
Psychology and Primary Care

New Collaborations for Providing Effective Care for Adults With Chronic Health Conditions

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The rapid transformation of primary care in the United States provides an opportunity for psychologists to become actively involved as integrated members of primary care teams in the provision of services for adults with chronic disease. The differences between primary care clinicians and psychologists with respect to education, culture, practice styles, reimbursement, and roles, however, pose notable barriers to effective integration. In this report we review models of collaboration, barriers to effective integration of services, and potential areas in which psychologists can make major contributions both to direct service delivery and to primary care practice, with special reference to the care of adults with chronic conditions.

Keywords: team-based care, primary care practice, chronic disease, behavioral health

The demanding, rapid, and stressful changes now underway in primary care have expanded the potential roles of psychologists beyond specific teaching and traditional clinical functions. In this article we highlight new and emerging roles that capture the unique expertise of biobehavioral training and experience as applied to the management of patients, especially adults, with chronic conditions in primary care. Below, we first set the stage for this rapid transformation. We then link these new professional roles with factors associated with effective management of chronic conditions to illustrate how psychologists in primary care can help improve patient outcomes and reduce costs. We briefly describe new models of care that are transforming the structure of primary health care delivery and how these have shaped the development of emerging new roles for psychologists managing patients with chronic conditions. Last, we review several factors that can complicate the effective transition of psychologists into primary care, with particular reference to the care of patients with chronic conditions.

The Rapid Transformation of Primary Care

The delivery of high-quality, coordinated, chronic care services for patients with chronic health conditions such as diabetes, depression, chronic obstructive pulmonary disease, asthma, hypertension, and other cardiovascular conditions is a major imperative for our health care system (Bojadzievski & Gabbay, 2011). Approximately 70 cents

of every health care dollar in the United States is spent managing patients with chronic conditions (Newman & Steed, 2004), and as the population ages, costs will increase accordingly. The quality of care for chronic diseases is also a major problem, with a large chasm existing between what is possible and what has been achieved (Institute of Medicine, 2001). Evidence-based guidelines have proven to be far easier to formulate than to actually implement in practice, and repeated studies from a variety of settings demonstrate suboptimal care processes and outcomes (Baron & Desnouvee, 2010; Beckles et al., 1998; Saaddine et al., 2002). Containment of health care costs and improvement in quality of care will require considerable attention to how patients with chronic conditions are managed and by whom.

Two problems have slowed our ability to improve chronic disease care. First, the current model of primary health care delivery in the United States focuses primarily on episodic, acute care. It does not address in a cost-efficient and comprehensive way the ongoing needs of patients with chronic disease, who require continuous monitoring and ongoing coordination of care among specialists and generalists (Wagner, Austin, & Von Korff, 1996). Second, those with chronic diseases also have a high prevalence of chronic co-morbid conditions, which are associated with poor disease management and high subsequent costs (Katon et al., 2005, 2009). Effective management of chronic conditions, therefore, must also be integrated with the effective management of related chronic co-morbid problems, which requires considerable coordination and integration of care.

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These problems are especially notable in primary care, where most patients with chronic disease receive their care. A health care system centered on the provision of continuous, comprehensive, coordinated, and accessible primary care generally delivers lower cost, higher quality, better access, and more equitable care than systems built primarily around specialty care (Starfield, Shi, & Macinko, 2005). Health policymakers increasingly focus on a redesigned and reinvigorated system of primary care as a major way to address these needs (Friedberg, Hussey, & Schneider, 2010; Phillips & Bazemore, 2010; Rosenthal, 2008).

Psychologists and others with behavioral, family systems, or mental health training and experience have been involved in primary care for generations. Psychologists have been actively engaged in teaching primary care residents about the management of chronic conditions, including psychopathology, depression, and addictions; they have helped primary care residents understand the impact of patient and family psychosocial context on health and illness; and they have been at the forefront in teaching communication and listening skills to enhance clinical effectiveness (Fields, 2008; Longlett & Kruse, 1992; Society of Teachers of Family Medicine Task Force on Behavioral Science, 1985). These activities generally have focused on primary care resident skill building, content education, and clinical consultation so that primary care physicians can enter practice with sufficient expertise to manage and appropriately refer a large and diverse panel of patients. The rapid transformation of primary care, however, provides new opportunities and challenges for psychology, including providing behavioral expertise to a new setting and system, modifying clinical experience for application to new populations, and adapting traditional perspectives to new roles and collaborations.

A New Context for the Delivery of Primary Care

The pressures for change in primary care have led to the development of new and innovative models of care that are being explored, with variations, throughout the United States. The Institute of Medicine (2001) has outlined six criteria that form the basis for good chronic disease management and preventive care: Such care should be patient centered, effective, safe, timely, efficient, and equitable. The patient-centered medical home (PCMH) and the chronic care model (CCM) have emerged as complementary frameworks to help achieve the Institute of Medicine's criteria for high-quality preventive and chronic disease care. The CCM, developed by Wagner and colleagues (1996), directs changes toward three spheres of influence on chronic care: the community with its rich resources, the health care system with its policies and payment structure, and the provider organization or practice. The model also emphasizes an enhanced role of the patient in self-management and a population-based, proactive, and planned approach to chronic care delivery (Wagner et al., 1996). The PCMH model builds on the CCM by further emphasizing patient-centered care, interprofessional care teams, im-

proved information systems, and active quality improvement (Bodenheimer & Pham, 2010; Reid et al., 2010). The implementation of integrated clinical and programmatic behavioral health services in primary care medical homes further extends their effectiveness by improving quality while decreasing costs (Dickinson & Miller, 2010). The Council of Academic Family Medicine Task Force on the Development of Joint Principles for Behavioral Health (in press) recently developed Joint Principles Integrating Behavioral Health Into the Patient-Centered Medical Home, which have been endorsed by multiple organizations, including the American Psychological Association. These models provide unique challenges and opportunities for psychology, with special reference to the care of patients with chronic disease.

The Patient Protection and Affordable Care Act (2010) builds on the Mental Health Parity and Addiction Equity Act of 2008 to provide parity and expand coverage for mental health and substance use conditions. New health plans are also required to cover behavioral prevention such as depression screening for adults and behavioral assessments for children. The Affordable Care Act also has provided momentum to efforts to integrate primary care, mental health, and addiction services through PCMH and Accountable Care Organization initiatives, although incentives and payments for such efforts have to date been largely limited to demonstration projects and have varied considerably from state to state.

Integrated Care

Integrated behavioral health care can be viewed in part as a generic term that addresses the kinds of psychosocial services required by patients with chronic diseases within the health systems that provide their clinical care. Ideally, most behavioral health services for adults with chronic disease should be provided within the primary care practice: Doing so maintains continuity of care, increases acceptability and ease of service for patients, reduces the perceived stigma of going to a behavioral health provider, fosters communication among providers, and improves outcomes (Ani et al., 2009; deGruy, 1996). These functions are of major importance for patients with chronic disease, especially those with multiple co-morbidities who require an integrated primary and specialty care team for optimal care. Psychologists can deliver many important clinical services within primary care practices for these patients by, for example, undertaking immediate patient assessments without need for additional patient scheduling, consulting with other primary care staff about needs for patient referral or additional evaluation, leading health behavior change and self-management support programs, and working with family members who often accompany patients to primary care visits. This requires a different model for the provision of behavioral health services, one focused on brief behavioral interventions and new workflows to facilitate "warm handoffs" of patients among primary care providers, behavioral providers, and staff members. Fully integrating behavioral health care within primary care, rather than

addressing behavioral health in a piece-meal fashion through outside referrals or viewing behavioral health as an ancillary service, allows for more comprehensive and innovative care programs that have been shown to improve outcomes and reduce costs for patients with chronic disease (Katon et al., 2010; Reiss-Brennan, Brior, Cannon, & James, 2006).

How can psychologists bring their unique skills to the primary care setting to enhance the care of patients with chronic conditions? Psychology and primary care have evolved from different historical and professional roots, and unfortunately, there has been no clear set of principles built into the training paradigms of each that would lead to a naturally occurring integration of the two. Thus, there are few guidelines for ways to provide a comfortable fit for both professions and provide for clear sources of support from payers.

Several models of integrated care have emerged to bridge this gap. The integration of behavioral health in primary care settings can be seen to vary along a dimension from very separate, independent behavioral and primary care facilities that attempt to improve their level of collaboration across the sites, through co-located behavioral and primary care services that attempt a higher level of integration, to highly integrated care in which both the psychologist and other primary care staff work together as a team to meet patient behavioral and physical health needs in a seamless fashion (Doherty, McDaniel, & Baird, 1996; Heath, Reynolds, & Romero, 2013). The *Lexicon for Behavioral Health and Primary Care Integration* (Peek, 2013) has extended this type of framework by providing common definitional language to describe basic functions to put in place, options for fulfilling these functions, and milestones for achieving full functionality.

New advances in primary care organization and funding, such as the PCMH (*Joint Principles of the Patient Centered Medical Home*, American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association 2007), have focused on innovations at the more integrated end of this dimension (Patterson, Peek, Bischoff, Heinrich, & Scherger, 2002; Peek, 2009). Adopting this

broader perspective requires the full integration of behavioral health professionals within primary care—not just the addition of a new ancillary staff member but the addition of a full partner in the process, with shared support, a shared philosophy of care, and integration into staff routines and functions, which is especially important when organizing a program of comprehensive care for patients with chronic conditions.

To make the best use of behavioral health professional skills, psychologists' contributions to these new and evolving roles in primary care can be categorized into five general areas (see Table 1). First is the traditional role of the behavioral clinician—seeing individual patients in the primary care practice, usually with regard to behavioral health and related chronic disease management issues. But direct clinical care can also include brief clinical encounters interwoven with the patient–physician visit to assist with a diagnosis or management decision, explorations about how emotional issues affect chronic disease management, or meetings with family members to help establish chronic care management routines. Such brief encounters can also be opportunities to facilitate the referral (and follow-up) to specialty care of patients with ongoing psychological problems unrelated to their chronic disease, thus reducing the number of patients who fall through the cracks of the referral process. These kinds of brief clinical encounters, however, raise issues of patient access and require the scheduled allocation of dedicated professional time. Second is the development, operation, and application of patient screening, assessment, monitoring, and self-management support programs. These might include developing tools and systems to support depression screening for adults with diabetes, medication adherence monitoring for patients with cardiovascular problems, or diet and physical activity enhancement for patients with obesity. Third is the development and operation of programs targeting specific patient groups, usually patients with multiple co-morbidities in need of well-coordinated care or patients who are high utilizers of services. These might include patients who are frequent users of the emergency room or patients with chronic conditions, such as congestive heart failure, who require close monitoring. Fourth is clinical consultation

Table 1
Emerging Roles for Psychologists in Primary Care

Direct patient care	Patient screening, assessment, and monitoring	Programs for special patients	Clinical consultation	Practice organization and functioning
Traditional patient clinical visits	Depression/other mental health screening	High utilizers	With clinicians	Practice coaching
Brief diagnostic visits	Self-management support	Patients with complex, co-morbid conditions	With case managers	Practice improvement programs
Brief handoffs	Symptom monitoring	At-risk and vulnerable populations	With other staff	Patient flow problems
Brief interventions	Data collection prior to visit	Patients who rarely come to care		Staff training, supervision
Engaging families	Health behavior change	Group programs		New configurations of care

with staff. This frequently includes hall conferences with other clinicians about a specific patient or ongoing supervision of care managers with regard to specific patients and programs. Fifth is the use of systems thinking to improve the practice's organization and functioning in the areas of office efficiency, patient flow, staffing, practice program development, and practice coaching. Psychologists might establish group medical visits or chronic disease support groups, design a time study to help streamline patient flow, help a practice develop the internal resources and skills to adopt and sustain use of new programs, or develop integrated programs to bring in poorly controlled or resistant patients with diabetes to provide more intense monitoring and care.

Applying these roles to the complex patient with Type 2 diabetes provides a good example of emerging roles for psychologists with respect to managing a patient with a complex chronic disease. A psychologist might initially see a patient and family to map out a structured set of action plans for behavioral change (Direct Patient Care in Table 1); the psychologist might then recommend use of an automated self-management support program, provide scheduled e-mail contacts to prompt and monitor patient behavior change over time (Patient Screening and Monitoring), provide direct reminders to the patient and family for scheduled lab tests and appointments with specialists (Programs for Special Patients), provide direct feedback on self-management progress to clinicians (Clinical Consultation), and include this patient as part of a program of case review for staff training (Practice Organization and Functioning). How these roles and functions are applied to individual practice settings depends on a number of factors, but all involve various ways of actively integrating patient and staff psychosocial issues into the care of patients with chronic disease.

Psychosocial Issues Affecting Chronic Disease Management

Psychologists also bring considerable unique expertise about those psychosocial factors that affect chronic disease management and, thus, clinical outcomes. It has been estimated that up to 95% of the variation in chronic disease outcomes results from patient lifestyle and disease management behaviors (Tuerk, Mueller, & Egede, 2008). Studies suggest that within the area of adherence to medical regimens, for example, there is considerable variation from patient to patient and within patients over time (McNabb, 1997). What psychosocial factors contribute to poor adherence and to inadequate disease management behaviors? In overview, studies have identified four interrelated clusters of psychosocial contributors to adherence to health-related regimens and lifestyle change among adults with chronic disease, and all are qualified by patient age, gender, culture/ethnicity, and health-care access: personal beliefs; personal traits and characteristics; family, community, and social contexts; and extra-disease stress, depression, and disease-related distress. These represent areas in which psychologists can make unique contributions to both the content and

process of care across all five of the emerging roles described above. We review each briefly below and then provide illustrations of how psychologists can address these issues in the primary care setting.

Personal health beliefs, often derived from family and cultural history, drive health-related behavior (Broadbent, Donkin, & Stroh, 2011). These include beliefs about where the chronic disease came from, how it works in the body, what treatments are effective, who recommends them, and how serious the disease is (Daniulaityte, 2004; Hagger & Orbell, 2003; Hampson, Glasgow, & Stryker, 2000; Kleinman, Eisenberg, & Good, 1978). Health beliefs also direct perceptions of treatment efficacy and prioritize needs for personal attention.

A relatively large number of personal traits, styles, and characteristics have been associated with chronic disease management, for example, avoidant coping, personal coherence, hardiness, dispositional optimism, external locus of control, hostility, fatalism, self-efficacy, conscientiousness, and neuroticism (Bogg & Roberts, 2004; Brondolo et al., 2003; Fournier, de Ridder, & Bensig, 2003; Goodwin & Friedman, 2006; Yousfi, Matthews, Amelang, & Schmidt-Rathjens, 2004). Although there are undoubtedly high intercorrelations among many of these personal constructs, recent work has focused on conscientiousness, neuroticism, and self-efficacy as primary, generic personal constructs that significantly affect the degree, style, and adequacy of disease management among adults with chronic disease.

Social context is the third area of major focus, and it has been addressed by a large number of studies that looked at the impact of family and community on disease outcomes. These studies focused on the impact of who in the family handles different aspects of disease management (food preparation, medication taking), the emotional tone of family relationships (hostility, detachment), the degree of family organization (planned meals, a safe place for medications), and social, cultural, and gender roles (Chesla, Skaff, Bartz, Mullan, & Fisher, 2000; Fisher et al., 1998; Kiecolt-Glaser & Newton, 2001; Whisman, Uebelacker, & Settles, 2010). Interestingly, partners of patients with a chronic disease are at increased risk for the very same disease as the patient, most likely due to shared lifestyles and similar exposure to potentially toxic influences (Khan, Lasker, & Chowdhury, 2003). For example, in one study, 49.6% of community patients with Type 2 diabetes and with a body mass index (BMI) ≥ 30 had a spouse or partner with a BMI ≥ 30 (Fisher et al., 2000). Thus, the family setting of disease management can provide an important context for enhancing chronic disease management and preventive care.

Neighborhood and related community factors provide an even broader lens for observing, understanding, and intervening with the complex, multiple social influences on disease management and lifestyle change; such factors include, for example, residential environment, availability of safe places to exercise, and availability of sources to purchase healthy food (Auchincloss et al., 2009; Nordstrom, Roux, Sharon, & Gardin, 2004; Schmitz, Nitka,

Garipey, & Malla, 2009). Taken together, these factors provide an understanding of family and community influences on chronic disease management that extends our understanding of disease management processes, risk for negative outcomes, and options for intervention.

The last of the four interrelated factors linked to chronic disease management includes extra-disease stress, depression, and disease-related distress. Stress from non-disease-related life sources affects disease management and outcomes through two mechanisms. First, stressors disrupt disease management behavior because of their competing demands for attention and energy (Kirby, Williams, Hocking, Lane, & Williams, 2006; Mattei, Demissie, Falcon, Ordovas, & Tucker, 2010; Molloy, Perkins-Porras, Strike, & Steptoe, 2008). Second, studies have shown direct physiological consequences of stressors on pulmonary functioning, cardiovascular functioning, and glycemic control through the autonomic nervous system and the hypothalamic-pituitary-adrenal axis (Jiang et al., 2008; Miller, Chen, & Zhou, 2007; Segerstrom & Miller, 2004). Both of these hypothesized pathways may operate in tandem and may have additive effects.

Emotional distress also impacts disease management. Significant disease-related distress is associated with poor disease management behavior (Gonzalez, Fisher & Polonsky, 2011). Furthermore, moderate to high levels of disease-related distress are common in chronic conditions, are persistent over time, and are linked to disease management and quality of life, over and above the effects of clinical depression (Fisher et al., 2008, 2010).

The five evolving roles that psychologists can serve in primary care, reviewed earlier, provide vehicles for applying what we know about how psychosocial issues affect chronic disease management: direct patient care, patient screening and monitoring, special patient programs, staff consultation, and office system quality improvement. For example, psychologists can work directly with individual patients and their families or indirectly through developing special programs or supervising care managers with regard to enhancing understanding of chronic disease and its management within the context of culture and ethnicity. Helping to include culturally appropriate foods into special diets, planning for physical activity within ethnic communities, reframing disease understandings within the context of cultural experience, and reprioritizing chronic disease management within the ongoing processes of other family life demands and stressors can reduce the pace of disease progression and later exacerbations of disease. Such efforts also enhance patient disease management self-efficacy, engagement, and support. Furthermore, since risk for some chronic diseases is based on genetics or shared exposures, gathering together family members, especially those who receive their personal health care from the same primary care practice, enables discussion of prevention through enhancement of healthy living practices that can affect all family members.

Patients with chronic disease often experience comorbid mental health conditions, such as depression and distress. These conditions often exacerbate each other,

leading to poor disease management, increased need for clinical services, and poor quality of life. Psychologists have been actively involved in developing and operating programs of symptom monitoring, medication taking, and behavioral management to reduce the chances of exacerbations of disease, emergency room visits, or need for extensive specialty referrals.

Using a systems background, psychologists and other behaviorists have made significant contributions to programs of practice transformation. Using a systems-based approach and standard quality improvement tools, psychologists can assist practices in identifying problems with patient flow, create new methods to bring resistant patients to care, expand patient follow-up and laboratory visits, and introduce new programs of care by identifying the required tasks and changes in staff roles, outlining the sequence of steps for task completion, and developing a data collection tool to help determine the effects of the proposed changes or additions. Improvements in time management, staff roles, and patient flow are crucial for dealing with the complexities of regular primary care visits typical of patients with complex chronic disease. For example, staff may need to complete many tasks even before a patient is seen by a clinician in the exam room. For an adult with Type 2 diabetes, these complicated and ordered tasks may include a point-of-care blood test to assess current glycemic control (HbA1C), a summary lab test report on lipids, a current blood pressure test to assess hypertension, a prompt for the patient to remove their shoes and socks to enable a careful foot exam, a report from the ophthalmologist regarding progression of retinopathy, a previsit screen for diabetes distress and depression, and a patient self-report on current diet, physical activity, medication adherence, and ongoing non-disease-related stressors. In addition, a list of prescription medications needs to be prepared for review and dosing. Knowing who in the office does what, when in the sequence it takes place, and where in the practice each task is completed can be crucial to making the best use of clinician time and overall practice resources, which translates directly into office costs, time efficiency, and quality of care.

Barriers and Complications to Collaboration

Psychologists can make valuable contributions to the care of patients with chronic disease in primary care to enhance chronic disease management through the application of psychological principles of health behavior change. The structural and cultural context of primary care, however, can present numerous barriers to, constraints on, and complications for effective collaboration; these include different treatment philosophies, differences regarding action versus process interventions, different views of confidentiality, differences in traditional professional roles, and differences in streams of financial reimbursement (Gunn & Blount, 2009). We briefly illustrate several of these below as they relate to the management of patients with chronic disease.

The Pace of Primary Care

Unlike the pace of many traditional mental health settings, primary care is a hectic, high-volume, time-focused setting with a mandate to provide the best care to the most patients in the shortest amount of time. The processes involved in providing this care can be extremely complex, as illustrated by the example of the adult with diabetes mentioned above. The addition of a psychologist, or any other collaborator, involves a great deal more than simply adding another member to the team, regardless of the potential clinical benefits. Crucial concerns revolve around how a new psychosocial service or team member will disrupt the existing, carefully tuned patient flow process, add to staff burden and costs, and make best use of available clinical space. Thus, creating the fundamental linkages that make a psychologist a valued team member in primary care requires a full understanding of the pressures, practice styles, clinical space, and patient flow issues that operate in a primary care practice, and these vary considerably across practices.

Financial Reimbursement

Although changing as a result of recent PCMH and other initiatives, behavioral health care and general physical care are often supported by different health insurance funding mechanisms, the former frequently being administered by mental health and addiction insurance carve-outs and the latter by general physical health insurance, and these vary from state to state and within states across different types of insurance. Each has different restrictions on frequency and type of service that are supported, amount of patient copay, and mechanisms for billing. In most instances, addressing psychosocial issues and behavioral management in chronic disease and developing and implementing programs of health behavior change are not covered by traditional mental health carve-outs or by physical health insurance benefits, although this is slowly changing and new procedure codes have been developed in preparation for expected changes. In some cases, financial support for such services is made available directly from integrated health care organizations apart from the fee-for-service system of reimbursement. But to date, such programs are more the exception than the rule. In contrast to the traditional system of reimbursement based on a fee-for-service framework, the PCMH, the Affordable Care Act, and Accountable Care Organizations have experimented with reorganized systems of professional reimbursement by delivering support for the delivery of behavioral health care for patients with chronic conditions directly into the primary care practice for provision of comprehensive care (Centers for Medicare and Medicaid Services, 2008). Use of shared facilities, elimination of so-called mental health carve-outs, and reductions in patient service utilization have yielded considerable cost savings that can be shared with practices in support of new, comprehensive chronic disease management programs that integrate behavioral health into primary care without the requirement that fees be charged for each “procedure” for each patient. Although still in its infancy, there now appears to be a slowly evolving payment struc-

ture to support new staffing and reimbursement transformations.

Lack of Familiarity With the Culture of Primary Care

Psychologists will need to readjust their traditional lens for viewing health and illness to fit chronic disease in the culture of primary care. Many psychologists are unfamiliar with the physiology of chronic disease, how physical factors affect mood and behavior, and how mood and behavior affect physiological processes and disease outcomes. For example, individuals with high blood glucose can be irritable, moody, distressed, and difficult to live with. Those with poorly controlled asthma and with unpredictable asthmatic episodes can have restricted lifestyles with profound effects on other family members. Furthermore, the depressive symptoms and anxiety that could easily be attributed to an affective disorder can also be the result of disease-related distress. Thus, what might in other settings be considered psychopathology may more appropriately be viewed in this context as the expected physiological, emotional, and behavioral effects of struggling with the ongoing demands of a chronic disease. These problems are no less challenging, but in most cases they need not be viewed as part of a pathological process that calls for a formal *DSM-IV* (*Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; American Psychiatric Association, 1991) diagnosis and the use of traditional interventions. Instead, they need to be addressed as part of the spectrum of chronic disease through care management, group support, education, and clinical encounters that include both patients and family members to anticipate and respond adaptively to these problems (Gonzalez et al., 2011).

Patient Engagement and Centeredness

Patients with chronic disease can no longer be considered passive recipients of care; instead, as part of the PCMH, patients must be proactive collaborators in care by arming themselves with health-related information and actively monitoring clinical and behavioral indicators related to their chronic condition (Baron & Desnouee, 2010). The CCM and PCMH models include a major emphasis on patient engagement and self-management support, support that provides patients with the information and tools they need to adopt healthy behaviors and to better care for their chronic health conditions (Peek, 2010). In this sense, patients are viewed not just as the targets of care but as full partners with clinicians in ways that are informed and responsible, to the extent that they are able (Gruman, Jeffress, Edgman-Levitan, Simmons, & Kormos, 2009). Behavioral indicators include attention to healthy eating, physical activity, risky drinking and other substance use, smoking, mood, medication adherence, health literacy, and numeracy (Glasgow, Bull, Piette, & Steiner, 2004). Disease-specific indicators include, for example, fasting glucose for diabetes, weight change for congestive heart failure, and frequency of use of emergency inhalers for asthma. Primary care clinicians and staff, however, often lack experience in altering practice functioning in ways that

enhance patient engagement and patient centeredness. Physicians frequently feel overwhelmed by competing clinical demands, and sometimes it is simply easier to make the decision and institute a treatment change than to engage with the patient so that a shared decision with full patient participation can occur. Psychologists and other behaviorists can play an active role in this regard. Either through direct patient contact or by developing and supervising programs for nurses, care managers, and others, psychologists can facilitate the skills and programs necessary for all members of the care team to collaborate on issues of engagement and patient centeredness (Peek, 2010).

For example, although a clinician needs to be involved in final decisions about alternative medications, a nurse, health educator, or other staff member can help review options with the patient, discuss with and encourage the patient to seek out additional information or input from others, and plan for additional face-to-face or telephone contacts to assist with care planning and decision making. But these changes require a gradual cultural and operational shift within the practice. Thus, although psychologists can help develop and coordinate collaborative care teams with staff roles specified to make the best use of time in ways that encourage patient engagement and personal autonomy, they also will need to do so within the context of current practice.

Training Issues

The new models for improving primary care for patients with chronic disease all require a high level of teamwork among health professionals, including primary care and behavioral clinicians. Interprofessional education needs to target team training to promote collaborative practice so that all players can obtain the skills, knowledge, and experiences necessary to work together in a truly integrated setting (Blount, DeGirolamo, & Mariani, 2006; Blount & Miller, 2009; Friedberg et al., 2010; McDaniel, Belar, Schroeder, Hargrove, & Freeman, 2002; Phillips & Bazemore, 2010). The increased focus on cross-professional education throughout initial health care education and continuing educational experiences will reduce barriers based on differences in culture and orientation and promote the development of more integrated programs of care. Psychologists also will need to obtain a greater understanding of the roles, responsibilities, and perspectives of all members of the care team, such as medical assistants, front-office staff, information technology (IT) support personnel, nutritionists, case managers, office managers, nurses, nurse practitioners, physician assistants, and other specialists. Accredited pre- and postdoctoral training programs that offer well-supervised experiences within primary care settings may be required to thoroughly train the next generation of psychologists. This may require a retooling of graduate education and an expansion of faculty to address these issues.

In addition to shared educational programs, psychologists interested in the psychosocial and disease management issues related to the care of patients with chronic conditions will need to expand their traditional training to

include a greater focus on the physiology of chronic conditions; how new medications and related treatments affect disease progression, management, mood, lifestyle, and other psychosocial outcomes; and how chronic disease management can affect family relationships and be responsive to the context of community and cultural settings (de Groot & Fisher, 2011). Direct, supervised training within primary care settings as part of a formal graduate curriculum will help orient psychologists by providing real-world experience.

Conclusions

Primary care is currently undergoing dramatic changes, especially in the ways it manages chronic disease among adults. The implementation of new models of care, such as the CCM and PCMH, provides unique opportunities for psychologists to make much-needed contributions in terms of direct clinical services, development of psychosocial programs to enhance chronic disease management, and application of preventive and health behavior change programs. Psychologists can also contribute through efforts to assist practices in creating new internal structures to initiate and maintain change systematically in ways that fit practice culture, setting, patient mix, and practice style. Most psychologists, however, have little training or experience in primary care and may be unaware that the application of traditional clinical and programmatic psychology to primary care requires considerable reflection and adaptation.

Primary care is currently focused on cost, quality, and access, yet in many cases it struggles with the challenges of effectively managing the process of change: changes to traditional clinical roles, staff relationships, services offered, patterns of communication among staff and with patients, and limited reimbursement with regard to the management of chronic illness. Psychologists can offer expertise regarding innovative program content and services, but for their contributions to be effective and sustained, psychologists also must have a thorough knowledge of chronic illness and the practice and culture of primary care. Outside experts often suggest specific programs for change, but often these programs yield positive outcomes only in the short term, mostly because they are viewed as adding burden without providing the tools to enable them to be fully integrated within the culture and context of primary care practice. Effective collaboration will require active acceptance of psychologists by primary care practices as understanding and trusted partners and a willingness on the part of psychology to adapt and innovate evidence-based behavioral programs and principles within the real world of clinical care and chronic illness.

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