Emerging models of depression care: multi-level ('6 P') strategies

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ABSTRACT Depression is a prevalent, often chronic condition that has enormous personal, social, and financial consequences. Although technologies for treating depression have advanced notably over the past 20 years, many people continue to suffer needlessly, due in part to the lack of evidence-based treatment applied in primary care settings. Substantial public and private efforts have been devoted to encouraging individuals to seek care, improving recognition and diagnosis by primary care physicians, and implementing evidence-based treatment practices. From these efforts have come new models of care as well as an awareness of the critical barriers impeding clinical, organizational, economic, and policy implementation of effective care strategies. In this paper, we describe these clinical and systems barriers and consider the perspectives of various stakeholder groups; present emerging clinical models for providing evidence-based care as well as economic strategies for overcoming barriers to their implementation; and propose community-based approaches that will need to be tested. To achieve maximum benefits from current knowledge, we will need to implement a multi-level strategy employing focused efforts involving patients, providers, practice settings, health plans, purchasers (public and private), and populations (or communities): the '6 P' strategy.

Key words: depression, chronic disease, primary care, healthcare delivery

Depression is a prevalent, often chronic condition that has enormous personal, social, and financial consequences (American Psychiatric Association, 2000). Although technologies for treating depression have advanced notably over the past 20 years, making depression a highly treatable disorder (Wang et al., 2002; Kessler, 2002; Thase, 2002), many people suffering from depression do not benefit from the rich armamentarium of proven treatments. Of particular concern is the lack of evidence-based treatment applied in primary care settings (Pincus et al., 2001). The scope of the problem is depicted in Figure 1 (Pincus et al., 2001), suggesting foci for alternative strategies, such as encouraging individuals to seek care (reducing segment H), improving primary care physician (PCP) recognition (reducing segments G and E), and obtaining conformance to evidence-based treatment practices (expanding circle D).

Substantial public and private efforts have been devoted to achieving these goals. The United States National Institutes of Health (NIH), Substance Abuse and Mental Health Services Administration (SAMHSA), MacArthur Foundation, Hartford Foundation, and the Robert Wood Johnson Foundation have each been engaged in developing or supporting major initiatives to improve the quality of care for the treatment of depression. From these efforts have come new models of care as well as an awareness

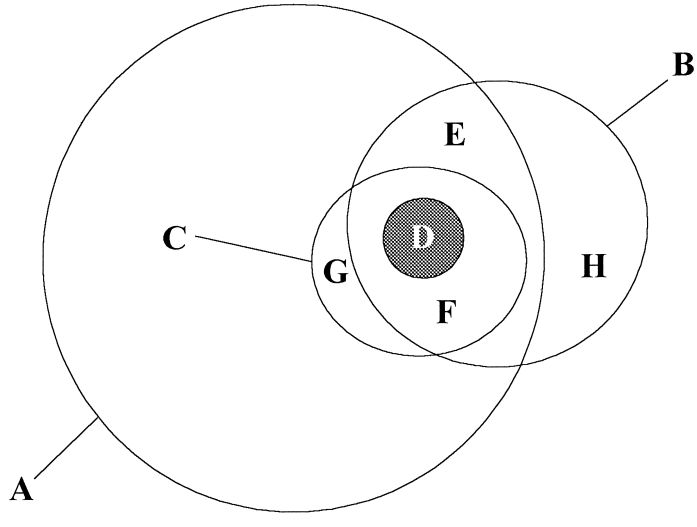
of the critical barriers impeding clinical, organizational, economic, and policy implementation of effective care strategies.

In this paper, we describe these clinical and systems barriers and consider the perspectives of various stakeholder groups; we present emerging clinical models for providing evidence-based care as well as economic strategies for overcoming barriers to their implementation; and we propose community-based approaches that will need to be tested. To achieve maximum benefits from current knowledge, we will need to implement a multilevel strategy employing focused efforts involving patients, providers, practice settings, health plans, purchasers (public and private), and populations (or communities): the '6 P' strategy.

Clinical barriers

Individuals who may be suffering with depression can encounter stigma and misinformation that create impediments to recognizing and seeking appropriate treatment. The nature of the disease itself, sapping energy and inducing hopelessness and pessimism about finding relief, presents a formidable barrier. Many sufferers do not consider themselves to have a 'mental illness' and present with primarily somatic symptomatology to their PCP (Kroenke, 2002) , thereby making identification of the illness more difficult.

Primary care physicians are the initial point of contact with the health system for most individuals with depression. At a fundamental level, PCPs have a different perspective from behavioural health specialty providers because the inherent nature of primary care and behavioural care differ. Behavioural health has a focus that crosses systems external to medicine, such as substance abuse, social services, and consumer-directed efforts. Primary care providers have responsibilities across the full range of body systems as well as preventative care, with depression recognition and treatment being among many clinical concerns.



Legend

A. See a primary care physician
B. Have Major Depressive Disorder (MDD)
C. MDD recognized
D. MDD appropriately recognized and treated
E. MDD not recognized, not treated
F. MDD recognized, not appropriately treated
G. "Recognized" but not MDD (false positive)
H. Have MDD but do not see a primary care physician

* Adapted from Goldberg & Huxley, 1980.

Figure 1. Scope of the problem: recognition and treatment of depression in primary care settings.*

Moreover, the majority of studies providing the evidence base for treatment of depression derive from specialty settings – particularly, tertiary care settings. Formal diagnostic systems are viewed by many PCPs as specialty focused and too complex for practical application (DeGruy and Pincus, 1996). A series of studies indicate that PCPs often fail to recognize major depression and other conditions identified by specialist approaches (Kirmayer et al., 1993). There remains some dispute about whether this is a failure of physicians to recognize, a failure of patients to acknowledge (Klinkman, 1997), or a failure of documentation in the patient's medical record (Rost et al., 1994). In addition, there are clearly a number of mental disorders, conditions, and other psychosocial factors that PCPs think are very important but are not well articulated in the psychiatric nosology and are often not a major consideration of mental health specialists.

Reconciling these varying perspectives is difficult, given the current state of medical practice. Primary care physicians are pressed for time, with high volume expectations, and patients' focus on somatic symptoms. Further, behavioural health issues may not be a high priority in their approach to patient care. Until recently, PCPs did not have practical tools such as screening instruments and algorithms specifically adapted for use in primary care settings to overcome these barriers. While tools such as the Patient Health Questionnaire (PHQ) (Spitzer et al., 1999) and the United States Agency for Health Care Policy and Research (AHCPR) Depression guideline (Schulberg et al., 1998) are now available, their use is limited.

The limitations in primary care practice are mirrored and anchored in primary care training. Educational expectations and experiences in behavioural health derived from residency accreditation and board certification requirements are limited and highly variable across primary care specialties of family practice, general internal medicine, obstetrics/gynaecology, and pediatrics (Pincus and McQueen, 1996). A major part of the problem is an ambiguity about who is, or should be, responsible for which components of care for which patient populations. A framework, such as that suggested in Figure 2, could allow the delineation of the specific training content in relation to expected competencies needed for PCPs. However, specialties would need to reach agreement on what their respective roles should be.

The clinical barriers extend well beyond individual PCP capacities and failures of educational leadership. The organization of primary care practices and the clinical communication and linkage between primary care practices and behavioural health practitioners and agencies do not support effective longitudinal management of depression (Wagner, 2000). This split in clinical roles and communication between the two systems is especially problematic with the current split between the provision of pharmacotherapy and psychotherapy in the specialty sector (Tasman et al., 2000).

Primary care physicians also have no incentive to spend time or effort in co-ordination or communication with behavioural health specialists. There is no mechanism of reimbursement through the managed behavioural health care organizations (MBHOs) for a psychiatrist's or psychologist's time spent communicating with a PCP or provided 'curbside' consultation.

Organizational/economic/policy barriers

The clinical barriers noted above are reinforced and magnified by the fragmentation in healthcare delivery. The separation of financing and management of behavioural health and general health is especially problematic. The growth of managed care and the attendant carve-out MBHOs have accentuated these historical tendencies.

The change from indemnity insurance and fee for service arrangements to capitated PCPs and managed behavioural health care has dramatically changed incentive for PCPs to attend to the treatment of patients with depression. Primary care physicians are not paid to spend time treating depression, as often their capitation rates exclude mental health services. Carve-outs are given responsibility for all mental health care and are separated from PCP practice financially, organizationally and in terms of communication. Primary care physicians have strong incentives to refer mental health cases to specialty care but have little influence over the nature of the referral; the carve-out controls that process. Inevitably, these organizational and financial arrangements compartmentalize care, creating huge barriers in a system that patients cannot overcome.

Stakeholder perspectives

Awareness of limitations in the systems of care for depression vary considerably depending on the perspective of the stakeholder group. A recent qualitative pilot study by Schoenbaum (2000) involving providers, health plans, and purchasers suggested that

Functions	Conditions/Populations									
	Depressive Disorders	Substance Use Problems	Panic Disorder	Somati-zation	Other Anxiety Disorders	Substance Abuse	Bipolar Disorder	Substance Dependence	Severe Personality Disorder	Schizo-phrenia
Longitudinal follow up and monitoring										
Extended B/P/S interventions										
2nd level or higher medications										
Initial medications										
Diagnosis/comprehensive P/S assessment										
Counseling/ psychoeduction										
Recognition/limited P/S assessment										
Primary care for general medical conditions										
Decreasing primary care role ----------→ Increasing specialty role ----------→										
Note: does not include conditions for children (e.g., ADHD) or geriatric populations (e.g., dementia)										

Figure 2. Mapping training to roles.

whereas providers, both PCPs and BHSs, were aware of the gaps in communication, co-ordination, and quality, they felt powerless to do much about them. Further, little pressure was exerted from below (patient demand) or above (health plan quality expectations). From the health plans' perspective as vendors, they perceived few specific expectations from their purchasers (employers) regarding mental health or quality more generally. Managed behavioural healthcare organizations did not feel they were empowered to engage PCPs in quality improvement efforts. Direct inquiry with purchasers revealed very little awareness of mental-health issues. They did not place them at a high level of priority (except, perhaps, for the rising costs of pharmaceuticals) and had limited information on the current nature of mental care and how the structure of vendor relationships introduced disincentives to co-ordinated longitudinal care. Ultimately, it appears that in order to change the current system, mechanisms must be created and tested to reduce clinical and economic barriers and demand for applying innovative models must be enhanced from both the top down (purchaser) and bottom up (patient and community).

Solutions

The Robert Wood Johnson Foundation national programme, Depression in Primary Care: Linking Clinical and Systems Strategies, is intended to encourage study and demonstration of creative multi-level strategies to overcome these barriers. This five-year, $12 million programme was developed based on the following three central themes:

- Depression is a serious and prevalent chronic disease that should be conceptualized in a way that is parallel to other chronic conditions (such as asthma and diabetes).
- Longitudinal chronic illness care approaches to depression are effective, but not currently implemented by health systems and practitioners.
- Multilevel clinical and economic/system strategies are needed to overcome barriers among target groups and implement chronic care models for treating depression in primary care.

The three components of the programme are incentives, value, and leadership.

Incentives

The goal of the incentives component is to plan, implement, and evaluate projects that test the feasibility and effectiveness of a combined clinical and economic/systems approach to changing the treatment of depression in primary care. This component seeks to answer two questions: (1) 'to what extent is it feasible to implement changes in organizational structure, systems and payment incentives?' and (2) 'what are the related effects on organizational and clinical processes and outcomes?' The programme's national programme office (NPO) has worked with leaders in the field to develop a flexible blueprint for the model to be tested. Participation in this component is limited to a small group of grantees that have demonstrated the ability to develop partnerships among researchers, practices, health plans, purchasers, and others.

Value

Complementing and expanding upon the incentive component, the primary goal of the value component is to support more thorough analysis of the outcomes and value of depression treatment in primary care. This component aims to answer the question 'what is the real value of providing quality care for depression in primary care settings, and how can that value best be achieved and documented?' The research is intended to advance development of the combined clinical and economic models so they have greater relevance to health plans, purchasers, providers, and patients.

Leadership

The third component of the programme is intended to advance the treatment of depression as a chronic illness in primary care by developing leaders within primary care medical specialties. Senior mentors in the field will be identified and paired with junior primary-care physicians to conduct specific research projects relevant to the overall goals of the programme. By convening these pairs of primary care specialists, we hope to develop a group of future leaders in primary care with an interest in and commitment to studying and treating depression as a chronic disease.

In developing the incentives component of the programme, a clinical team at the University of Pittsburgh School of Medicine and an economic team at Harvard University School of Medicine refined clinical and economic models to be simultaneously employed by demonstration sites, consisting of partnerships of health plans (MCO and MBHO), practice groups (PCP and BHS) as well as researchers, purchasers, and others. Among the nine planning sites are Medicaid, commercial, and Medicare settings representing varying organizational and financing arrangements. Each team has comprehensively reviewed the literature and worked extensively with leaders in the field to develop 'flexible blueprints' of models that can be adapted to the specific context of each site.

Clinical models

The overall framework for many of the emerging models of care is based on or conforms to the proven effective Chronic Care Model (CCM) developed by Wagner and colleagues (Wagner et al., 1996; Wagner et al., 2001). With the intent of enhancing functional and clinical outcomes for patients with chronic disease, the model seeks to reform healthcare delivery drastically by shifting elements toward a longitudinal rather than cross-sectional or acute perspective. Specific elements of the health system are established or re-engineered (for example, establishing guidelines, registries, and care managers) to create consistent, productive interactions between an 'informed, activated patient' and a 'prepared, proactive practice team'. Katon and colleagues empirically-tested a CCM-based collaborative care model specifically tailored toward depression treatment in primary care (Katon et al., 1996). The model was proven effective when adapted by Simon (2002), Katzelnick (2002) and Hunkeler et al. (2000) for use by a telephone-based 'care manager'. Wells et al. (2000) incorporate elements of CCM into broader quality improvement effort across diverse managed care settings as part of the Partners in Care study. Four other studies are currently underway testing various adaptations of these models. The NIMH-funded PROSPECT study (Schulberg, 2001), Hartford-funded IMPACT study (Unutzer et al., 1999), and the SAMHSA-funded PRISME study (Bartels et al., 2002) all have a focus on care management strategies for depression in the elderly.

The MacArthur Foundation has supported the development of a series of studies aimed at developing and testing tools to improve the management of depression in primary care (Cole et al., 2000). A matrix of these and other links are available at the Robert Wood Johnson Depression in Primary Care Web site (www.depressioninprimarycare.org). The MacArthur Foundation is currently funding the RESPECT trial (Dietrich, 2000), which incorporates their three-component model of:

- primary care clinician and prepared practice – to create an office system for depression care and a knowledgeable clinician;
- care management – to provide patient and clinical support; and
- mental health/primary care interface – to access and create partnerships with BHSs.

The Robert Wood Johnson Foundation framework incorporates the information gleaned from these and other earlier studies (Kroenke et al., 2000), interviews with PCPs, BHSs, and expert leaders in the field, as

well as site visits to selected primary care settings with established depression-management programmes. The six elements of the model are leadership, decision support, delivery-system design, clinical information systems, self-management support, and community resources.

The key principle of leadership is to have a team composed of organizational partners with broad-based programme accountability for implementation across partnering organizations. The team of primary care, mental health, and senior administrative personnel garners resources, incorporates and co-ordinates stakeholder interests, promotes adherence to treatment guidelines and protocols, sets target goals for key process measures and outcomes, and encourages efforts at continuous quality improvement. The leadership element has ultimate responsibility for the success of the programme and other factors influencing sustainability.

In the decision support element, evidence-based depression treatment guidelines and care protocols are implemented to improve recognition and treatment of depression. There must also be access to mental health specialist consultation and referral.

A delivery-system design must be in place to implement all aspects of decision support. Primary components are access to guidelines and protocols, a patient registry, a care manager responsible for implementing co-ordinated care along with primary care providers, and a systematic approach to contacting mental health specialists for referral and consultation.

The clinical information system is the technological underpinning of the clinical framework for providing effective depression treatment to individual patients and populations. It consists of tools to facilitate the roles of PCPs and case managers. This system need not be interactive with other computer systems, but it must enable the PCP and care manager to establish a registry to identify, manage, and track patients with depression, as well as tracking key process and program measures.

Self-management support requires that materials and processes are available to enhance patient and family understanding of depression, its treatment options, and potential side effects of various treatment modalities so as to promote their active involvement in the recovery process. Examples include shared decision making between patient and provider; culturally appropriate patient information; self-study materials and techniques such as goal-setting and problem-solving; and care management follow-up on a patient's progress in developing individualized skills and techniques.

Community resources refer to information and educational resources about depression that are available to patients and their families to assist in their understanding of the disorder, independent of health care providers and health plans. These sources may be local or national organizations such as the United States' National Alliance for the Mentally Ill (NAMI), clergy, employee assistance programmes, consumer groups, and support groups.

Critically, each element of the model must be implemented in a longitudinal framework that takes cognizance of the clinical phases of depression care (Kupfer, 1991) – recognition and assessment, treatment initiation, acute, continuation, and maintenance phase of treatment. Furthermore, care management protocols should be tailored to specific risk stratifications ranging from subthreshold depression ('watchful waiting') to uncomplicated major depressive disorder, to more complex and severe forms.

Beyond the need for individual clinical adaptation, The Robert Wood Johnson Foundation framework is specifically called a 'flexible blueprint' to reflect the reality that the elements are adaptable to accommodate the range of local relationships available resources and other circumstances.

Economic models

The economic framework of the Robert Wood Johnson Foundation Incentives component is intended to reinforce the clinical model, reducing disincentives and removing financial and organizational barriers. To the extent that it is possible, incentives to encourage effective clinical practices are to be instituted. A fundamental difference between the clinical and economic models is the degree of individualization required. The specific strategies for realignment of financial and non-financial incentives are highly dependent on the specific, local contractual and organizational arrangements within each site. Thus, the term 'economic model' is a misnomer. Each site will have its own 'model' that will evolve through an ongoing problem-solving/collaborative learning and technical assistance process. Teams will be adapting strategies depending upon the specific type of

financing (Medicare, Medicaid, commercial), the organizational arrangements among MCOs, MBHOs, and PBMs, the extent of employer/purchaser involvement, and types of primary care setting (rural, urban, public and private).

Nonetheless, there are certain issues and principles that cut across many of these circumstances and are illustrated in Figures 3a and b. Organizational relationships within a carve-out context, as described earlier, isolate specialty care and financing from primary care. Alternative arrangements could include revising responsibilities and incentives (and changing contract language) between MCOs and MBHOs, incorporating PCPs in MBHO networks, establishing financial and non-financial incentives for effective communications between and among PCPs, MBHOs and care managers, among other types of innovations.

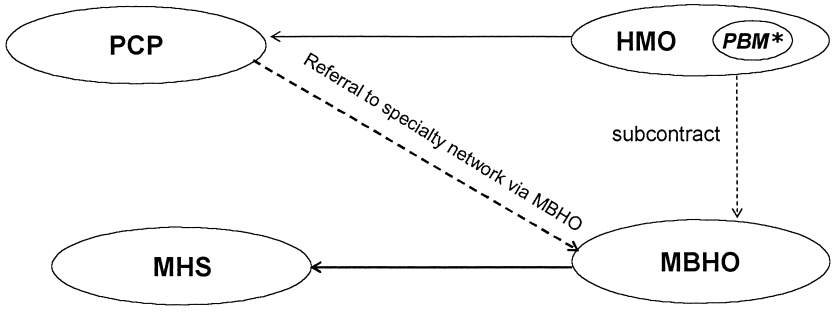
Across the variations in economic approaches certain critical issues emanate that are the focus of creative problem solving and pilot testing. These issues include:

- Funding components of clinical models. Certain elements of the clinical model, most notably care management, whether in person or by telephone, are generally not covered services. Similarly specialty ('curbside') consultation to PCPs and supervision of care managers also need to be paid for. What are the best payment methodologies to apply? How can accountability be assured and incentives for effective and efficient care be established?
- Altering distorting incentives. The exclusion of PCPs from behavioural health financing can be combated by incorporating them into MBHO networks. What is the best way to integrate them? How does the MBHO credentialing process need to be altered to accommodate PCPs?
- Rewarding performance and quality. Mechanisms to establish formal incentives, financial and non-financial, are being applied in innovative ways in health care (The Robert Wood Johnson Foundation, 2002). What specific types of performance should and could be rewarded? What payment methods might be applied? What are the most effective non-financial mechanisms to employ?

The forms that the new economic models will take have not as yet been fully determined. As the demonstration programme moves into the implementation phase, the various components of organizational change and strategies for financial realignment of incentives will be carefully documented. An evaluation team from Johns Hopkins University will be assessing the economic and clinical transactions occurring among the different payers.

Beyond clinical and economic strategies

Even if these combined models prove to increase value and effectiveness, there is no assurance that they will be broadly implemented. It will be necessary to sustain



*MHS (mental health specialist), MBHO (managed behavioral health organization), pharmacy benefits manager (PBM), health maintenance organization (HMO

Figure 3a. Organizational Relations I.

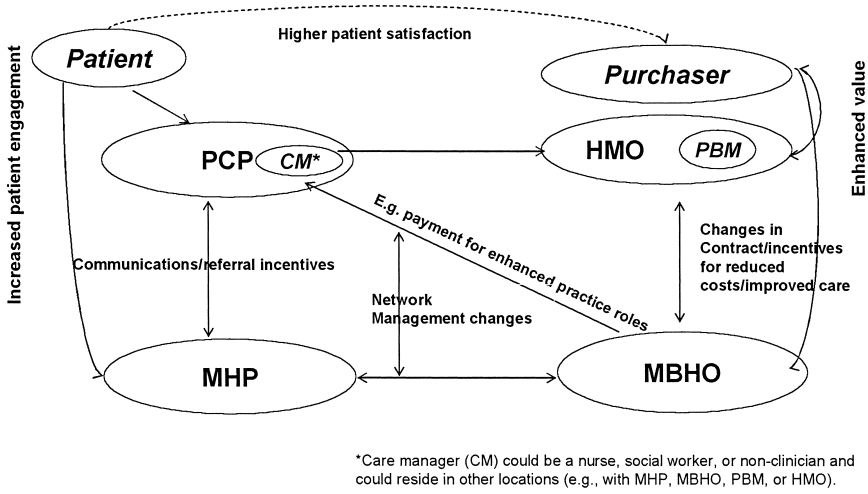


Figure 3b. Organizational Relations II.

innovation beyond early enthusiasm and subsidized scrutiny. Furthermore, broader dissemination to groups other than 'early innovators' (Brach et al., 2000) will require sophisticated marketing strategies aimed at multiple segments. Figure 4 depicts six discrete target groups and the types of changes required to overcome the barriers identified earlier in this paper.

An explicit element of this strategic framework is the development of community interventions aimed at both increasing demand and policy advocacy for effective depression care and also to reinforce and enhance clinical care strategies. Wells et al. (2000), as part of the National Strategic Plan for Research on Affective Disorders, have described the kinds of research that are needed in this area. Using a variety of loci of intervention such as workplace, faith-based institutions, home, and Internet, community-based approaches combine disciplines of public health, social marketing, management sciences, and urban planning. Strategies derive from other public health and non-health efforts such as cancer screening, tobacco control, and educational and social interventions, but also will need to include a focus on stigma as a critical component. While the research methods are complex and need to be developed further, it is certain that authentic community engagement will be required. Researchers will need to work closely with community leaders to assess local needs and goals, link interventions to policy change and advocacy, and tailor approaches to local circumstances.

Conclusions

Depression imposes an enormous economic burden on society. More important are the costs imposed on a personal, family, and community level. A large body of evidence has documented the efficacy of specific pharmacological and psychotherapeutic treatments. Moreover, effectiveness trials have documented substantial clinical and economic effects. Yet, multiple clinical and economic barriers persist in inhibiting the implementation of effective models. New initiatives such as The Robert Wood Johnson Foundation's Depression in Primary Care national programme hold promise for demonstrating innovative strategies for overcoming these barriers by targeting change directed at the '6P' framework. Additional approaches, however, focused on patients to communities will need to be developed and tested to assure that society can overcome the burdens of this disease.

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References

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington DC: American Psychiatric Association, 2000.

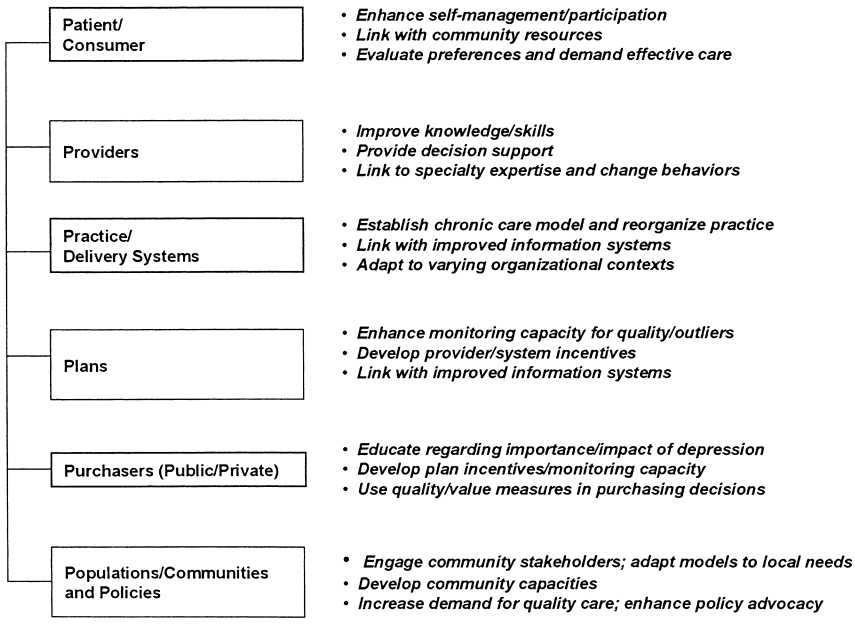

Figure 4. Six "P" Strategic Framework.

Bartels SJCE, Oxman TE, Constantino G, et al. Suicidal and death ideation in older primary care patients with depression, anxiety, and at-risk alcohol use. American Journal of Geriatric Psychiatry 2002; 10(4): 417–27.

Brach C, Sanches L, Young D, et al. Wrestling with typology: penetrating the 'black box' of managed care by focusing on health care system characteristics. Medical Care Research and Review, 2000; 57(Suppl 2): 93–115.

Cole SM, Raju M, Barrett J, et al. The MacArthur foundation depression education program for primary care physicians: background participant's workbook, and facilitator's guide. General Hospital Psychiatry 2000; 22(5): p. 299–358.

DeGruy FV, HA Pincus. The DSM-IV-PC: A manual for diagnosing mental disorders in the primary care setting. Journal of the American Board of Family Practice 1996; 9(4): 274–81.

Dietrich AJ. Depression management programs. Archives of Family Medicine 2000; 9: 689–90.

Hunkeler EM, Meresman J, Hargreaves WA, et al., Efficacy of nurse telehealth care and peer support in augmenting treatment of depression in primary care. Archives of Family Medicine 2000; 9: 700–8.

Katon WJ, Robinson P, VonKorff M, et al. A multifaceted intervention to improve treatment of depression in primary care. Archives of General Psychiatry 1996; 53: 924–32.

Katzelnick D.J. Antidepressant medication management and health plan employer data information set (HEDIS) criteria: reasons for nonadherence. Journal of Clinical Psychiatry 2002: 63: 727–32.

Kessler RC. ICPE Surveys. Presented at the Global Research in Anxiety and Depression Network Manic Depressives Disorders Consensus Conference, Martha's Vineyard MA, May 2002.

Kirmayer LJ, Robbins JM, Dworkind M, et al. Somatization and the recognition of depression and anxiety in primary care. American Journal of Psychiatry, 1993. 150(5): 734–41.

Klinkman MS. Competing demands in psychosocial care. A model for the identification and treatment of depressive disorders in primary care. General Hospital Psychiatry 1997; 19(2): p. 98-111.

Kroenke K, Taylor-Vaisey A, Dietrich AJ, et al. Interventions to improve provider diagnosis and treatment of mental disorders in primary care: a critical review of the literature. Psychosomatics 2000; 41(1): 39–52.

Kroenke K. Patients Presenting with Somatic Complaints in Primary Care. Presented at the Global Research in Anxiety and Depression Network Manic Depressive Disorders Conference, Martha's Vineyard MA, May 2002.

Kupfer DJ. Long-term treatment of depression Journal of Clinical Psychiatry 1991; 52(5): 28–34.

Pincus HA, McQueen LS. US primary care training in mental health and the role of the DSM-IV primary care version (DSM-IV-PC). Primary Care Psychiatry 1996; 2: 139–54.

Pincus HA, Pechura CM, Elison L, et al. Depression in primary care: linking clinical and system strategies. General Hospital Psychiatry 2001; 23: 311–18.

Rost K, Smith R, Matthews DB, et al. The deliberate misdiagnosis of major depression in primary care. Archives of Family Medicine 1994; 3(4): 333–7.

Schoenbaum M. Improving depression treatment in primary care practices. American Journal of Managed Care 2000; 6(2): S53–S58.

Schulberg HC, Katon WJ, Simon GE, et al., Treating major depression in primary care practice: an update of the Agency for Health Care Policy and Research Practice guidelines. Archives of General Psychiatry 1998. 55(12): 1121–7.

Schulberg HC. Treating depression in primary care practice. The Journal of Family Practice 2001; 50(6): 535–7.

Simon GE, VonKorff M, Rutter C, et al. Randomized trial of monitoring, feedback and management of care by telephone to improve treatment of depression in primary care. British Medical Journal 2000; 320: 550–4.

Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD. Journal of the American Medical Association 1999; 282(18): 1737–44.

Tasman A, Riba MB, Silk KR. The Doctor-patient Relationship in Pharmacotherapy: Improving Treatment Effectiveness. New York NY: The Guilford Press, 2000.

Thase ME. Global Research in Anxiety and Depression Network Consensus Conference. Global Research in Anxiety and Depression Network: Martha's Vineyard MA, 2002.

The Robert Wood Johnson Foundation. Rewarding Results: Aligning Incentives with High Quality Healthcare, 2002. www.nhcpi.net/rewardingresults.

Unutzer J, Katon W, Sullivan, et al. Treating depressed older adults in primary care: narrowing the gap between efficacy and effectiveness. Millbank Quarterly 1999. 77(2): 225–56.

Wagner E, Austin B, Davis C, et al. Improving chronic illness care: translating evidence into action. Health Affairs 2001; 20: 64–78.

Wagner EH, Austin BT, VonKorff M. Organizing care for patients with chronic illness. The Milbank Quarterly 1996. 74(4): 511–44.

Wagner EH. The role of patient care teams in chronic disease management. British Medical Journal 2000; 320(7234): 569–72.

Wang PS, Simon GE, Kessler RC. The Economic Burdens from Depression and the cost-effectiveness of Treatment. Presented at the Global Research in Anxiety and Depression Network Manic Depressive Disorders Consensus Conference, Martha's Vineyard MA, May 2002.

Wells KB, Shelbourne CD, Schoenbaum M, et al. Impact of disseminating quality improvement programs for depression in managed primary care. Journal of the American Medical Association 2000; 283(2): 212–20.

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