted at the insurance product level by using SUDAAN for sampling variance estimation. The dependent variable in each case is the product-level rate for that HEDIS measure, expressed as a percentage of eligible members whose care met criteria on the measure. Thus the coefficients in each regression model represent differences in the HEDIS rates associat-

Characteristic	N	%
General characteristics		
Model type (N=358)		
Mixed model	159	44
Group or network	104	29
Independent practice association	95	27
For profit (N=350)	274	78
Region		
Northeast	101	28
Midwest	49	14
South	134	37
West	77	21
Plan enrollment (N=338)		
<10,000	49	15
10,000–50,000	93	28
>50,000	196	58
Organizational domain		
Contracting arrangement for behavioral health services		
Specialty managed behavioral health organization	292	81
Comprehensive contract or internal arrangement	69	19
Has a depression disease management program (N=357)	173	48
With patient permission, requires the specialty provider to contact primary care physicians (N=353)	297	84
Provider domain		
Provides training on depression guidelines (N=325)	248	76
Provides feedback on individual performance on guidelines (N=327)	120	37
Provides feedback on network performance on guidelines (N=327)	70	21
Allows the primary care physician to bill for psychiatric procedures other than medication management (N=322)	122	38
Consumer domain		
Higher cost sharing for mental health outpatient visits (>20% coinsurance or >$20 copay) (N=308)	99	32
Mean±SD number of new SSRIs available on tier 2 without restriction[b] (N=357)	2.5±.09	
Allows direct access to mental health care (N=351)	136	39

[a] The denominator was less than 361 for some variables (as indicated) because of missing data.

[b] SSRIs: selective serotonin reuptake inhibitors

ed with each independent variable, relative to the reference group and with other variables held constant. We also conducted sensitivity analyses to examine the potential effect of larger, multimarket health plans. When we included dummy variables for the largest such plans, results for all three dependent variables were very similar to the original models in terms of significance and directionality of independent variable coefficients. Therefore, we present the models without these controls.

Results
Sample description
Table 1 describes sample characteristics. In the organizational domain, 29% of products used physician groups or networks, 27% were independent practice associations, and 44% had a mixed approach. About 78% of products were offered by for-profit plans. Eighty-one percent contracted with a MBHO. Products were geographically dispersed and varied widely in terms of enrollment. Depression disease management was used by 48% of products, and 84% required specialty behavioral health providers to contact primary care physicians with the patient's permission.

Within the provider domain, 76% provided training on depression guidelines, 37% provided individual feedback to providers regarding their own performance, and 21% provided feedback regarding overall network performance.

Within the consumer domain, 32% of products had high cost sharing for outpatient mental health. Direct access to mental health care was available in 39% of products. Most products had three-tier formularies, and on average three of the newer SSRIs were available on tier 2 without restriction.

Overall performance on HEDIS AMM measures
Table 2 presents definitions and overall performance scores on HEDIS AMM measures. On average, 60% of plan members who were started on antidepressants for a new episode of depression remained on antidepressants during the acute phase, 43% continued antidepressants during the continuation phase, and 22% received optimal practitioner contact. These figures are comparable to the rates for all private plans participating in HEDIS in 2003 (15).

Performance across measures
Table 3 provides a comparison of top-performing products across the three components of the AMM measure. The top 10% of products were relatively consistent for acute- and continuation-phase components; 89% of the products that ranked in the top 10% for the acute phase also were in the top 10% for the continuation phase. However, some variability was noted among the top 25% of products on these two measures. Among products ranking in the top 25% for the acute phase, 68% were also in the top 25% for the continuation phase. The provider contact component was dramatically different from the acute-phase component, with only 5% of the products that ranked in the top 10% for the acute phase also ranking in the top 10% for the provider contact component of the AMM measure.

Association between plan characteristics and performance
Organizational domain. Multivariate analyses indicated that when other factors were controlled for, performance rates among plans that carved out mental health were higher on the acute and continuation measures (Table 4). Having a depression disease management program was also associated with better performance on these measures. Neither factor was significantly related to the provider contact measure. Requiring

Table 2

Performance (distribution of scores) of 361 health plan products on antidepressant medication management (AMM) measures from the Health Plan Employer Data and Information Set (HEDIS) in 2003[a]

			Percentile				
HEDIS AMM measure	M	SD	10th	25th	Median	75th	90th
Effective acute-phase treatment: percentage of members (age 18 and older) who were diagnosed as having a new episode of depression and treated with antidepressant medication and who remained on antidepressants continuously during the 12-week acute treatment phase	60	6	54	56	59	63	66
Effective continuation-phase treatment: percentage of members (age 18 and older) who were diagnosed as having a new episode of depression and treated with antidepressant medication and who remained on antidepressants continuously during the six months after initial diagnosis and initiation of treatment	43	6	38	40	43	45	51
Optimal practitioner contact: percentage of members (age 18 and older) who received at least three follow-up office visits with a primary care physician or mental health provider in the 12-week acute treatment phase after initial diagnosis and initiation of treatment	22	9	13	17	19	26	37

[a] From HEDIS 2004 reporting on measurement period in 2003

specialty providers to contact primary care physicians was consistently associated with lower performance across all measures.

Plans with group or network models were associated with significantly better performance on the continuation-phase measure and provider contact measure. Independent practice association models were associated with better performance on the provider contact measure. For-profit status was associated with better performance on the continuation-phase measure but lower performance on provider contact. Northeast region was a predictor of better performance on all measures. Volume of enrollment was not consistently related to performance.

Provider domain. When the analysis controlled for other factors, providing training on depression guidelines was associated with a lower rate of optimal provider contact. Providing individual feedback to providers regarding their performance was associated with higher performance rates for all measures. Feedback regarding overall performance of the network and allowing primary care physicians to bill for psychiatric treatment other than medication management was associated with significantly lower performance scores on the contact measure.

Consumer domain. Multivariate analyses showed a significant inverse association between cost sharing for mental health visits and performance on the acute- and continuation-phase measures. No significant association was found between cost sharing and optimal provider contact rates. Offering more of the newer SSRIs on tier 2 was associated with better performance during the acute and continuation phases of treatment but lower rates of optimal provider contact. After other factors were controlled for, performance on the provider contact measure was higher in plans that allowed direct access.

Discussion

A number of factors, including the high prevalence of depression, the recent push to increase screening for depression in primary care (16), and health plans' relatively poor past per-

formance on depression quality measures, necessitate improvement in the quality of depression treatment. Our results indicate that there are tools and structures that health plans may be able to use to improve depression care.

Individual feedback on performance relative to practice guidelines was positively related to performance on the HEDIS AMM measures. Our study could not determine whether feedback caused better performance; however, it appears to be a powerful tool in influencing provider behavior. This indicates that providers are responsive to efforts to help them improve performance and that such feedback is an actionable technique for health plans to use to influence performance. We do not know how feedback was provided; this is an im-

Table 3

Comparison of top-performing health plan products on antidepressant medication management measures from the Health Plan Employer Data and Information Set in 2003

Acute-phase ranking	N	% of acute-phase top performers in the same ranking	
		Continuation phase	Provider contact
Top 10%	38	89	5
Top 25%	94	68	41
Top 50%	183	75	64

Ordinary least-squares regression analysis of the association of characteristics of 277 health plan products with performance on antidepressant medication management measures from the Health Plan Employer Data and Information Set (HEDIS) in 2003[a]

Covariate	Effective acute-phase treatment		Effective continuation-phase treatment		Optimal provider contact	
	Coefficient	95% CI	Coefficient	95% CI	Coefficient	95% CI
Model type (reference, mixed model)						
Group or network	1.58	−.15 to 3.32	3.00**	1.3 to 4.69	5.75**	3.82 to 7.69
Independent practice association	.31	−1.44 to 2.06	.76	−.62 to 2.14	5.18**	3.16 to 7.21
For profit	2.22	−.33 to 4.77	2.36*	.02 to 4.70	−6.46**	−9.06 to −3.85
Region (reference, Northeast)						
Midwest	2.61*	.05 to 5.17	−.04	−2.12 to 2.05	−2.06	−4.61 to .48
South	−4.80**	−7.12 to −2.48	−4.19**	−5.82 to −2.55	−7.17**	−9.51 to −4.83
West	−2.94	−5.92 to .04	−2.91	−5.07 to −.75	−7.31**	−10.26 to −4.36
Enrollment (reference, >50,000)						
<10,000	−1.14	−2.35 to .06	−1.71**	−2.78 to −.65	1.65	−.50 to 3.80
10,000–50,000	−.33	−1.43 to .78	−.39	−1.57 to .78	.12	−1.49 to −1.73
Organizational domain						
Contracts with a managed behavioral health organization	6.71**	4.13 to 9.29	5.18**	2.91 to 7.44	−.30	−3.54 to 2.94
Has a depression disease management program	2.86**	.97 to 4.75	2.40*	.15 to 4.66	1.74	−1.11 to 4.59
Requires the specialty provider to contact primary care physicians	−6.07**	−7.87 to −4.26	−4.71**	−6.55 to −2.87	−4.37**	−7.08 to −1.66
Provider domain						
Provides training on depression guidelines	.87	−.53 to 2.27	.09	−1.68 to 1.87	−5.95**	−8.58 to −3.32
Provides individual feedback on performance	4.91**	2.06 to 7.76	5.41**	2.47 to 8.36	7.87**	5.19 to 10.56
Provides feedback on network performance	−1.85	−3.82 to .11	−.80	−2.45 to .85	−6.50**	−9.03 to −3.96
Allows the primary care physician to bill for psychiatric procedures other than medication management	−1.58	−3.98 to .82	−.57	−2.85 to 1.70	−2.57*	−4.90 to −.23
Consumer domain						
Higher cost sharing for outpatient mental health visits	−5.81**	−7.74 to −3.88	−7.03**	−10.0 to −4.07	−.80	−3.47 to 1.87
Number of new SSRIs available on tier 2 without restriction[b]	1.61	.46 to 2.77	1.09*	.10 to 2.08	−1.24*	−2.19 to −.30
Allows direct access to mental health care	−.03	−1.59 to 1.52	1.05	−.62 to 2.72	5.47**	2.9 to 8.03
Intercept	54.38	49.69 to 59.07	38.80	34.55 to 43.05	36.24	32.6 to 39.87
R^2	.52		.46		.50	

[a] Each dependent variable is a percentage (HEDIS score); thus each coefficient indicates the adjusted difference in percentage associated with varying that characteristic when holding other variables constant.

[b] SSRIs: selective serotonin reuptake inhibitors

*p<.05

**p<.01

portant consideration because research shows that not all feedback tools are effective (17). This finding suggests that providers may also be responsive to other direct efforts by health plans to recognize or reward performance.

Cost sharing for mental health visits appears to be another important mechanism influencing rates of acute- and continuation-phase medication management. Higher cost sharing was associated with lower performance on both of these measures. Increased access to SSRIs was associated with higher rates of effec-

tive medication management during both phases of treatment. These findings suggest that financial barriers may prevent patients from receiving high-quality health care, adding to existing research that shows an inverse relationship between cost sharing and utilization of mental health services (18,19). The reduction of financial barriers to mental health care is an action that employers and other purchasers can undertake to improve quality of care when selecting benefit features.

Plans that contract with MBHOs had higher rates of effective acute-

and continuation-phase antidepressant medication management on this HEDIS measure. This may be because plans that carve out are more likely to have patients in specialty treatment where providers are more likely to meet HEDIS standards (20).

At the same time, some results were counterintuitive—for example, the negative relationships between performance measures and requiring specialty providers to contact primary care physicians and allowing primary care physicians to bill for psychiatric procedures other than medication management. One possi-

bility is that plans that allow expanded mental health billing may have more depression treatment occurring in primary care, where treatment may be less likely to meet measure criteria. These findings require further exploration, and future research should focus on the mechanisms underlying these associations.

The provider contact measure seems to be driven by factors different from those that drive the medication measures. This is supported by our analysis of top-performing products across the three components of the AMM measure. There were also more counterintuitive results for the provider contact measure. NCQA is currently reconsidering the definition of this measure. NCQA began allowing telephone contact with providers to count toward the visit measure in 2004 and is currently considering including case management and disease management contacts in the provider contact count. Our results indicate these may be reasonable changes, although it is not clear how they will affect performance. Plans with depression disease management had a significantly higher proportion of members receiving effective medication management during the acute and continuation phases, but this is not currently captured in the provider contact measure.

The study has some limitations. The sample is limited to plans included in both the health plan survey and the NCQA HEDIS database. Preferred-provider organization products were not included because they generally did not participate in HEDIS before 2006. As noted above, this study analyzed associations between health plan characteristics and HEDIS performance, but causality could not be determined given our observational research design. This analysis captures one aspect of depression care—namely, treatment with antidepressants—and is limited to new episodes. Analyses were conducted at the organizational level, and we could not assess the quality of care received by individual patients, severity, outcomes, or reasons for discontinuation. Patients may have received prescriptions for antidepressants but may not have filled them, or

they may not have taken medications they did get. Providers may have given medication samples, but this seems unlikely to be a significant issue because samples are normally used for a short time until a prescription can be filled.

Conclusions

Our study found that health plan features had a significant relationship to performance on HEDIS AMM measures. Some efforts to improve performance, such as providing individual provider feedback and depression disease management programs, appear to have positive results. Many of the features we identified suggest actionable ways for plans to improve quality of care for depression.

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