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Psychologists and Primary Care Physicians: A Training Model for Creating Collaborative Relationships

Daniel Bluestein · Barbara Ann Cubic

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Abstract For over a decade insurance reform, changes in health care delivery, reimbursement policies, and managed care have increased pressure on psychologists to diversify beyond traditional practices. Despite the negative impact of failing to make a transformation, most psychologists have not modified their practice and most training programs do not prepare psychologists to provide integrated care. The current paper describes the importance of primary care and psychology partnering to create integrated care models and makes the case that such partnerships are not only beneficial to patients but to both professions. The paper concludes with a description of a training model that has been implemented at the institution of the authors that provides opportunities for psychologists to learn how to practice in primary care settings.

Keywords Psychology · Primary care · Integrated care · Psychology internship · Interdisciplinary training

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D. Bluestein (✉) · B. A. Cubic
Department of Family and Community Medicine, Eastern Virginia Medical School, Hofheimer Hall, 825 Fairfax Avenue, Norfolk, VA 23507, USA
e-mail: bluestda@evms.edu

B. A. Cubic
Department of Psychiatry and Behavioral Sciences, Eastern Virginia Medical School, Hofheimer Hall, 825 Fairfax Avenue, Norfolk, VA 23507, USA

For over a decade insurance reform, changes in health care delivery, reimbursement policies, and managed care have increased pressure on psychologists to diversify beyond traditional practices. However, despite the negative impact of failing to make a transformation, most psychologists have not modified their practice from mental health assessment and psychotherapy to include alternatives (Phelps, Eisman, & Kohout, 1998). And, an alternative which has been largely underutilized is the development of closer collaborations with primary care physicians.

Integrating psychology in primary care settings is in keeping with current thinking that conceptualizes primary care as a biopsychosocial rather than a biomedical field. Indeed, most primary care visits have primary or secondary psychosocial dimensions that impact well-being and health status. Seasoned clinicians know the distinction between medical and psychological is arbitrary, having more to do with the focus and socialization of practitioner training than the reality of patient care (Twilling, Sockell, & Sommers, 2000). In the real world of patient care as opposed to the classroom, medical conditions often overlap with mental health concerns, patient behaviors and lifestyle often create or exacerbate medical difficulties, and patients commonly develop stress related symptoms while coping with chronic illness. Additionally, coping issues may be accentuated by membership in vulnerable populations including those who are abused, socially isolated, economically disadvantaged, elderly or members of historically underserved groups. Care of complex medical needs may be undermined by social stressors that conflict with adherence to medical care and cultural differences between patients and providers may pose additional barriers. Collaborations between medical providers and psychologists can help break down social barriers, unify fractionalized care, identify creative solutions, and prevent frustration, burnout, and compassion

fatigue (Holleman, Bray, Davis, & Holleman, 2004). Psychological and behavioral interventions are also central to facilitating healthy lifestyles germane to prevention and self-care of serious and epidemic conditions such as diabetes, obesity, cancer and cardiac conditions. Lastly, because primary care is also the de facto mental health system as the site of care for depression, anxiety, substance abuse issues and other mental disorders (deGruy, 1996), psychologist partnership can provide needed improvement in the availability and quality of these services.

While psychologists may be well positioned to address and treat the psychosocial dimensions of medical illness through collaboration and co-practice with primary care clinicians, many psychologists do not have experience with primary care integrated models. Differences in training, problem-solving styles, expectations, proximity of providers, reimbursement, and patient resistance constitute additional barriers to collaboration (Kainz, 2002). Accordingly, this paper reviews models of clinical care collaboration between physicians and psychologists which can result in an egalitarian process and produce better patient outcomes. The article is in two parts. To begin an overview of primary care is provided, examining its history and value. This is followed by a description of the current crisis in primary care and an exploration of promising new strategies for reframing the field, strategies in which psychologists have much to contribute. The second part of this paper specifies how collaboration with psychology can enhance implementation of these promising new strategies. This section delineates how to bridge between differing perspectives to create integrated care and reviews strategies for overcoming obstacles to practicing in primary care. The paper concludes with a description of a training model that has been implemented at the institution of the authors that provides opportunities for psychologists to learn how to practice in primary care settings.

Primary Care: Past, Problems and Prospects

Primary Care Defined

The Institute of Medicine defines primary care as "provision of *integrated, accessible* health care services by clinicians who are *accountable* for addressing a large *majority of health care needs*, developing a *sustained partnership with patients*, and practicing in the *context of family and community* (Donaldson, Yordy, Lohr, & Vanselow, 1996). "Integrated" refers to a seamless process of care that combines events and information across settings and over time. The concept of integration also refers to care that is coordinated through the combination of services and information that meets a patient's needs and rational sequencing of services. "Accessible" means that it is easy for a patient to initiate an interaction for any health problem with a clinician. Accessibility also has dimensions of cultural and contextual competence through proactive efforts to eliminate barriers such as those posed by geography, administrative hurdles, financing, culture, and language. "Accountable" mandates that the primary care provider is responsible for ensuring continuous quality improvement and efficient use of resources according to best evidence-based practices and ethical behavior. Accountability also implies commitment to patient safety and satisfaction. The scope of primary care practice is such that providers must have appropriate training to address most of the physical, mental, emotional, and social concerns that patients bring, involving other health care professionals for further evaluation or treatment as appropriate. "Sustained partnership" is achieved through relationship-centered care that continues over time and across settings. Partnership is also based on practice in the context of family and community, that is, understanding of how living conditions, family dynamics, and cultural background shape health status and health and illness behavior.

Who Is a Primary Care Clinician?

As of 2003, there were about 283,000 primary care physicians in the United States (Pasco & Smart, 2004). About half the nation's primary care needs are met by family physicians (200 million visits per year). General internists and general pediatricians respectively account for 125 and 105 million visits annually. All three of these disciplines are governed by specialty boards and require 3 years of residency training. Nurse practitioners and physician's assistants provide services for an increasing proportion of primary care visits. Most of these physician extenders have a more limited scope of practice and work with supervision by a generalist physician.

Defining the Value of Primary Care

Scope of Practice

The value of primary care is manifest in the range of services provided. Among the 20 most common reasons that patients visit family physicians are evaluation of undifferentiated symptoms (e.g. cough, fatigue and pain complaints), as well as common acute illnesses (e.g. rashes, infections), and wellness and preventive care (e.g. PAP smears, well child exams). Family physicians and general internists care for most patients with major chronic illnesses (e.g. depression, cancer, diabetes, heart disease, hypertension) and patients report having an individual practitioner as their usual source of care (National Center

for Health Statistics, 2002). Value is also manifest in the geographic distribution of primary care providers. Family physicians in particular make up the bulk of physicians in rural and medically underserved areas (Future of Family Medicine Project Leadership Committee, 2004).

Outcomes and Quality of Care

A nationally representative survey showed that persons having a primary care physician rather than a specialist as their regular source of care had lower subsequent 5-year mortality rates (Franks & Fiscella, 1998). This advantage persisted after controlling for initial differences in health status, demographic characteristics, health insurance status, and other potential determinants of mortality. Higher ratios of primary care physicians to population have also been linked to other positive health indicators such as cause specific mortality from heart disease, cancer, or stroke; infant mortality; low birth weight; and health status. Again, these benefits persist after controlling for confounding variables and regardless of date, country in question, or geographic level of analysis (Starfield, Shi, & Macinko, 2005).

With respect to cost of care, the supply of primary care is correlated with linear decrease in Medicare spending and with better quality of care as measured by 24 indicators for treatment of 6 common conditions (Baicker & Chandra, 2004). One potential explanation is better preventive care. States with higher ratios of primary care clinicians-to-population have lower rates of smoking, obesity, and screenable cancers and more access to preventive services such as PAP smears and mammograms (Starfield, Shi, & Macinko, 2005). This preventive adherence in turn reflects patient-centered care and it may also yield stronger physician-patient relationships (Thom & Campbell, 1997). The importance of the trust-adherence relationship is further underscored among minorities, for whom having a trusted primary care physician who makes preventive recommendations is the strongest predictor of receiving such care (Ogedegbe et al., 2005; O'Malley, Sheppard, Schwart, & Mandelblatt, 2004). Other explanations reflect lower hospitalization rates for ambulatory-care sensitive conditions (e.g., conditions such as diabetes and hypertension which are positively impacted by access to primary care). For example, in a study from the United Kingdom, an increased supply of primary care was associated with decreased hospitalizations for Ambulatory Surgical Centers (ASC), even after controlling for socioeconomic and health status. In the United States, where access to primary care varies inversely with socioeconomic status, rates of hospitalization for ASC are strongly associated with SES deprivation. However, this socioeconomic gradient disappears in countries with universal primary care access (Agency Health Quality Research, 2007).

Taken together, this body of literature suggests that primary care improves overall health care outcomes, but interpretation should be cautious since most studies are cross-sectional. Studies with stronger research designs that examine the relationship between specific attributes of primary care and outcomes are still needed.

The Current Crisis in Primary Care

Prior to the Second World War, most physicians in the United States provided primary care. The explosion in medical knowledge in the second half of the twentieth century, however, combined with marginalization of the general practitioner, led to increasing physician specialization. Physicians designating themselves as specialists increased from 20.8% to 75.7% between 1938 and 1970 whereas physicians identifying themselves as general practitioners decreased from 79.2% to 17.3% over this timeframe (Graham et al., 2002). To counter this trend, the American Board of Family Practice was established in 1969, along with 3-year residency programs leading to board eligibility, a requirement for continuing medical education, and re-certification every 6 years. Generalist tracks in internal medicine and pediatrics residencies evolved as well.

Despite continuing public need and initial success, the impetus to primary care has lost its momentum in recent years. Indeed, the discipline faces a crisis on several fronts and its continued existence is in doubt. The underpinnings of this crisis as identified by primary care professional organizations (American College of Physicians, 2006) are summarized below.

Manifestations include both patient and provider dissatisfaction. Patients are distressed by difficulties accessing care, short visits, and perceptions of primary care providers as lacking competence in comparison to specialists. Such perceptions are reinforced by evidence that primary care physicians do not meet quality performance standards, although such underperformance reflects time constraints of primary care and has been noted for specialists as well (Greenfield, Rogers, Mangotich, Carney, & Tarlov, 1995). Dissatisfactions are further fueled by concerns about safety, escalating costs, fragmentation, and serious disparities in access and outcomes faced by historically disadvantaged sociodemographic groups. Meanwhile the advent of managed care has undermined continuity doctor patient relationships in several respects. In addition to the need for shorter visits to create enough revenue, patients change providers as insurances change. Primary care has thus become a commodity rather than a relationship-centered enterprise. Primary care's role as a gatekeeper in managed care, to limit expenses has created further public distrust.

Provider dissatisfaction is fueled by low reimbursement rates that necessitate crammed schedules, often in inefficient work environments. Time is further constrained by unrewarding and unreimbursed administrative tasks, and by the need to coordinate care for increasingly complex patients. As a result, primary care physicians perceive the quality of care they can provide as eroding. Indeed, providing all evidence-based preventive and chronic care services for the average patient panel would require 18 h per day (Ostbye et al., 2005). As a result, physicians are leaving primary care practice through retirement, switching to specialist care, or to boutique practices that meet the needs of the affluent few. Meanwhile, the number of medical students entering primary care residencies has fallen to alarming levels. Since 1997, student interest in family practice has dropped 50% while the proportion of internal medicine residents selecting generalist careers has fallen from 50% to 20% (Bodenheimer, 2006). Student concerns parallel the concerns of existing providers, and include low reimbursement, excessive demands in relation to personal lifestyle expectations, low professional status, and the lack of a research base compared to technologic specialties and subspecialties (Whitcomb & Cohen, 2004).

Overarching these issues are major societal changes which are forcing a reappraisal of primary care. As originally conceived, primary care clinicians would care for the majority of their patients in solo or small group practices. The ensuing years however, have seen rapid diagnostic and therapeutic advances coinciding with a growth in vulnerable populations, such as the elderly and persons with multiple chronic illnesses. As a result, the short office visit with a single provider has become an outdated model of care (Grumbach & Bodenheimer, 2002). Such visits can work for diagnosis of simple or specific problems but is ill-suited for the care of multiple, complex conditions or of persons at medical or social risk. Because primary care visits are of necessity brief, appointments do not leave time for prevention, counseling, evidence-based decision-making, facilitation of self care, use of culturally and contextually competent communication and other pre-requisites of good chronic illness care (Wagner, Austin, & Von Korff, 1996). Primary care services also take place apart from mental health services and linkages to community resources and outreach. Thus, the care is reactionary rather than planned and proactive while concerns about risk-management drive costly and unproductive testing.

The Psychologist in Primary Care

This mismatch in the design of American primary care has led to suggestions for reform. One suggested model, the Chronic Illness Model, calls for use of clinical information systems for care-planning and evaluation, practice redesign (e.g., team care, group visits, planned visits, case management), decision support (e.g., access to practice guidelines and expert input), and self-management support (e.g., patient education, training patients in goal-setting and behavioral change skills) (Bodenheimer, Wagner, & Grumbach, 2002a, b). A second model, commonly referred to as Integrated Care, proposed by a consortium of family medicine organizations (Future of Family Medicine Project Leadership Committee, 2004) focuses on an innovation in primary care training (Bucholtz et al., 2004) and practice (www.transformed.com) that stresses team-based care; integration of the psychosocial and medical aspects of care; culturally and contextually competent, relationship-centered care; and a focus on family and community as a determinant of individual health.

Combining the underlying concepts of the Chronic Illness and Integrated Care models involves shared decision making between primary care providers and behavioral health care providers. These models are best suited for a focus on the biopsychosocial rather than just biomedical or just psychosocial aspects of care, and addresses the realities of primary care (i.e. the fact that most primary care resources are utilized by a select few patients, mainly those with chronic health and/or behavioral health conditions). The models also rely on fluid, egalitarian team process, which in turn relies on excellent communication as well as respect for and understanding of diverse backgrounds, philosophies, and the viewpoints of individual team members. The assumption is that better patient outcomes can be achieved if team members are willing to curtail individual autonomy. An integrated care model is cost-effective even in large health care systems (Liu et al., 2003), matches patient preference (especially in the elderly) leading to increased utilization of mental health care (Areán, Alvidrez, Barrera, Robinson, & Hicks, 2002; Bartels et al., 2004; Chen et al., 2006; Hedrick et al., 2003); results in higher treatment adherence (Katon et al., 1999, 2002; Roy-Byrne, Katon, Cowley, & Russo, 2001); enhances clinical outcomes (Katon et al., 2002; Rollman et al., 2005; Roy-Byrne et al., 2001; Unützer et al., 2002), and can be offered systematically when the approach is setup pragmatically, with a focus on utilization of empirically based interventions (Zeiss & Karlin, 2008).

Training Opportunities in Integrated Care within the Eastern Virginia Medical School (EVMS) Clinical Psychology Internship Program

Although psychologists are in a unique position to improve primary care mental health services, the number of

psychologists who have trained in primary care settings is low. Without specific training experiences in primary care psychologists fail to understand the perspectives of primary care providers and patients and the needs of the primary care environment (Coyne & Thompson, 2003) and subsequently fail to make significant contributions to the prevention and treatment of medical and mental health diseases.

The implementation of new clinical care delivery models in primary care such as those just described offer psychologists promising avenues for collaboration. Unfortunately, psychologists, or for that matter mental health professionals in general, are not generally trained to address the challenges of integrated care. Integrated care is not simply placing a traditionally trained mental health professional in a primary care setting as primary care requires unique skills and a shift in perspective. Thus, a training model for developing the competencies needed to operate as a mental health professional in a primary care setting are described in the following section.

A Paradigm Shift

In 2002 the EVMS Clinical Psychology Internship Program was awarded one of 18 Graduate Psychology Education (GPE) grants offered nationally to psychology for the first time through the Health Resources Services Administration from the Department of Health and Human Services for a project entitled *Integrating Psychology Internship Training in a Primary Care Setting*. This grant was predicated on the premise that it was vital for psychologists to have supervised training in primary care as a prerequisite to offering integrated care (details of this grant funded project is highlighted in a review paper about three of the first GPE grants by Leventhal, Baker, Archer, Cubic, & Hudson, 2004).

The project was designed to provide interdisciplinary training for clinical psychology interns and family medicine residents. Four psychology interns trained fulltime side-by-side with family medicine residents in a variety of primary care settings. The training afforded these psychologists unique opportunities to serve as consultants and educators for family medicine residents by working on interdisciplinary family medicine treatment teams across a variety of settings which will be described in more detail under the performance reports section.

The project also allowed the competencies of 30 family medicine residents to be enhanced, especially as pertained to interpersonal and communication skills, compassionate patient care, mental health and substance abuse knowledge, professionalism and cultural diversity. The primary care patients served received treatments collaboratively designed by psychology interns and family medicine residents under the supervision of a licensed clinical psychologist and a family medicine preceptor. The resident(s) and psychology intern(s) were trained to reinforce one another's treatment efforts to enhance patient compliance. The training sites used provided services to a high percentage of minority patients, e.g. over half of the patients seen were minorities (largely African American). These psychology interns and family medicine residents also represented diverse cultures including groups determined to be underrepresented in the field (e.g., African American, certain Asian ethnicities). Consistent with the overall goals of all health care, the training model focused on addressing key twenty-first century health issues and the proposal was predicated on the interrelatedness of mental and physical health and how to address these issues in the most efficacious manner.

Due to the success of this interdisciplinary training program, in 2007 another GPE grant was awarded to the second author for a project entitled *Enhancing Patient Care by Collaboratively Training Psychologists and Primary Care Providers*. This new training project redesigned the psychology internship primary care experiences further to make opportunities available to all EVMS psychology interns in integrated care and to expose a larger number of family medicine residents to the role psychologists can play in primary care by training the psychologists within two family practice residency programs. The goal is to ultimately insure that all of the interns have exposure to family medicine preceptors and primary care patients. To accomplish this psychology interns will have opportunities for minor rotations in primary care mental health, co-lead a group based medical visit with a family medicine attending, participate in didactics in primary care psychology, and teach a behaviorally oriented didactic to family medicine residents.

Unique aspects of this training model center around the degree of interdisciplinary collaboration and education that occurs thus enhancing the ability of both disciplines to create a competency based educational program. The psychologists are trained in congruence with the recommendations of the American Psychological Association's Primary Care Psychology Curriculum Interdivisional Task Force (McDaniel, Belar, Schroeder, Hargrove, & Freeman, 2002) regarding competencies for individuals completing a model curriculum for primary care psychologists. The primary goal is for the psychology intern(s) to be able to show competencies in understanding the biological components of health, illness and disease and the interaction between biology and behavior; how learning, memory, perception and cognition can influence health; ways emotions and motivation can influence health; how social and cultural factors affect health problems, access to health care and adhering to treatment regimens; and how to assess

cognitive, affective, behavior, social and psychological reactions for all common conditions seen in primary care. A secondary goal is for the family medicine residents' general competencies and skill specific competencies related to behavioral topics to be simultaneously enhanced.

Key Components of the Integrated Care Training of Psychology Interns

To successfully implement the training at EVMS several key components are necessary which center around teaching the interns to unlearn many aspects of what they have learned about provision of psychology services during graduate school. Interns are taught to understand the perspectives of primary care patients and primary care providers and shown how services provided by the psychologist must be altered to allow for integrated care (see Table 1 for a summary of issues that must be addressed).

The integrated care model is introduced to the interns with a "When in Rome do as the Romans Do" philosophy. In other words the interns are taught that it is their job to learn the language and style of primary care not the responsibility of PCPs or primary care patients to adapt to psychology. Interdisciplinary coordination of care is role modeled and interns are encouraged to be easily contacted, welcome interruptions, see themselves as developing experts in interpersonal interactions that can facilitate the team process, and rely primarily on oral communication when treating medical patients followed by a brief note to document interaction with the patient or discussions with the providers. Education is provided about the role of various interdisciplinary team members and the interns are informed that the primary care physician is ultimately accountable for the integrated team care provided.

To build the intern's confidence in making the transition to operating in primary care and to assist them in avoiding intimidation, it is underscored that they must learn basic medical terminology, demonstrate the unique skills psychology can offer, provide practical advice, and have a sense of humor. A practical view of confidentiality is taught so interns truly understand the concept of a treatment team, offer full disclosure to the patient about what will and will not be shared, recognize the dilemmas created by secrets between health and mental health care providers, differentiate between what needs to be shared versus what is private (i.e. distinguish relevant information to patient care in a direct manner), and use written consents in specific circumstance as a safeguard.

Primary care settings treat diverse patients across the life span who present with diverse health and mental health concerns. Thus, a diversity of skills is needed and psychology interns are trained to carry a tool box of assessment measures, treatment tools and referral resources. Interns are provided with a portfolio of assessment measures designed for PCP, (e.g. PRIME-MD, PHQ-2 and PHQ-9, Beck scales, Geriatric Depression Scale, Mini-Mental State Examination; Cognistat, Conner's); patient handouts (e.g. tips on coping with depression, a relaxation

Table 1 Converging perspectives of primary care patients, primary care providers and psychologists completing training as usual (TAU) and suggested perspective for psychologists to provide integrated care (IC)

Primary care patients	Primary care providers	Psychologists (TAU)	Psychologists (IC)
• Reflect the population in terms of diversity and diverse needs • Present with multiple medical and psychological needs • See PCP generally when symptomatic • Expect a brief visit • Favor pharmacological interventions • Struggle to alter behavioral issues contributing to health concerns • Are not expecting psychological advice and interventions unless specifically requesting it • View referral to mental health as stigmatizing	• Have large caseloads with diverse concerns • Treat complex cases • Need to prioritize what to address at each visit • Are ultimately accountable for care provided by extenders • Endure intense time pressures • Assume ownership of patient's care • Need coordination of care • Assume an exchange of information • Feel underequipped to handle mental health issues and behavioral aspects of health care • Welcome practical support from mental health professionals	• Treat a small number of patients (usually in a specialized area) • Give confidentiality utmost importance over coordination of care • Operate largely in context of ongoing relationships with patients • Expect to complete in-depth assessments • Offer interventions in units of time (i.e. generally hourly visits) • Expect patients to engage in extensive courses of treatment • Provide solicited psychological advice to patient or patient's advocate	• Treat diverse patients with diverse issues • View treatment as a team process • Share information with PCPs • Conduct brief assessments • Use empirically based interventions (often modified to be offered in one brief encounter) • Integrate services seamlessly into health care visit to avoid stigmatization issues

script, AA meeting directories, pointers for parents with children with ADHD, sleep hygiene information) and referral information (e.g. index of local health and mental health care services, listing of support groups, internet website addresses for common issues such as bereavement, cancer, cardiovascular disease, depression, diabetes, and domestic violence) and taught how best to use them.

Efficiency is a hallmark of primary care. During their early training resident physicians and psychology interns are allowed ample time to assess complicated cases but ultimately visits are usually 15 minutes. Thus, to provide integrated care residents and psychology interns must learn to assess, diagnose and treat presenting problems quickly. Psychology interns are trained to identify themselves to patients as psychologists but to primarily describe their role to the patient rather than overemphasizing their profession (e.g. I'm Dr. Cubic, a clinical psychologist, working with Dr. Bluestein and I'm here to discuss strategies with you for coping with your headaches). It is underscored that identifying the profession avoids any possible misrepresentation of the provider as a physician, but emphasizing the purpose of the visit decreases the likelihood of stigmatization. Psychology interns are also trained to stick to the issue at hand and to use primarily cognitive behavioral and interpersonal approaches as the empirical basis for these interventions is strongest.

Lastly, the training in integrated care focuses on the importance of useful documentation on the psychology intern's part. Psychology interns are taught to forget (in part) what they learned about report writing in school. It is emphasized that PCPs are not impressed with theories, lengthy details or specific test scores, rather the focus of documentation should be on final conclusions and recommendations provided in succinct 1–2 paragraph descriptions. With the advent of electronic health records the psychology intern can document in the medical record [under specialized sections in some circumstances] and is encouraged to use clear headings. The psychology interns are also taught to word issues carefully (e.g. discussions about a marital affair could be worded as "discussed interpersonal stressor").

Other Components of the Training

In order to facilitate the collaborative model, psychology interns along with primary care providers and staff, receive training in interdisciplinary team skills and attended a variety of additional didactics on psychosocial issues and multicultural diversity. Skill areas focus on values clarification, methods of constructive disagreement, understanding diverse models of professional behavior, and an appreciation of group process. The team-building created by this project fosters interdisciplinary coordination and communication, and greater creativity in the management of the complex biopsychosocial problems seen in primary care. These didactics and group experiences supplement the standard seminars attended by the psychology interns on child and adolescent assessment and psychotherapy, cognitive-behavioral psychotherapy, multicultural diversity, sleep disorders, neuropsychology, ethics, professional development, and advanced personality assessment.

Outcomes and Evaluation

Empirical evaluation of the EVMS primary care interdisciplinary training experience is ongoing and has relied most heavily on performance reports by psychology interns who carefully record the number of patients identified as needing mental health services, the type of primary care illnesses and psychiatric disorders identified, and the types of interventions provided or referrals rendered. Additionally, the project has focused on reviews of scores from the family medicine residents on the Physician Belief Scale (Ashworth, Williamson, & Montanco, 1984), components of the in-service training examination that focus on behavioral issues and attitudinal questionnaires; pre and post tests completed by the psychology interns designed to measure knowledge and attitudinal biases regarding psychosocial interventions in primary care settings, the elderly, and at risk children; and trainee and patient satisfaction ratings.

Performance Reports

Psychology interns compile data on the number of patients seen, patients identified as needing mental health services, and other relevant tracking data. The sites included in the first data base are an inpatient family medicine program (SNGH), outpatient family practice clinic (GFP), two nursing homes (NH), an assisted living facility (CP), and at-risk children participating in a neurofeedback program for attention deficit disorder (NC). Across all of these settings, 66% of patients were female, 43% were from lower socioeconomic backgrounds, and 42% were African-American in terms of ethnicity. The data in Fig. 1 shows the fast pace and diversity of experience of interns training in primary care.

Table 2 shows typical demographics of patients seen in the outpatient family medicine practice based on a weekly schedule during a Depression Screening Project conducted by the second author. The table shows important characteristics of primary care. Of significant note, the table illustrates that the exposure the interns receive to minority patient populations is high, a reasonable portion of the patients seen need financial assistance, and most patients are seen for either physical examinations or routine visits.

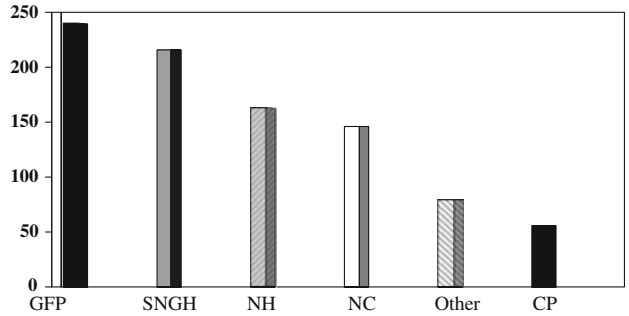

Fig. 1 Mean number of patient contacts per intern. *GFP* Ghent Family Practice Outpatient Clinic, *SNGH* Sentara Norfolk General Hospital, Inpatient Rounds with the Family Medicine Team, *NH* Nursing Home, *NC* Neuropsychology Center, *CP* Chesapeake Place Assisted Living Facility

Table 3 shows the distribution of presenting problems and types of interventions utilized.

The Physician's Belief Scale and American Board of Family Practice In-Service Training Examination scores

Scores on the Physician's Belief Scale and in-service training exam on the psychiatry subsection for family medicine residents were also proposed as methods of empirically evaluating the effects of participation in the integrated care training program. Changes in these test scores will be described but it is important to note that differences can not be clearly attributed to the new model implemented as other factors, (e.g. resident variables, increased emphasis on GME core competencies during this timeframe, faculty attrition and new hires) may have been influential.

The Physician's Belief Scale (Ashworth, Williamson, & Montanco, 1984) assesses a variety of attitudes and ideas that physicians may have about psychosocial issues both personal and professional. The scale reflects a physician's openness to mental health related issues and their view of a physician's role in treating mental health problems. Lower scores on the scale reflect openness to psychosocial issues. The scores obtained on pre-testing on the Physician's Belief Scale were $X = 69.9$ ($SD = 9.85$) with a range of 57 to 83 and on post-testing $X = 46.9$ ($SD = 11.12$) with a range of 33 to 78.

Prior to integration of psychology interns into the family medicine settings, EVMS family medicine residents had consistently scored below the national average on the psychiatry section of the in-service training exam, including scores in 2002. This subsection of the exam was reviewed as it most closely covers material related to behavioral issues, interpersonal skills, and mental health concerns. Improvements were noted on the 2003 examination and in subsequent years with residents more consistently scoring at and at times above the national average.

Pre and Post Tests

In the first grant project (2002–2004) psychology interns completed pre and post tests measuring their knowledge base and attitudes about primary care, geriatrics and at-risk children. Each of these measures were based on a standard in the field and then modified to fit the unique purpose of our training. For example, the assessment of geriatric knowledge was based on a pre-test recommended by Cooley et al. (1998) describing the knowledge practitioners should have to work with older adults. Likely due to the breadth of training across populations rather than depth, improvements across the cohort of trainees were noted, but

Table 2 Typical demographics of patients seen in the outpatient family medicine practice (by percentages)

Gender	Race	Insurance category	Visit type	Mood D/O previously documented	Mood D/O coded on screening
25.7 Male	32.4 Caucasian	55.7 HMO	30.39[a]	27.4	11.5
74.3 Female	44.9 African American	9.1 Traditional insurance	5.72[b]		
	1.3 Asian or Hispanic	12.9 Medicaid	3.90[c]		
	21.2 Unknown	2.4 Medicare	6.75[d]		
		19.7 Other	67.79[e]		
			9.61[f]		

Visit type categories

[a] Physical examination

[b] New patient visit

[c] Procedure clinic

[d] Routine visit long (>30 mins)

[e] Routine visit medium (15–30 mins)

[f] Routine visit short (<15 mins)

Table 3 Mean distribution of behavioral/mental health presenting problems and types of interventions utilized across 6 month periods

	Frequency	Percent		Percent
Primary psychosocial issue addressed			*Common interventions used across presenting issues*	
Depression	87	40.5	Pharmacotherapy	6
Anxiety	15	7.0	Brief counseling provided at visit by PCP/psychology team	29
Alcohol abuse	8	3.7	Intern provided individual therapy appointment for later date	26
Drug abuse	4	1.9	Intern/PCP involved family	22
Somatization	2	.9	Referral to community services	2
ADHD	1	.5	Referral to psychiatry	1
Eating disorder	2	.9	Referral for biofeedback	.5
Sleep disorder	7	3.3	Intern set patient appointment for group therapy	1
Marital problems	2	.9	Other	12.5
Family problems	5	2.3		
Personality disorder	1	.5		
Cognitive impairment	28	13.0		
Other	53	24.7		
Secondary psychosocial issue addressed				
Anxiety	18	23.7		
Alcohol abuse	8	10.5		
Domestic violence	1	1.3		
PTSD	1	1.3		
Sleep disorder	2	2.6		
Family problem	4	5.3		
Personality disorder	4	5.3		
Cognitive impairment	9	11.8		
Other	24	31.6		

not to the degree anticipated. The lowest scores at pre and post testing were noted on the assessment of knowledge and attitudes about at-risk children. Keeping in mind an N of 4 items, individuals showed considerable variability depending on the amount of patient exposure they had experienced at any given site. The following scores reflect pre and post scores for the cohort in each area tested: Primary Care (Pre = 50%; Post = 80%); Geriatrics (Pre = 74%; Post = 76.5%); and At-risk Children (Pre = 21%; Post = 39.3%). Because the second grant (2007–2010) involves minor rotations as opposed to major rotation opportunities in primary care pre and post tests are not administered.

Trainee Satisfaction

Psychology interns and family medicine residents were asked to complete a questionnaire designed to assess their view of the overall training program. The average scores obtained on this questionnaire are shown in Table 4 (1 = strongly disagree to 4 = strongly agree). Please note an asterisk reflects an item that was reverse scored.

In addition to the quantitative outcomes noted above qualitative comments were solicited. There were no negative comments made and below is a sampling of comments made by the family medicine residents and faculty.

Comments

> Regarding the psychology interns, I have been extremely impressed with their poise and confidence. They are very well trained and extremely competent at what they do. They offer so much to the practice and the residents often breathe an audible sigh of relief when they see that they are there for the day! They are eager to help, seek out work, and each of them has offered to help me with didactic presentations on their own, without solicitation. I can't praise them enough. Ghent is certainly lucky to have them there this year!!!!!!!!!!!!!!!
> Family Medicine Attending, GFP

> When I rounded at SNGH, I felt like I'd come home again, having the psychology person there as part of the team was very appropriate. The interns were helpful in their comments, in tune with the team and bringing up helpful ideas. Interns also volunteered to

Table 4 Trainee satisfaction data

Item #	Item content	Mean
1	…lead to an increased emphasis on psychosocial issues overall	3.50
2	…enhanced my comfort in treating psychosocial problems	3.17
3	…I am more likely to investigate psychosocial problems with my patients	3.50
4	…had no impact on the way I deal with psychosocial issues with patients*	1.50
5	…encouraged me to consider both organic and psychosocial problems in patient care concurrently	3.50
6	…I am more likely to routinely investigate psychosocial issues myself	3.17
7	…enhanced GFP residency training	3.50
8	I would be less likely to consult with a psychology intern about a patient…If they were not in the GFP setting	3.30
9	I view the psychology intern as an important personal resource in maintaining my emotional well being*	2.50
10	…enhanced the care received by patients at GFP	3.67

come back to speak with patients who clearly needed further exploration of concerns.
Chair, Family Medicine

I'd like to see as much of this model implemented as possible!
Family Medicine Resident

I have been very happy and satisfied with the interns being on the hospital rounds with us. Every patient we saw had psychological issues, and the interns alert us to those issues and volunteer to go back to see the patient after rounds. I have heard their discussions with the patients, which touched on the most pressing issues at hand, and did not make patients uncomfortable. I think they are understanding that many psychological issues are better dealt with in the outpatient clinic after discharge. Thank you for starting this wonderful program. The residents seem to like it a lot too.
Family Medicine Attending, SNGH

Interns have been an asset to have around. I think it has raised awareness regarding psychosocial influences in health and has been of assistance in direct patient interaction as well. They are personable and dependable contributors. Interaction with residents demonstrates good acceptance and utilization. In short—it's a real benefit to education and patient care. Thanks for the contribution.
Family Medicine Attending, Geriatrics

Patient Satisfaction

Periodically and at random intervals, patients were asked by psychology interns or family medicine residents to complete a questionnaire designed to assess their view of the care they received. These data are still in process of being analyzed and will be available at the end of the extended grant period.

Evaluations by Supervisor

The psychology interns and family medicine residents participating in this grant funded interdisciplinary project were part of a larger training program. Trainees were also evaluated through use of the standard mid and end rotation evaluations completed by supervisors. Given that this data is specific to individuals regarding their performance, the results are not described in detail in this article.

Summary and Conclusions

Clinical psychologists are in a unique position to partner with primary care when trained in medical settings to provide a wide range of brief, empirically based interventions that are rendered in a pragmatic, here-and-now oriented, focused, and finite manner. More opportunities for psychology trainees to complete practicum, internships and postdoctoral fellowships in primary care settings need to be developed in order to create a psychology workforce that can address behavioral aspects of health care and the reality that most patients seek their mental health care in primary care.

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