Translating Evidence-Based Depression Management Services to Community-Based Primary Care Practices

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Randomized controlled trials have demonstrated the efficacy and cost-effectiveness of using treatment models for major depression in primary care settings. Nonetheless, translating these models into enduring changes in routine primary care has proved difficult. Various health system and organizational barriers prevent the integration of these models into primary care settings. This article discusses barriers to introducing and sustaining evidence-based depression management services in community-based primary care practices and suggests organizational and financial solutions based on the Robert Wood Johnson Foundation Depression in Primary Care Program. It focuses on strategies to improve depression care in medical settings based on adaptations of the chronic care model and discusses the challenges of implementing evidence-based depression care given the structural, financial, and cultural separation between mental health and general medical care.

Key Words: Patient care management, delivery of health care, integrated quality of care, depressive disorder, depression.

SUCCESSIVE GENERATIONS OF BEHAVIORAL HEALTH services research have consistently demonstrated that major depression experienced by adult patients can be effectively treated in

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primary care settings (Bruce et al. 2004; Katon et al. 1999; Schulberg et al. 1996; Simon et al. 2000, 2004; Unutzer et al. 2002; Wells et al. 2000). Combinations of pharmacologic, psychosocial, and care management interventions currently available to generalist physicians can relieve their symptoms and forestall any relapse (Badamgarav et al. 2003). Moreover, investigators have demonstrated that clinical gains can be achieved in cost-efficient ways within the fiscal parameters of other widely adopted health services (Lave et al. 1998; Schoenbaum et al. 2001).

Despite this empirically supported progress, formidable obstacles threaten to curtail further advances in the treatment of depressed primary care patients and constrain the dissemination of evidence-based practices. Oxman, Dietrich, and Schulberg (2003) emphasized the “voltage drop” that occurs when treatments proven efficacious in randomized trials are delivered in nonresearch, real-world health systems. That is, the strict adherence to a treatment may falter and its potency may be limited when delivered in routine health care settings instead of the rigorously monitored environment of research protocols.

Given these problems, much attention is now being directed to needed policies and strategies for minimizing and even eliminating the disturbing gap between clinical outcomes achieved in research protocols and those of community-based health plans and practitioners. Program directors at the National Institutes of Health have consequently advocated a shift from efficacy to effectiveness research (Roy-Byrne et al. 2003). More specifically, they recommend that future studies focus on the organizational barriers and facilitators of good depression care, as well as on cost analyses and employment-related outcomes, so that the “business case” can be made to such relevant stakeholders as health care purchasers, health plans, and policymakers.

A major goal of research seeking to transfer interventions from rigorously designed randomized controlled trials to routine practice is overcoming the “system-level” barriers to the transfer process (Institute of Medicine 2001). Solutions to overcoming the barriers to disseminating good depression care are needed at levels beyond the individual provider, and they must engage such stakeholders as health care plans, purchasers, and policymakers (Pincus et al. 2001). At the same time, these stakeholders must recognize the day-to-day barriers and facilitators of good depression care in real-world situations. By presenting the challenges of and solutions to real-world practices in translating evidence-based depression management services, this article shows policymakers and

stakeholders some of the current issues of depression treatment, in order to help them understand and appreciate the complexities of implementing evidence-based health services interventions in real-world settings. In doing so, we highlight the issues of the structural, financial, and cultural separation between mental health and general medical care.

Given this aim, we focus on the Chronic Care Model (CCM) (Wagner, Austin, and Von Korff 1996; Wagner et al. 2001) primarily because it was developed and refined as a comprehensive framework for improving the delivery of service to primary care patients with chronic illnesses and can be applied to mood disorders as well (Kilbourne et al. 2002). The CCM's core components are leadership buy-in, the systematic incorporation of evidence-based guidelines, the use of nonphysician staff to encourage the continuity of care, and the use of clinical and population-based data to monitor the quality and outcomes of care. Together, they enable practitioners to address and overcome system-level barriers to the good care of depression (Wagner, Austin, and Von Korff 1996). Several studies have already incorporated elements of the CCM for depression management, including the Quality Enhancement by Strategic Teaming (QuEST) study (Rost, Nutting, Smith, and Werner 2000); the Quality Improvement for Depression Study (Rost et al. 2001); the Mental Health Awareness Project (Rubenstein et al. 2002); the MacArthur Foundation's Re-Engineering System in Primary Care Treatment of Depression (RESPECT) (Dietrich et al. 2004); the Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) study (Unutzer et al. 2002); the Prevention of Suicide in Older Adults (PROSPECT) study (Bruce et al. 2004); Partners in Care (Wells et al. 2000); and telephone disease management studies (Hunkeler et al. 2000; Simon et al. 2000, 2004). The Robert Wood Johnson Foundation's Depression in Primary Care Program (Pincus et al. 2001) is currently testing the Chronic Care Model in regard to changes in organizational and economic strategies.

This article discusses what happens when the CCM is applied to real-world settings, concentrating on the CCM's key elements and how well they reduce system-level barriers to evidence-based depression management. We consider some of the issues and challenges of each component and how the Robert Wood Johnson Foundation Depression in Primary Care Program Incentives Demonstration Sites handled them. Our main goal is making our policy-oriented colleagues aware of the day-to-day issues that practitioners confront when adapting depression care practices

to routine care settings. We also suggest ways in which the CCM can inform the policy changes pertinent to the good care of depression and the translation of evidence-based care to real-world, community-based primary care settings. By understanding how the CCM addresses the organizational barriers to evidence-based depression care, policymakers, health plans, purchasers, and community leaders will be able to better construct and select strategies to facilitate the adaptation and sustainability of improved depression care in routine primary care settings.

System-Level Barriers to Depression Care

Barriers to chronic illness care at the individual patient and provider level, especially physicians' need to address their patients' acute symptoms rather than their chronic conditions, are not new (Rost, Nutting, Smith, Coyne, et al. 2000). But now we are looking for strategies to overcome the organizational and financial barriers beyond the individual provider that prevent physicians from obtaining the resources they need to manage depression and to facilitate patient-provider interactions leading to successful outcomes (Institute of Medicine 2001). System-level barriers to depression care typically are found at the practice organization, health plan, purchaser, and policy levels (Pincus et al. 2001). These barriers include perceived organizational and cultural differences between primary care and behavioral health practitioners (Pincus 2003), the clinical and fiscal separation of physical and psychiatric services in provider organizations and health plans, and the subsequent lack of reimbursement strategies for behavioral health care in primary medical care settings (Frank, Huskamp, and Pincus 2003). Moreover, many health plans "carve out" behavioral health services to specialty plans in order to reduce and shift psychiatric costs to the specialty sector (Frank, Huskamp, and Pincus 2003). Carve-out mechanisms, however, can disrupt the seamless referral of patients from the generalist to the specialist. They also limit the ability of primary care providers to communicate with behavioral health specialists and coordinate their patients' depression care, a process already hindered by the cultural and professional differences among these provider groups (Pincus 2003). Although these barriers are specific to depression care, many affect more than just depression and can inhibit the coordination and communication of care for other chronic illnesses as well.

Although system-level challenges to translating best practices in depression care are formidable, a number of programs and initiatives have begun to address them at the organization and policy levels. Notable among these is the Robert Wood Johnson Foundation (RWJF) Depression in Primary Care Incentives Demonstration Program (Pincus et al. 2001; RWJF 2005). The purpose of this five-year national initiative is to translate and sustain evidence-based depression care into real-world practice through the alignment of organizational arrangements and financial incentives that promote partnerships with health plans, purchasers, provider organizations, and policymakers. We describe the experiences of the partnering organizations in this initiative regarding the system-level barriers to evidence-based depression care and, based on these experiences, suggest the organizational and financial changes that are needed.

We recognize that real-world exigencies may require that some practices “streamline” chronic care models in order to enhance their applicability outside research environments. We focus, therefore, on the four elements of the CCM whose implementation we consider vital to its success, and we summarize the policies adapted by the practices participating in the RWJF Depression in Primary Care Incentives Demonstration Program. As the result of intervention trials, the CCM named leadership, decision support, delivery system design, and clinical information systems as essential to positive outcomes (e.g., Bruce et al. 2004; Rost, Nutting, Smith, and Werner 2000). These four elements are also considered vital to sustaining the program, given that the CCM’s remaining two elements are more readily adopted. Examples in Table 1 illustrate how the participating RWJF sites creatively and flexibly implemented evidence-based depression care based on the CCM’s four key elements.

Leadership

The leader, who may be inside or outside the organization where the depression quality improvement effort is to take place, must provide the vision, resources, and accountability to sustain the effort. In the IMPACT (Unutzer et al. 2002), PROSPECT (Bruce et al. 2004), and RESPECT (Dietrich et al. 2004) intervention trials, academic investigators found interested colleagues at the primary care study sites who would take responsibility for “promoting” the depression initiative among the local

TABLE 1
Barriers and Proposed Solutions to Improving Evidence-Based Depression Management in Primary Care

Chronic Care Model Domain	Barrier	Solution
Leadership	Turnover in leadership.	<ul style="list-style-type: none">• Identify two or three key leaders on different levels.
	Sustaining PCP interest in and awareness of depression treatment model.	<ul style="list-style-type: none">• Schedule periodic learning sessions to sustain interest in program.• Regularly report performance by site (e.g., percentage of patients followed up, on medications).• Provider incentives (e.g., site champions selected and given bonuses of \$250 to promote depression care model).
	Sustaining primary care staff's interest and awareness of depression treatment model.	<ul style="list-style-type: none">• Regularly communicate with primary care staff through periodic e-mails or regular newsletter to each participating site.• Obtain staff feedback regarding depression management program.
	Maintaining stakeholders' support for program.	<ul style="list-style-type: none">• Regularly meet with key practice and financial stakeholders to determine what outcomes they are interested in (e.g., improved patient functioning, decreased absenteeism).
Decision Support	Maintaining appropriate guideline-based care.	<ul style="list-style-type: none">• Schedule "booster" training sessions covering latest treatments.• Regularly visit practices to identify barriers to depression care.
	Integrating mental health care in primary care settings.	<ul style="list-style-type: none">• Create formal protocols between primary care and mental health addressing communication, accountability of care manager, patient privacy, etc.• Have care manager implement interpersonal therapy (Bruce et al. 2004) or problem-solving therapy (Unutzer et al. 2002).

Delivery System Design	Identifying and treating depressed patients in a timely manner.	<ul style="list-style-type: none">● Schedule routine screening and follow-up to obtain current symptoms and self-management preferences before appointment.● Test care management functions to ensure feasibility.● Review weekly any depressed patients to identify barriers.● Implement care manager at health plan level.● Train existing staff members to deliver depression care management.
	Lacking adequate funding to support full-time care manager.	
	Patients uncomfortable with phone contact.	<ul style="list-style-type: none">● Make available care manager at clinic to meet patients in person.
	Patients missing appointments.	<ul style="list-style-type: none">● Initiate telephone disease management; set up optimal times to contact patients; and obtain multiple contact numbers for each patient.
Clinical Information System	Information sharing prevented by clinical information system.	<ul style="list-style-type: none">● Develop protocol to facilitate e-mail communication among providers.
	Different information systems used by offices in program.	<ul style="list-style-type: none">● Create a separate registry (e.g., using MS Access) with minimal information required to manage patient care (e.g., contact information, current medications, future appointments, referral status).
	Registry information not up-to-date.	<ul style="list-style-type: none">● Separate registry data collection from formal evaluation of project, allowing providers to focus more attention on patient and minimize response burden during patient's visit.
		<ul style="list-style-type: none">● Identify care manager to regularly update registry each week.

Table is based on sites participating in the Robert Wood Johnson Foundation Depression in Primary Care Incentives Demonstration Program.

practitioners. Identifying leaders in nonresearch practices can be more difficult. The leader may be the chief medical officer, clinic director, or other clinician or administrator responsible for and capable of maintaining an organizational vision of how to deliver high-quality depression care. It is preferable that more than one leader be selected in case of a turnover, which is more common in community-based than in research-based practices. In routine practices, the leaders' tasks are more complex, as they must be able to justify to stakeholders the reasons for changing their practices in managing depression, to motivate their colleagues to join them, and to provide fiscal and other incentives to foster long-term commitment by stakeholders to the changes. Furthermore, primary care depression improvement ventures typically alter the health organization's relationship with other components of the community's generalist and specialist health care system. Thus, the leadership team should be familiar with the complex, multifaceted health care environment (e.g., behavioral health specialty) in which depression is identified and treated.

The keys to understanding and working through these complex arrangements are (1) maintaining regular communication and buy-in, particularly with participating behavioral health specialists; (2) knowing the stakeholders at the practice organization, plans, and, sometimes, purchaser levels; and (3) understanding the stakeholders' objectives. Obtaining buy-in at the beginning of the implementation process is recommended (Bradley *et al.* 2004), since the leaders must know from the outset the goals of each stakeholder. Based on these goals, they should develop an internal evaluation plan and assemble evidence demonstrating what has been achieved. The purpose of this internal evaluation is to justify the initiative's fiscal sustainability economically (i.e., "making the business case"). For example, purchasers will want data demonstrating that the depression care program reduces absenteeism from work, whereas health plans will be interested in the program's ability to reduce costs for the greatest number of users of health care. Or health plans might be interested in improving their patients' satisfaction and quality indicators (e.g., National Committee on Quality Assurance Health Plan and Employer Data Information Set performance measures for depression), especially in competitive managed care markets in which plans are compared on these indices.

The leader should also be able to demonstrate to individual providers at the practice level how they can benefit from the depression initiative

(what is in it for them). They may do this by linking clinicians to resources obtained from other administrators and financial managers in the practice or health plan. The leader of a depression quality improvement program also must negotiate for such resources as computerized patient registries, needed space for depression counseling or behavioral therapy, and additional personnel such as depression care managers.

Another feature of leadership is stability, given that a turnover of leaders is a predictor of failure to sustain the CCM (Wagner et al. 2001). The solution of one of the RWJF sites was to assign more than one leader from each administrative division, to ensure that at least one would be available. Stable leadership also permits depression quality improvement programs to have an open-ended timetable rather than being a research intervention of finite duration. This conceptual shift has both psychological and practical consequences. For example, the administrators and clinicians in the quality improvement program must initiate and maintain long-term rather than short-term commitments to altered procedures for assessing and treating depression.

Decision Support

Decision support for clinicians treating depression is another element of the chronic illness care model. Such decision support typically consists of evidence-based treatment guidelines or interventions supported by extensive clinical experience. Notably in the IMPACT (Unutzer et al. 2002), PROSPECT (Bruce et al. 2004), and RESPECT (Oxman, Dietrich, and Schulberg 2003) research initiatives, the Agency for Health Care Policy and Research (1993) depression treatment guidelines provided the framework in which primary care physicians were expected to deliver evidence-based care.

Decision support has a central role in the chronic illness care model. Randomized controlled trials (RCTs) use interventions with carefully specified parameters to which clinicians are expected to adhere. In comparison, quality improvement initiatives do not seek to validate clinical treatments; instead, they identify already validated treatments or guidelines and establish procedures for translating them into routine practice. Treatment fidelity, therefore, is of less concern in routine primary care practice, and flexible strategies for delivering high-quality treatments of depression such as pharmacotherapy or psychotherapy are of

greater concern. For example, clinical personnel with adequate but lower credentials than those of a therapist treating patients in a randomized controlled trial can be recruited for routine practice programs; they may contact patients either by phone or in person; and the scheduling of these contacts can be more flexible than at the fixed times typical of a research study. From a policy perspective, therefore, the main rule is that experimentally supported clinical procedures for treating depression can be transferred from the research environment to that of routine primary care practice, but creatively and flexibly rather than rigidly.

As part of their decision support protocols, primary care personnel should select clinically appropriate depression care-finding and risk-stratification tools to use in routine practice. Foremost is the choice of a psychometrically validated instrument like the Patient Health Questionnaire (Kroenke, Spitzer, and Williams 2001) for case identification. When selecting such an instrument, it is necessary to consider the patient population's characteristics, including health literacy level, language preferences, and the respondents' potential burden. In addition, some brief case-finding instruments may have a low predictive value for depression in primary care populations experiencing substantial medical comorbidity. Overdiagnosing depression in patients experiencing moderate but temporary depressive symptoms may lead physicians to unnecessarily prescribe selective serotonin reuptake inhibitors and other medications. This problem can be minimized through "watchful waiting" (i.e., reassessing the patient one month later to see whether the depressive symptoms worsen); using a higher cutpoint on the assessment instrument; and reviewing the patient's full medical history (Williams et al. 2002).

Depression-monitoring tools can be incorporated into an existing system that assesses multiple risks (e.g., diabetes risk, preventive care) using intake forms or computerized assessments, making the monitoring of depression care more routine. Such multiple risk assessments are particularly desirable in busy practices. There also is a trend toward using enhanced decision support systems that cover multiple chronic conditions, computerized intake assessments (e.g., via personal digital assistants), and provider electronic reminders. Although these technological advances can make the tools more efficient, they cannot sustain routine depression care without other CCM model components (Rollman et al. 2001). For example, information tools need to be combined with a care

management approach that coordinates communication across different providers, and the tools must be tailored to the privacy concerns of both primary care and behavioral health providers.

Decision support protocols should outline (1) an appropriate pharmacy algorithm (Agency for Health Care Policy and Research 1993) of first- and second-line antidepressants, (2) a protocol for referring complex cases and treatment nonresponders to behavioral health specialists, and (3) mechanisms to track such referrals. With regard to complex cases, primary care physicians (PCPs) may want to involve behavioral health specialists in the care of patients experiencing both depression and substance abuse, those with complex social problems, and those not responding even to augmented treatment.

We caution that disseminating decision support guidelines and treatment interventions for depression can be difficult even for health plans welcoming programmatic innovation. Table 1 shows some of these challenges experienced by the RWJF practices. First, primary care practices may lack the financial resources to implement evidence-based decision support systems fully. In this case, more focused treatment algorithms may be useful, such as the use of full-time nurses who devote only a portion of their time to depression care management (Hunkeler et al. 2000).

Second, practitioners need to ensure that the depression treatment model remains true to its original intent and does not deviate far from the essential practice guidelines. But there are no systematic methods of monitoring the fidelity of depression care treatment models in real-world practices, nor are there standards by which the implementation is judged a success or a failure. The need to preserve all the original elements of standard depression care practice guidelines and the need to permit individual practices to customize protocols for their own patients must be balanced. Dividing the CCM into its four core components, as we have in this article, may help.

Third, pharmaceutical company-supported disease management programs (Ritterband 2000), though useful to individual patients, may hinder the provider from treating depression in primary care, as the program may be limited to only those patients insured through their employer. In addition, these programs may be run by health professionals outside the primary care practice, who, in most cases, do not communicate directly with the patient's principal provider. The decision support of these programs may also not be effective, given their reliance

on pharmacotherapy rather than psychotherapy or self-management (Kihlstrom 1998).

Finally, there is disagreement as to whether depression care protocols can and should be implemented independently or whether they are best incorporated with other chronic conditions. The latter approach has become increasingly popular, especially with the advent of decision support tools and registries that encompass multiple chronic conditions (Bradley et al. 2004). If providers concentrate on improving depression care, they may find it easier to secure buy-in from behavioral health providers and stakeholders. For example, one RWJF site was able to obtain reimbursement for care management services for depression treatment in primary care as long as the care management was housed in the behavioral health carve-out program. Conversely, a second RWJF site faced significant reductions in the state's funding for behavioral health care and had to combine depression care initiatives with those for other medical illnesses. This latter approach may protect depression services from budget cuts but may also crowd out depression when physical illnesses are the primary care providers' main concern (Redelmeier, Tan, and Booth 1998; Rost, Nutting, Smith, Coyne, et al. 2000). The best strategy likely depends on the nature of the key stakeholders. For example, the Voluntary Chronic Care Improvement Program enacted under the 2003 Medicare Prescription Drug, Improvement, and Modernization Act (MMA) seeks to improve the coordination and dissemination of evidence-based care for chronic illnesses, especially for patients with complex diabetes, congestive heart failure, and chronic obstructive pulmonary disease (Centers for Medicare & Medicaid Services 2004). However, the MMA's Chronic Care Program requires that the demonstration sites also manage multiple chronic conditions, including depression. While this may give depression an opportunity to be considered as a serious chronic disease along with its physical counterparts, it remains to be seen whether depression care will receive resources equivalent to those provided for physical illnesses. The outcome of this MMA policy initiative may ultimately lie in the ability of administrators to bridge the gap between primary care and behavioral health services.

Delivery System Design

The previously described features of the Chronic Care Model and other elements intrinsic to it are best implemented in an organizational

structure, or delivery system design, compatible with the model's aims and functions. When properly designed, this structure gives clinicians better access to decision support protocols as well as to behavioral health specialists when patients are referred to them or consultations are requested. We focus here on the care management and behavioral health linkages of an effective delivery system design, since these components are the subject of much current attention to the policy as well as the clinical and fiscal levels of program development.

Care Management

Primary care physicians usually do not have the time and training to implement depression management protocols. They often are preoccupied with their patients' acute medical needs and do not probe for depressive syndromes deemed to be of lesser clinical priority. But ignoring depressive syndromes in favor of these "competing medical needs" often inhibits the physician's management of other chronic illnesses (Redelmeier, Tan, and Booth 1998).

In response to the time constraints confronting primary care physicians when addressing chronic illnesses (Rost, Nutting, Smith, Coyne, et al. 2000), many Chronic Care Model-based depression care programs have recruited care managers. The care managers function as allied health professionals who ensure that depression is kept on the physician's "front burner." This can be done by regularly assessing the patient's mood symptoms and clinical course, his or her adherence to prescribed treatments, his or her performance of self-management tasks and the like, and his or her communication of this information to the physician (Schulberg et al. 2001). The care managers' significantly better treatment and clinical outcomes relative to the usual care have been amply documented in studies of depressed mid-life and late-life primary care patients (Bruce et al. 2004; Dietrich et al. 2004; Hunkeler et al. 2000; Simon et al. 2000; Unutzer et al. 2002).

Table 2 describes the core functions of care managers based on earlier interventions and the CCM. While many of these functions cut across different chronic conditions, care managers have also provided psychosocial counseling, notably problem-solving therapy (PST) and interpersonal therapy (IPT). The IMPACT and PROSPECT studies (Bruce et al. 2004; Unutzer et al. 2002) trained their care managers to provide brief forms of PST and IPT, respectively, as part of their care management

TABLE 2
Functions of Care Managers

Patient-Focused Support	<ul style="list-style-type: none"> • Develop and maintain rapport. • Psychosocial treatment (e.g., interpersonal therapy or problem-solving therapy).
Follow-up	<ul style="list-style-type: none"> • Facilitate and remind patient about telephone or personal visits. • Facilitate communication and linkages with mental health specialist and primary care provider. • Intervene in crises.
Education	<ul style="list-style-type: none"> • Communicate, customize, and maintain self-action plan for patient.
Clinical	<ul style="list-style-type: none"> • Provide psychosocial therapy or counseling (e.g., interpersonal therapy or problem-solving therapy). • Monitor depressive symptoms, comorbidities, adherence.
Medication Management	<ul style="list-style-type: none"> • Monitor pharmaceutical treatment. • Encourage adherence to medications and educate on their side effects.

programs. Nevertheless, the dissemination of psychosocial treatments has been more difficult compared with pharmacotherapy algorithms, so more effective nonpharmacologic interventions are needed.

Despite the evidence regarding the value of care management, administrators designing a delivery system that provides this service in routine practice still must resolve various organizational and clinical issues (Table 1). These include the care manager's relationship with the physician responsible for the patient's treatment, including accountability and supervisory issues; location (e.g., local medical practice or in a centralized office); scope of services (i.e., focus on depression alone or depression along with other common comorbid physical illnesses; whether the care manager will provide counseling or other clinical services, as in the PROSPECT and IMPACT trials); and the mode of communication with patients (whether a patient's clinical progress will be monitored through personal or telephone contacts).

The resolution of these issues will vary in keeping with the delivery system policies established by the health care organization for other chronic illnesses. Thus, the depression care manager's role in routine practice will depend on the availability of personnel qualified to play this role fully or semiautonomously; the physician's prior experiences in

collaborating with a care manager; the availability of space in the physician's office environment; the demands already being placed on the care manager to work with patients experiencing other chronic illnesses; the geographic area from which the practice draws patients; and the availability of specialist behavioral health personnel to supervise depression care management and to provide psychosocial treatments.

As we contemplate the future of depression care management in primary care settings, we see a number of system-level barriers that must be overcome: (1) the lack of reimbursement for care management, (2) the lack of personnel trained in patient-centered care management, (3) the lack of experience in primary care providing longitudinal care for chronically ill patients, and (4) the lack of efficient means of maintaining contact with the patients being treated, particularly low-income populations.

A critical policy concern is the manner in which this service will be fiscally supported. Many third-party insurers hesitate to pay for it and refuse to establish care management reimbursement codes. Given this formidable obstacle, the RWJF Depression in Primary Care Incentives Demonstration Program (Pincus et al. 2001) is investigating economic strategies that can establish care management as a reimbursable or otherwise economically sustainable service in both the public and private sectors. The success of the RWJF program and others similar to it may depend on the pertinence and specificity of the service elements included in the care management activities (Table 2). The reimbursement of care management for other chronic illnesses such as diabetes mellitus offers a precedent. But the related time-consuming but vital communication function fulfilled by care managers will probably not be reimbursed during the foreseeable future.

One cost-efficient solution is hiring a centralized care manager to work at the health plan or behavioral health carve-out level. Many demonstration programs have care managers working directly in primary care practices (Bruce et al. 2004; Dietrich et al. 2004; Katon et al. 1996; Simon et al. 2000; Wells et al. 2000), on the premise that the necessary relationships are best cultivated and resources are best obtained through this arrangement. Other investigators have found, however, that depression care can also be managed effectively by personnel located in the health plan's or behavioral health carve-out's central office (Hunkeler et al. 2000; Oxman, Dietrich, and Schulberg 2003; Simon et al. 2000).

The use of a health plan–level care manager has been made more feasible with the advent of technologies like Web-based decision support tools and telephone disease management (TDM). Simon and colleagues (2000) found that systematic follow-up and care management by telephone (i.e., TDM) for depressed patients significantly improved outcomes at a modest cost of approximately \$80 per patient per year. TDM may be a practical substitute for office follow-up visits recommended for depression treatment, which can be difficult to schedule in busy primary care practices. Evidence suggests that TDM is the preferred form of communication for certain underserved and rural patient populations as well (Miranda *et al.* 2004). Moreover, many clinicians in the RWJF sites have found that TDM actually helps patients “open up” because they find it easier to communicate with a care manager over the phone than in person. But in most cases TDM is currently not reimbursable, and only recently has it been considered a valid form of care management. In late 2003, the National Committee on Quality Assurance proposed performance standards as part of the Health Plan and Employer Data Information Set for telephone follow-up contacts for depression treatment (NCQA 2004). Having such standards will eventually facilitate the appropriate use and ultimate reimbursement of TDM for depression care, especially if care is managed by an individual outside the clinic who works at the health plan or practice level. While telephone disease management can be cost-effective, concerns remain about documenting such care and its adequacy for reimbursement in fee-for-service or managed care.

We also recognize that many practices lack personnel adequately trained in patient-centered clinical care management. This is a concern, since health care organizations seeking reimbursement for care management will have to employ personnel with the relevant educational and clinical qualifications. Earlier studies of this role found that various nonmedical professionals successfully served as depression care managers (Bruce *et al.* 2004; Dietrich *et al.* 2004; Katon *et al.* 1996; Simon *et al.* 2000). Other investigators have used nurses with bachelor's or advanced degrees because of their clinical knowledge regarding medication side effects, their ability to treat chronic diseases at the same time, and their ability to establish a rapport with primary care physicians (Hunkeler *et al.* 2000). Furthermore, neurovegetative symptoms such as anergia, sleep discontinuity, and appetite loss may indicate depression or a physical illness. Since nurses are trained to assist the primary care

physician with these differential diagnoses, they are deemed best qualified to manage the patients' care (Hunkeler et al. 2000). Using nurses rather than social workers or psychologists to manage depression care also permits the health organization to assign responsibility for both psychiatric and physical chronic illnesses to the same professional. We would note that while nurses are typically available in large practices, smaller practices may not be able to afford such highly paid personnel in each facility. Therefore, other kinds of workers (e.g., social workers or other health professionals) can be employed if they have an adequate clinical background and are familiar with the patient-centered aspect of care management needed in these settings (HCFA 2000).

Another barrier to effective care management is the primary care providers' lack of experience with chronic illnesses. Chronic care often involves sustained, long-term follow-up with patients. Care managers can provide the core functions necessary for chronic illness care, including longitudinal follow-up, coordination of care, and communication among providers. But care managers must establish a rapport with both the primary care and the behavioral health providers. Hence, care managers should be hired in accordance with their motivation and potential for engaging practice personnel. Care managers who can coordinate the care delivered by behavioral health specialists and primary care providers will best be able to sustain their services, regardless of their specific clinical training or physical location.

Finally, primary care settings often lack an efficient means for contacting patients, particularly when they are members of low-income populations. Thus, some of the RWJF sites had difficulty in reaching patients and lost many for follow-up care. As a result, some practices use strategies such as personal visits, which have been shown to be effective in minority communities (Miranda et al. 2004), telephone disease management, and more proactive tracking, such as recording the best times to contact patients or obtaining multiple contact numbers for each patient (Table 2).

Behavioral Health Linkages

The clinical complexities of treating severe depressive episodes and episodes occurring simultaneously with various physical illnesses often lead primary care physicians and care managers to consult with behavioral health specialists. The ease or difficulty of obtaining such consultations

depends on factors such as the primary care practice's contractual arrangement with the behavioral health specialist and the physical location of specialists relative to the primary care practice. Larger, multispecialty medical practices commonly employ psychiatrists, psychologists, and social workers who work in the ambulatory medical setting and thus can coordinate the needed services. This physical arrangement is uncommon, however, for smaller medical groups. In these groups, the care manager must link the primary care physician with behavioral specialists located elsewhere (Oxman, Dietrich, and Schulberg 2003). The care manager may also concentrate on educating patients about their disease and encouraging their adherence to prescribed treatments while facilitating needed primary care consultations with and referrals to behavioral specialists when indicated.

In addition to establishing the administrative mechanisms that maintain the link between generalists and specialists, policies are needed regarding when the patient should be referred to the behavioral specialist and when a consultation will suffice (Agency for Health Care Policy and Research 1993). Factors to consider in this regard include the depression's occurrence along with substance abuse problems and physical illnesses, and the presence of psychosocial problems exacerbating the depressive episode.

Administrative policies are necessary also to ensure that when the patient is referred, the behavioral health specialist communicates with the primary care physician and care manager regarding the patient's visit and psychiatric status. Thus, given the high rate of noncompliance with such referrals, when a depressed primary care patient is referred to a behavioral specialist, the care manager should confirm that the patient has indeed met with the specialist (Hartley *et al.* 1998; Tessler and Mason 1979). The primary care physician and behavioral specialist should communicate regularly (either directly or through the care manager) about the patient's clinical status so that both depressive and general medical illnesses are managed properly (Dietrich *et al.* 2004).

An obstacle to linking behavioral health specialists and primary care physicians is the perceived and real cultural differences between them. More specifically, they usually have different views of patient care and privacy, which may hinder communication and, ultimately, the dissemination of the CCM for depression. The recently implemented Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule challenged both primary care and behavioral health providers to ensure

that the guidelines for sharing patients' health information are strictly followed. Nonetheless, one of the policy implications of the HIPAA Privacy Rule and its standardization of how patient data and records are processed is that it permits these specialists and generalists to establish standard procedures for handling sensitive patient information. Thus the HIPAA can provide a model for establishing the formal communication protocols assumed by the behavioral specialist when consulting with primary care physicians and treating referred patients (Table 1).

Another challenge in facilitating behavioral health and primary care linkages is the lack of efficient communication channels between the two provider types, making it difficult for PCPs to obtain advice and support from behavioral health specialists in caring for patients with complex needs. Some of the RWJF sites solved this by including formal linkage mechanisms and reimbursement strategies for establishing communication channels. For example, one RWJF site had its behavioral health plan pay for an on-call psychiatrist readily available to PCPs via an 800 number.

Clinical Information Systems

Quality improvement efforts to maximize the delivery of evidence-based depression services rely on clinical information systems, which can be designed to provide timely and accurate information regarding patients, including their treatment, utilization, and outcomes. A specific component of a clinical information system (CIS) used in chronic care management (Wagner et al. 2001) is the disease registry. Registries are often used to facilitate the management of specific patient subpopulations with chronic conditions, by collecting and summarizing the information relevant to their care. Such information can be used to determine whether the program's goals are being achieved, accreditation standards are being met, personnel are functioning effectively, patients are benefiting, and particular subgroups are being served.

Baumgardner and Hindmarsh (2003) suggested that registries should (1) be user friendly, require only a short training time, and have uncluttered screens that are easy to navigate; (2) be a Web-based system; (3) maximize the use of drop-down menus and logic checks; (4) be HIPAA compliant and conform to current standards for Internet security and encryption; (5) be able to support multiple illnesses and include clinical

reminders and practice guidelines; (6) be able to print individual care plans as well as disease severity ratings and include information on self-management support; (7) be able to print summaries of quality and other patient outcomes; and (8) be linked to, but not substitute for, an electronic medical record. Regrettably, a review of the U.S. registries used in care management demonstration programs found none that contained all these features (Baumgardner and Hindmarsh 2003).

How data are assembled and maintained for a CIS pertinent to routine primary care should be distinguished from the data system designed for a randomized clinical trial. In research projects, a central data center gathers information from multiple study sites to test hypotheses. In contrast, in order to conform to routine clinical tasks, the data for quality improvement efforts need to be more streamlined and minimally burdensome to patients and providers. Hence, the elements of a CIS for supporting a depression-related quality improvement program in routine care should be limited to patients' visits and claims data that track no-shows and service utilization, pharmacy data that monitor medication adherence, and longitudinal data that assess the patients' symptoms and social/vocational functioning.

The data needed to monitor depression management may come from different sources. For example, data on patients' visits are routinely collected by all primary care practices, although complete prescription utilization information may not be available for all such practices, particularly those participating in network models. Hence, registries can also be used to track medication use and adherence using data from patients' reports and medication summary lists from chart reviews. Clinical outcomes such as depressive symptoms and functioning are obtained mainly from patients' reports. Since these data come from multiple sources, practices should consider creating a registry that is simple to maintain but combines the information to help providers track and manage patients' treatment and outcomes (Katon *et al.* 1999; Simon *et al.* 2000). Registries are not identical with electronic medical records, since their goal is to collect and maintain limited information specific to the depression treatment, with a minimal upkeep burden. The registry can also help (1) rank depressed patients by severity level and triage their care to the primary care or specialist sector; (2) provide timely alerts to clinicians and care managers when process measures deviate from established standards; (3) identify patients not responding to initial treatment so that further interventions may be considered; and (4) track clinical

outcomes proactively and adjust antidepressant treatment intensity accordingly.

One difficulty of operating a registry in a routine practice is minimizing the response burden on patients and providers and identifying personnel with the skills and time to maintain it (Table 1). A registry should be simple to develop, use, and update; be readily integrated into daily clinical activities; and contain data relevant to practice and performance measurements. While a successful registry need not be state-of-the-art, it must facilitate physicians' and care managers' daily tasks. When developing a depression registry, practices should decide on the smallest amount of data necessary for managing the patient, including whenever possible patients' brief self-assessments of their outcomes. Many health care practices and organizations can use less highly paid staff members like medical assistants to update the registry, thereby reserving the care managers' time for more clinically complex tasks such as care coordination and psychosocial treatment (Table 1). Ultimately, however, a designated staff member is needed to enter patient data in the registry so that it remains timely. In reality, this task is often assigned to care managers, given their responsibility for tracking patient care.

The implementation of registries in routine care faces several challenges. First, as with decision support systems, there has been a recent trend toward the use of multiple disease registries and multiple risk behavior assessments (Baumgardner and Hindmarsh 2003). While multiple disease registries can maximize efficiencies, they may, as can decision support programs for multiple illnesses, crowd out depression in favor of physical illnesses (Redelmeier, Tan, and Booth 1998). In addition, depression data have unique complexities, such as the need for information from behavioral health specialists outside primary care settings, which can impede data coordination and registry updating. Thus, for multiple disease registries to facilitate the care of depression, they must ease the communication between PCPs and behavioral health specialists. This may require both providers to establish standards ensuring patients' privacy (e.g., based on the HIPAA Privacy rule).

Implications and Challenges for Stakeholders and Policymakers

We have shown how the experiences of the RWJF Depression in Primary Care Incentives Demonstration Program in implementing an

evidence-based model can inform the policy changes needed to minimize the system-level barriers to improved depression care. The next step is to apply this fresh understanding of the day-to-day issues in real-world primary care settings to reducing the system-level barriers of depression care, with the ultimate goal of sustaining evidence-based depression care in community-based primary care settings. Even though we have addressed some of the solutions to the perceived cultural barriers between medical and behavioral health care, the organizational separation between behavioral health and general medical care and the lack of reimbursement strategies to support depression care in general medical settings remain challenges for policymakers to resolve. Next we describe how policymakers can address these organizational and financial challenges, in light of the lessons learned in this article.

Addressing Organizational Barriers

While the Chronic Care Model describes how primary care practices can be better organized to deliver depression and other chronic illness care, there is considerable concern that the persistent gap in quality (Institute of Medicine 2001) is attributable to the tardy adaptation of the CCM and other evidence-based models in routine care (Bradley et al. 2004). Moreover, unlike chronic medical illnesses, depression care faces unique barriers of the professional, system, and practice culture types when seeking to integrate physical and behavioral health services.

Nevertheless, it is important to realize that best practices in depression care are being disseminated more rapidly than those for other medical illnesses. While it typically requires decades for clinical trial results to be incorporated into routine practice (Bradley et al. 2004), the dissemination of depression care strategies has been noticeably quicker. For example, the first randomized controlled treatment trials were reported in the mid-1990s (e.g., Katon et al. 1996; Schulberg et al. 1996). Subsequently, the first attempts to disseminate these depression treatment strategies were published within five years (Berwick and Kilo 1999; Pincus et al. 2001).

Why has the translation of the CCM been more successful than other clinical trial results? Part of the success has been the CCM's focus on changing the organization of medical care to facilitate communication and coordination services essential to chronic, as opposed to acute, care. Another reason may be the adaptation of organizational behavior

strategies by health care leaders to speed up the translation of the CCM into real-world practices. For example, the Institute for Healthcare Improvement, in partnership with the Bureau for Primary Healthcare, established the "Breakthrough Series" to accelerate the dissemination of the CCM in primary care practices by making organizational changes like total quality management and other business models. Many of these practices were able to sustain the CCM despite financial constraints as safety net primary care providers (Wagner et al. 2001). Progress toward the dissemination of depression care best practices has also benefited from translational efforts publicized on Web sites outside the realm of the biomedical literature (e.g., RWJF Depression in Primary Care program: <http://www.wpic.pitt.edu/dppc>; IMPACT: www.impact.ucla.edu; and the MacArthur initiative: <http://www.depression-primarycare.org>).

Challenges in Financing Depression Care

The principal challenge to sustaining the CCM over time is the need to reimburse primary care providers for the services essential to the model, notably care management. This challenge is especially formidable for depression, given that the organizational separation between behavioral health and general medical care has impeded the development of reimbursement strategies to support depression care. In many cases, health plans, purchasers, and other stakeholders may not realize the value of treating depression in primary care settings and therefore have not called for reforms to facilitate the reimbursement for such care. Unlike many acute medical conditions or procedures, there are no immediate and observable cost savings from CCM-based depression care services. For example, although improving the quality of depression care was cited as reducing unnecessary visits for physical illnesses, these assertions have not been empirically documented (Foster and Bickman 2000; Simon and Katzelnick 1997). Conversely, there is evidence that depression treatment programs reduce work absenteeism and increase productivity (Kessler and Frank 1997; Rost et al. 2005; Schoenbaum et al. 2002; Simon et al. 2000; Stewart et al. 2003). For example, Rost and colleagues (2005) found that a randomized depression care management program led to greater patient-reported work productivity and less absenteeism over a two-year time span. The most promising aspect of these work-related outcomes is their significance to purchasers of health care. Therefore, it is important to alert these purchasers to the potential

value of depression care management. Other measures that can be used to demonstrate the value of depression care management are patient satisfaction and quality performance. For example, health plans in competitive HMO markets may have to compete on the basis of quality of life and patient satisfaction rather than cost.

Overall, policy-level challenges to implementing and sustaining evidence-based depression care are organizational and economic and hence require strategies that address both the organization of the practice/health plan and the economic incentives that pay for depression treatment in primary care. Understanding and implementing organizational change strategies like those used by the Institute for Healthcare Improvement to facilitate the implementation of the CCM for depression care should therefore be considered along with the financial incentives.

Conclusion

Considerable research suggests that depression can be effectively treated in primary care practice by applying evidence-based protocols. We summarized some of the issues faced when evidence-based depression care is translated into the real world, in order to help policymakers, stakeholders, and practitioners understand the barriers and facilitators of good care for depression. The current challenge is to promote strategies, both organizational and financial, that address the separation between behavioral health and primary care and facilitate the sustainability of evidence-based depression care in routine practice. We suggest that adaptations of the Chronic Care Model's leadership, decision support, delivery system design, and clinical information system elements can serve as a model for improving the care of depressed patients in real-world ambulatory medical settings. We anticipate that lessons learned from the RWJF Depression in Primary Care Program will inform further efforts to align both organizational and financial strategies facilitating the adaptation of evidence-based depression care in routine medical settings.

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