

Use of Practice System Tools by Medical Groups for Depression

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Depression is a common, disabling, and costly condition that is often chronic or recurrent.¹ It is also a condition with a large gap between evidence-based care and the actual care most patients with depression receive.²⁻⁵ For these reasons, depression has been identified by the Institute of Medicine as one of the priority areas for transforming healthcare quality.⁶ The central problem for this transformation appears to be how to implement evidence-based care processes in primary care settings that are usually overburdened and underresourced.

Many randomized controlled trials have shown that system changes improve the care of depressed patients in the primary care setting. These changes include initial assessment of depression diagnostic criteria and severity using standard instruments, tracking and monitoring treatment effectiveness, stepped care for treatment intensification as needed, and relapse prevention.⁷⁻¹⁵ Another key role in these trials is a care manager (ideally in the primary care setting) who provides patients with education, support, and care coordination, and facilitates psychiatric consultation and mental health therapy for patients who are not improving. Screening for case-finding could be added to the above list once the rest of the system is in place, as was recommended by the US Preventive Services Task Force (USPSTF).¹⁶

Compared with other chronic conditions such as diabetes and coronary artery disease, depression care is improving more slowly. Although the present Health Plan Employer Data and Information Set (HEDIS) benchmarks may not be ideal for measuring depression care, they provide a national standard for comparison. Mean HEDIS rates for medication adherence for 3 and 6 months and optimal practitioner contacts in 2005 (61%, 45%, and 21%) have changed little since 2001 (57%, 40%, and 20%, respectively) for patients with commercial insurance.^{17,18} Mean HEDIS rates for these measures are even lower and have improved less for Medicare and Medicaid patients. While the HEDIS measures for depression care show higher rates of 3- and 6-month medication adherence in Minnesota compared with the nation as a whole, the numbers are not showing improvement in Minnesota. For example, 6-month medication adherence in Minnesota (for all types of insurance) was 49% in 2002, 51% in 2003, and 49% in 2004.¹⁹

One reason for the lack of improvement for depression care could be that

Objective: To describe the types of practice system tools that medical groups use for depression care, and to compare these with the tools used for care of other chronic conditions.

Study Design: Cross-sectional survey.

Methods: We surveyed the medical directors of 41 medical groups in Minnesota with sufficient numbers of patients with depression to be included in public reporting of performance measures for depression. The survey asked about the presence of practice systems used for depression and other chronic conditions.

Results: The response rate to the survey was 100%. Group sizes ranged from 7 to 2000 physicians and were evenly divided between metropolitan and nonmetropolitan areas. About 60% of the groups were multispecialty. Medical groups were most likely to have information support, decision support, and performance tools (such as a registry, flow sheets or check lists, written standards of care, reminder systems, and performance feedback to physicians) to support management of diabetes (ranging from 65% with a registry to 95% with written standards of care). In general, the fewest of these system tools were in place for management of depression (ranging from 12% with a registry to 58% with written standards of care). One exception was the use of patient self-assessment tools, which was most common for depression (51%).

Conclusions: Our findings suggest that a lack of practice system tools may be one element that is hampering improvement in depression care. Further study is needed to demonstrate that implementing and maintaining these changes will improve depression care in diverse medical practices.

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the types of office systems and practice tools that have been found important to support the care of other chronic conditions have not been adapted to the system and role changes needed for better depression care. Therefore, we studied that possibility through surveys of the medical directors of 41 medical groups in Minnesota. Because small medical groups often lack resources for developing and implementing systems like electronic medical records (EMRs), we were particularly interested in whether there was any relationship between medical group size and the presence of those systems.²⁰

METHODS

We recruited all 41 medical groups in the state with sufficient size and numbers of patients with depression to be included in the annual public reporting of performance measures for depression by Minnesota Community Measurement.²¹ This organization is sponsored by all the health plans in the state, and it has gradually evolved into a preeminent public accountability system. Then we obtained completed surveys from all 41 medical directors, asking about the presence in their medical groups of a wide variety of practice systems used for depression and other chronic conditions and consistent with the Chronic Care Model of Wagner et al.²² The survey, called PPC, for Physician Practice Connections, was developed by an expert panel led by the National Committee on Quality Assurance (NCQA), of which one of us (LIS) was a member. The surveys were mailed initially in June 2005, and nonrespondents received an e-mail reminder followed by telephone calls, if necessary. The response rate was 100%.

Given the lack of valid and reliable tools for assessing clinical practice systems, NCQA developed the PPC self-report survey tool to measure the presence and function of chronic disease practice systems for use in various pay-for-performance demonstrations. The development process built on an extensive literature review, input from experts and key stakeholders, and multiple pretesting efforts with physician practices.²³ The PPC addresses 5 domains that are consistent with the Chronic Care Model's elements: healthcare organization, delivery system redesign, clinical information systems, decision support, and self-management support. Each of the 5 domains was assessed with multiple survey items. Individual items most relevant to depression care were selected from the PPC for the analysis conducted in this report.

As a reference point for comparison with other medical groups nationally, we also used the methods of Casalino et al to quantify practice systems (called care management processes or CMPs by Casalino) among these groups in relation to their findings for the rest of the country.²⁴ The 4 types of prac-

tice systems assessed by the Casalino method were case management, feedback to physicians, use of a disease registry, and adoption of clinical guidelines that are present in charts, in reminder systems, or in order-entry systems. In this method, each of the 4 practice systems was awarded 1 point each for use for 4 conditions (diabetes, asthma, congestive heart failure, and depression), with the exception of not including feedback to physicians for depression (15 points). One additional point was awarded for the use of programs to teach patient self-management support skills for chronic illnesses in general, for a total of up to 16 points. We used items on the PPC to create a similar score, substituting cardiovascular disease for congestive heart failure items, because we assessed cardiovascular disease, but did not assess congestive heart failure, in our survey.

For categorical items, associations between medical group size and medical group attributes/systems were assessed with contingency tables and Pearson and Mantel-Haenszel χ^2 statistics. The Wilcoxon rank sum test was used to test for difference in continuous items by medical group size. Weighted least squares analysis of categorical outcomes was used to test whether systems were equally present across different chronic conditions.

RESULTS

The characteristics of the 41 medical groups, stratified by the number of physicians they contain, are shown in **Table 1**. Group size was strongly correlated with the number of practice sites within the medical group, but smaller groups had more patient visits per week per physician. No significant differences were noted in the number of nurses or advanced care providers per physician, but apropos of our interest in depression care, larger group size was strongly associated with the presence of psychiatrists and behavioral health clinicians in the group. About two thirds of the groups were multispecialty, and this proportion increased as group size increased. Roughly half of the medical groups were located in nonmetropolitan areas. Most of the small and medium-sized medical groups were physician-owned, whereas the largest groups were primarily owned by hospitals, health plans, or other nonprofit corporations. Smaller groups had more patients with commercial insurance and fewer patients with Medicare coverage.

Just over half of the groups used an EMR system, either alone or supplemented by paper medical records, and most EMR systems had been in place for 5 years or less (**Table 2**). As group size increased, fewer relied solely on paper medical records. Medical groups were most able to search electronic data for diagnosis codes (65%), with somewhat fewer able to

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■ **Table 1.** Characteristics of the Medical Group by Number of Physicians and Overall

	Medical Groups With 7-40 Physicians (n = 13)	Medical Groups With 41-110 Physicians (n = 14)	Medical Groups With 111-2000 Physicians (n = 14)	All Medical Groups (N = 41)
Practice size (number of sites) %*				
1-3	61.5	14.3	7.1	26.8
4-10	38.5	57.1	7.1	34.2
> 10	0	28.6	85.7	39.0
Patient visits per week/physician, mean (SD)[†]	102.4 (42.5)	86.1 (54.8)	58.6 (25.3)	81.9 (45.4)
Number of RNs/physician, mean (SD)	0.27 (0.31)	0.36 (0.73)	0.74 (0.84)	0.46 (0.69)
Number of advance practice providers (NPs, PAs)/physician, mean (SD)	0.28 (0.20)	0.16 (0.09)	0.20 (0.12)	0.21 (0.15)
Any psychiatrists (%)*	7.7	28.6	92.9	43.9
Any nonphysician behavioral health clinicians (%)*	7.7	28.6	92.9	43.9
Type of practice (%)[†]				
Single specialty	61.5	42.9	7.1	36.6
Multispecialty	38.5	57.1	92.9	63.4
Location (%)				
Metropolitan	53.9	28.6	57.1	46.3
Nonmetropolitan	46.1	71.4	42.9	53.7
Ownership (%)[†]				
Physicians	69.2	57.1	14.3	46.3
Hospital	15.4	28.6	42.9	29.3
Health plan	15.4	0	7.1	7.3
Other (foundation, nonprofit corporation)	0	14.3	35.7	17.1
Payer mix (mean of %)				
Commercial [†]	67.4	60.1	55.9	61.0
Medicare [†]	19.1	20.5	28.3	22.7
Medicaid	8.2	14.3	9.6	10.8
Uninsured	2.7	4.6	4.4	3.9
*P < .001; [†] P < .05 (Pearson χ^2 or Wilcoxon rank sum test). NP indicates nurse practitioner, PA, physician assistant; SD, standard deviation. Payer mix percentages do not sum to 100% because of missing data.				

search problem lists (45%), and prescription medications (40%).

Medical groups were much more likely to have practice system tools to support management of diabetes than the other 3 conditions (Table 3). With regard to information support, decision support, and performance tools, most groups had a diabetes registry, patient care tools (eg, flow sheets or check lists), written standards of care, reminder systems, and performance feedback to physicians. In general, progressively fewer of these system tools were in place for management of

cardiovascular disease, asthma, and depression. One notable exception was the use of patient self-assessment tools, which was most common for depression. Similarly, delivery system redesign and self-management system tools were most often reported to be present for diabetes and least often for depression, although in some cases (nurse case management, follow-up for missed appointments, patient reminders, support groups) asthma management was supported by even fewer of these system tools than was depression. Nurse case management and after-visit follow-up were the least commonly used

■ **Table 2.** Information and Tracking Systems by Number of Physicians and Overall

	Medical Groups With 7-40 Physicians (n = 13)	Medical Groups With 41-110 Physicians (n = 14)	Medical Groups With 111-2000 Physicians (n = 14)	All Medical Groups (N = 41)
Use of EMR*				
EMR only or plus paper	30.8	57.1	71.4	53.7
No EMR	69.2	42.9	28.6	46.3
Maturity of EMR				
≤5 years ago	75.0	66.7	66.7	68.4
>5 years ago	25.0	33.3	33.3	31.6
Searchable data in electronic data system for at least some patients				
Problem list	41.7	35.7	57.1	45.0
Diagnosis codes	58.3	78.6	57.1	65.0
Prescription medications	33.3	28.6	57.1	40.0
Values are percentages. * <i>P</i> < .05 (Mantel-Haenszel trend test). EMR indicates electronic medical record.				

tools for all 4 conditions, but significant differences persisted across conditions.

Finally, the mean number of CMPs present in the medical groups in this study was 7.1 (SD 3.2) out of a perfect score of 16.0. No differences were noted in scores by medical group size (*P* = .6).

DISCUSSION

Among these medical groups, large differences were noted for the presence of practice system tools to support depression care compared with other chronic conditions. In contrast to diabetes and cardiovascular disease, common chronic care management tools such as disease registries, flow sheets, physician and patient reminders, performance feedback, and self-management support are uncommon for depression. Although larger medical groups were more likely to include psychiatrists and behavioral health clinicians and to have an EMR, there were no differences in the presence of practice systems for chronic disease care by group size as measured by the Casolino CMP score.

Although approximately half of the groups used patient self-assessment tools for depression symptoms (primarily the Patient Health Questionnaire-9), it may be difficult for this information to be used to improve patient care unless other systems are in place for tracking and monitoring treatment effectiveness. Tracking and monitoring systems such as reg-

istries, flow sheets, reminders, pre- and postvisit planning and follow-up are essential for maintaining adherence to treatment plans, appropriate treatment intensification for nonresponders, and relapse prevention. Few groups had nonphysician staff support for depression care, and only the largest groups included psychiatrists or other behavioral health clinicians within their own staff to facilitate collaborative care—2 other key components of depression interventions demonstrated to be effective in randomized trials.

The absence of such practice tools suggests one reason why depression care has failed to improve in primary care practice despite a strong evidence base for what is needed for effective therapy. There is good reason to believe that the higher and improving performance rates for diabetes and heart disease care in the United States are largely attributable to such systems.^{22,25-29} We can only speculate as to the reasons for there being fewer system tools for depression care, despite a national emphasis on the need for improving the quality of depression care. These reasons might include financial disincentives, time pressures on physicians, negative views of physicians toward depression, lack of physician training in depression treatment, and a practice culture that resists change.

No other studies have documented the presence of various specific systems for depression care among a broad range of medical practices uninvolved in a specific clinical trial in the literature. Both Oxman et al and Unutzer's IMPACT trial have identified some of the systems needed to improve depres-

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Table 3. System Tools to Provide Information, Decision Support, Performance Data, Delivery System Redesign, and Patient Self-management for Managing Chronic Conditions

	Diabetes (n = 41)	Cardiovascular Disease (n = 41)	Asthma (n = 41)	Depression (n = 41)	P
Office maintains a registry (paper or electronic)	65.0	33.3	15.4	12.5	< .0001
Patient care tools					
Flow sheets	85.4	31.7	34.2	14.6	< .0001
Checklists for monitoring	68.3	26.8	19.5	12.2	< .0001
Assessment tool to assess patient symptoms, self-care	22.0	7.3	17.1	51.2	< .0001
Medical group has adopted written evidence-based standards of care (eg, clinical practice guidelines)	95.0	74.4	75.6	57.5	< .0001
Guideline-based reminders for services patient should receive (paper and/or electronic)	72.5	41.7	29.7	13.9	< .0001
Performance data provided to physicians					< .0001
Practice level only	9.8	15.0	20.0	15.0	< .07
Physician level only	4.9	2.5	7.5	5.0	< .21
Practice and physician level	70.7	37.5	20.0	22.5	< .0001
Nonphysician educators on staff to help with patient management	85.4	34.2	29.3	26.8	< .0001
Nurse case managers on staff to help with patient management	24.4	19.5	2.4	7.3	.004
Care management components routinely provided					
Previsit planning	56.1	34.2	24.4	14.6	< .0001
After visit follow-up	26.8	17.1	4.9	2.4	.0007
Setting individual treatment goals	70.7	36.6	31.7	24.4	< .0001
Assessment of patient progress toward goals	65.9	31.7	26.8	22.0	< .0001
Individualized patient education and support	78.1	41.5	29.3	24.4	< .0001
Follow-up for missed appointments	46.3	31.7	9.8	12.2	< .0001
Systematic approach to identify and remind patients due for services	61.0	29.3	7.3	12.2	< .0001
Formal support programs or classes to assist in self-management of condition					.0001
Medical group provides/refers	95.1	80.5	68.3	78.1	
Neither	4.9	19.5	31.7	21.9	
Systems to encourage patient self-management	80.5	46.3	51.2	29.3	< .0001

Values are percentages.

sion care.^{30,31} Meredith reported on the Chronic Care Model system changes implemented by those teams participating in a quality improvement collaborative, and several randomized trials have demonstrated the feasibility of practice implementation of proven depression systems.^{12,32-34} However, information about the absolute frequency of specific systems and their

frequency relative to systems for other chronic conditions has been missing heretofore. It will be important now to also learn whether many practices have separate systems for each chronic condition or whether they find it more efficient and feasible to use common systems across conditions. Pincus and colleagues pointed out that “a challenge for policy-makers is

Take-away Points

Depression care is a high priority for quality improvement, but no studies have examined whether practice tools and systems to support depression care are present in medical practices.

■ This study surveyed the medical directors of 41 medical groups in Minnesota regarding the types of practice tools that were used to support the care of diabetes, cardiovascular heart disease, depression, and asthma.

■ Compared with practice system tools for diabetes and cardiovascular heart disease, medical groups uncommonly use such tools for depression care (eg, patient registries, reminder systems, performance feedback to physicians, case managers, or self-management support).

how to link depression care with the management of other chronic conditions.”³⁵

Several limitations to the interpretation of our data deserve mention. Our results are derived from data from only 1 state. However, we did have a 100% response rate among eligible medical groups, so these groups are at least representative of this locale. Moreover, this region has high rates of performance on most measures of care quality relative to the rest of the country, so if depression systems are infrequent here, they may be even lower elsewhere.³⁶ Our analysis of CMPs, using the methods of Casalino et al, also confirms this suggestion, because the national average for physician organizations with at least 20 physicians was 5.1 versus 7.1 out of a possible total score of 16 among our 41 medical groups.²⁴ Like the Casalino study, we used a survey of medical directors rather than direct measures of the systems, so there may be some discrepancy between their reports and reality. In our earlier assessment of the validity of those reports from 32 lead physicians, we found a mean positive predictive value of their reports regarding 7 types of practice systems of 82% compared to an on-site audit (range for the 7 was 55%-100%).²³

Randomized controlled trials suggest that changes in systems, roles, and relationships are the key elements for improving depression care.^{14,15,37-39} These changes can be described in similar terms to the care process elements that have been shown to be important for best care of other chronic conditions such as diabetes. Our findings suggest that a lack of practice system tools may be one element that is hampering improvement in depression care. Further study is needed to facilitate the adoption of practice system tools for depression care and to demonstrate that implementing and maintaining these changes will improve depression care in diverse medical practices.

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