Journal of Clinical Psychology in Medical Settings, Vol. 11, No. 2, June 2004 (© 2004)

Psychologists in Academic Health Settings: Key Contributors to Dynamic Interplay Among Research, Clinical Practice, and Policy Domains

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Psychologists in academic health systems are in a unique position to impact the dynamic interplay among research, clinical practice, and policy domains. In addition to their specialty expertise in psychopathology, particular types of physical illness and disease, and health promotion, psychologists have substantial knowledge of human behavior, refined scientific skills, knowledge and experience in the effective delivery of clinical services, strengths in written expression, and a collaborative orientation. This combination of strengths makes psychologists extremely well-suited for (a) interdisciplinary efforts to develop and implement evidence-based assessment and intervention strategies with biological, psychological, behavioral, and social components, and (b) leadership and advocacy efforts that impact the quality and availability of health care services.

KEY WORDS: academic health systems; evidence-based psychosocial interventions; clinical practice, research, and policy.

INTRODUCTION

Academic health settings function as dynamic systems. Factors influencing the moment to moment equilibrium of these systems include scientific advances in health care; disciplines with differing priorities, standards, and accreditation guidelines; constantly evolving legal and ethical guidelines; financial pressures related to external reimbursement policies and the quality of internal financial management; priorities established by governing bodies within the academic health system; and broader political and economic influences. Although not exhaustive, this list highlights the multitude of interests represented, and pressures experienced by any such health system. These influences are best thought of as transactional. That is, there is a constant interplay among them that occurs across time.

Psychologists are in a unique position to impact this interplay. This is particularly evident when one peels away the necessary layers of administrative and financial management in an academic health system and considers the content focus or primary "reason for being" of these systems. The mission of these systems generally includes training the next generation of scientists and practitioners in the field of health care, expanding our knowledge base through empirical research, and providing state of the art (and science) clinical services. The mission also includes efforts to influence policies related to the accessibility and funding of clinical services, the quality of multidisciplinary training for health care providers, and the establishment and funding of research priorities. Psychologists have key roles to play in each of these areas. Aiming for an in depth discussion with examples, this paper will focus specifically on psychologists' roles in the dynamic interplay that occurs among the domains of research, clinical practice, and policy. The reader is referred to the article by Belar in this issue (Belar, 2004) for an in depth discussion of training initiatives and policies.

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1068-9583/04/0600-0083/0 © 2004 Plenum Publishing Corporation

Fig. 1. A model of the interplay among research, clinical practice, and policy in academic health centers.

Dynamic Interplay Across Research, Clinical Practice, and Policy Domains

As indicated in Fig. 1, there are reciprocal influences among research, clinical practice, and policy domains in an academic health system. Although drawn as uninterrupted arrows, the interface between domains is not seamless. For instance, new research findings may be ignored or minimized by policy-makers if they result in greatly increased costs, are burdensome to clinical providers, or are fraught with ethical problems. Such findings would neither be readily incorporated into a hospital unit's disease management guidelines nor would they likely be included in a faculty member's "best practices" lecture to trainees. On the other hand, scientific findings that are characterized by high levels of social validity (e.g., provider acceptance, patient acceptance) and feasibility (e.g., costs within "reason") will generally guide clinical practice—though there are delays related to the time it takes for the dissemination of new findings.

In a similar manner, policies within the academic health system and the broader federal government system will impact researchers and clinical providers. Within the academic health system, policies influencing researchers might include the relative emphasis given to external research funding in hiring, promotion, and faculty reward formulas. Furthermore, individual academic departments and department chairs often target certain content areas as research priorities for faculty. Nationally, new federal funding policies concerning research, such as program announcements and requests for applications (RFA's) from the National Institutes of Health, may create substantial momentum in a targeted area of health promotion as researchers are generally sensitive to funding priorities.

Within the clinical domain, if clinical providers report or service utilization data indicates that providers are spending the majority of their time on a small minority of "worried well" patients, policies may be developed within the health system to deal with these patients differently. Disease management or practice guidelines may be established, and limits may be set on reimbursable services. In addition, an RFA might be distributed to generate research directed at developing more effective strategies for screening, assessing, and managing these patients. Although perhaps not immediately apparent, the dynamic interplay across domains would be evident over time.

In an evolving health system, these types of influences are constantly occurring in a transactional manner. Specific changes may be rapid or may require years, depending on the players involved and the barriers encountered. It is also notable that one activity may take place in one academic health care center (e.g., research on experimental treatment) and another component (first use of new treatment in clinical practice) may occur in a second academic health care center. That is, the interplay is taking place at a national or global level.

Psychologists as Key Contributors to Dynamic Interplay

Psychologists' knowledge, skills, values, and diversity of roles within the academic health system enable them to make substantial contributions toward improving the health care delivery system. In addition to contributions within clinical, research, and policy domains, they are often able to activate or catalyze the interplay across domains.

Knowledge of Human Behavior

Psychologists' expertise in the area of human behavior is multifaceted. It includes an understanding of behavioral, cognitive, social, affective, biological, and environmental influences. This is complemented by an understanding of normal development, psychopathology, and illness or disease in the psychologists' areas of specialization. As highlighted in the recent Institution of Medicine (IOM) report, *Health and Behavior: The Interplay of Biological, Behavioral, and Societal Influences* (Institute of Medicine [IOM], 2001), efforts to improve the health status of individuals and populations

require a broad vision and an understanding of a variety of basic and applied sciences. This point is also emphasized in the integrated sciences model of health care (Carr, 1999). The human organism is continuously adapting to stress from biological, cognitive, sociocultural, and environmental domains, and treatments necessarily effect these domains and may result in the need for further interventions. A multidimensional or multivariate understanding is thought to be essential to our efforts to improve health care (e.g., Sahler & Carr, 2003). Highlighting the importance of such an integrated approach, two of the recommendations in the IOM report are as follows:

Recommendation 1. Funding agencies should direct resources toward interdisciplinary efforts for research and intervention studies that integrate biological, psychological, behavioral, and social variables.

Recommendation 2. Research efforts to elucidate the mechanisms by which social and psychological factors influence health should be encouraged. Intervention studies are needed to evaluate the effectiveness of modifying these factors to improve health and prevent disease.

The accurate assessment and understanding of health problems, the formulation of tailored multicomponent interventions, and an accurate understanding of patients' difficulties with treatment adherence benefit substantially from knowledge of human behavior and the multitude of factors influencing it. Psychologists have substantial expertise in this area.

Scientific Orientation

Given the longstanding tradition of training scientist–practitioners and clinician–scholars within psychology training programs, psychologists generally place a high value on the scientific approach and evidence-based practice. This value is accompanied by skills in theory-driven research, research design, and methodology—skills that are essential to the development and evaluation of improved assessment and intervention strategies. Scientist–practitioners and clinician–scholars tend to question assumptions concerning: current "best practices" for quality health care; which prevention activities truly make a difference; or what it is that actually "works" in a multicomponent prevention or intervention program. The scientific orientation, which to some extent reflects both the academic learning and socialization process that take place during training, manifests itself in a tendency to think critically and analytically about health promotion and disease prevention.

A clinical psychologist may approach a particular health or service delivery problem scientifically, working with colleagues to hypothesize potential risk factors or preventive strategies, and then designing and implementing an empirical study. With an educational background that emphasizes the integration of clinical practice and research, the psychologist has the scientific training to conduct a randomized controlled pilot study, to fine-tune the new procedure based upon initial findings, and then to further study issues of clinical efficacy and feasibility in the actual clinical setting.

Within the clinical practice domain, this scientific orientation manifests itself in the psychologist's scholarly approach to decision-making concerning the choice of assessment and intervention strategies for individual patients. Research data relevant to an individual patient's condition may be inconclusive, contradictory, or unavailable. Similarly, research findings from efficacy studies may not be readily incorporated into a specific clinical practice setting because there is insufficient information on whether the findings could be effectively and feasibly implemented in that setting. The Piagetian concept of accommodation is useful in considering how one domain (i.e., clinical) might incorporate new information generated by another domain (i.e., research). Even the most scientifically minded practitioner must often make accommodations, basing clinical decisions on a thoughtful integration of research findings, clinical wisdom, and a consideration of their specific health care setting and patient population. Thus, in addition to addressing clinical problems with empirical research, psychologists have a scholarly or scientific bent that enables them to solve clinical problems presented by single patients . . . making rapid decisions despite absence of comprehensive high quality data. A clinical problem-solver weights available evidence about a clinical case and uses scientific theory and data as a basis for problem-solving. Psychologists are well-trained in this particular interplay between research and clinical practice domains.

Clinical Services Knowledge/Experience

Psychologists' expertise in psychopathology and particular types of disease and physical illness are of undisputed importance to their contributions in

academic health systems. Furthermore, the types of knowledge and skill sets associated with their particular specialty area (e.g., health psychology, clinical child psychology, neuropsychology) provide opportunities for unique contributions. It is important to emphasize, however, that their clinical training and experiences extend beyond their specialized expertise to an understanding of broader nonspecific factors in clinical care and health care delivery systems. The list of such nonspecific factors includes an understanding of the roles of differing health professionals, medical–legal issues, record-keeping requirements, and patterns of communication within academic health systems. It also includes sensitivity to confidentiality and privacy concerns, and awareness of pertinent regulations in this area. Psychologists bring a unique combination of scientific skills and clinical savvy to their work in the academic health system.

Strength in Written Expression

Perhaps reflective of the highly competitive selection process for admissions to doctoral programs in clinical psychology as well as the doctoral training experience (e.g., dissertation), most psychologists have strong written communication skills. This nonspecific skill enhances psychologists' abilities to contribute in research, clinical, and policy/administrative domains within the academic health system. Contributions may include the preparation of grant applications and research reports, the design and preparation of manuals for clinical protocols and disease management guidelines, and administrative tasks such as the preparation of accreditation reports and departmental internal reviews. In terms of the dynamic interplay across domains, it is communication, both written and oral, that enables new research findings to inform clinical practice, clinical and ethical dilemmas to be addressed by improved policies, and new policies to be disseminated to the front lines of health promotion and disease prevention efforts.

Multidisciplinary/Collaborative Orientation

Most psychologists have extensive training and experience in multidisciplinary settings and are comfortable with a collaborative approach. Furthermore, because psychologists often fill multiple professional roles in academic health systems, they may be accustomed to functioning as the leader in some roles and as collaborators, consultants, or team members in other roles. This experience facilitates the collaborative process in academic health systems where there is usually no shortage of individuals who are accustomed to leading teams, programs, or units. Psychologists' use of operational definitions also tends to facilitate successful multidisciplinary efforts. This scientific language can be understood by others regardless of their discipline or specialty focus. By removing the barriers that can be imposed by discipline-specific or site-specific jargon, this form of communication is helpful to collaborative efforts that cross discipline boundaries.

Psychologists' Contributions to Interplay Among Domains

Three examples have been selected to highlight psychologists' contributions to the interplay between clinical service, research, and policy in academic health settings—an interplay that is essential to the process of improving the health care delivery system and the health status of our population.

Example 1. Interplay between research and clinical practice domains: Evidence-based psychosocial interventions for chronic disease. Health care providers routinely encounter clinical problems or dilemmas for which they lack comprehensive, evidence-based practice guidelines. These may involve a diagnostic dilemma, a poor response rate to current treatment strategies, severe side effects, poor treatment adherence, or the absence of strategies for dealing effectively with complex patient presentations (e.g., comorbid conditions that exacerbate each other). These clinical problems or dilemmas may be perceived as opportunities by researchers who are dedicated to improving the quality of health care. If relevant clinical studies are conducted, a dynamic interplay begins to take place between clinical service and research domains.

Interdisciplinary efforts to develop evidence-based assessment and intervention strategies with biological, psychological, behavioral, and social components (IOM, 2001) are already numerous for many disease states commonly treated within academic health systems. A primary example is cardiovascular disease, which stems from complex interactions between biological vulnerability, social and environmental stress, and behaviors such as cigarette smoking and excessive alcohol consumption (Notzon et al., 1998). It is also known that psychological factors such as hostility (e.g., Dembrowski, MacDougall, Costa, & Grandits, 1989)

and depression (e.g., Barefoot & Schroll, 1996) can increase individuals' vulnerability to cardiovascular disease and contribute to the prediction of disease outcomes. In discussing findings from several clinical trials and meta-analytic studies (e.g., Lau et al., 1992; Linden, Stossel, & Maurice, 1996; Oldridge, Guyatt, Fischer, & Rimm, 1988), Linden et al. concluded that psychosocial interventions should be routinely included as a component in cardiac rehabilitation programs to reduce mortality and morbidity.

More recently, Dusseldorp, van Elderen, Maes, Meulman, and Kraaij (1999) conducted a meta-analysis of 37 studies of the effects of psychoeducational programs (health education and stress management) for coronary heart disease patients. Citing results indicating that such programs were associated with a 34% reduction in cardiac mortality and a 29% reduction in recurrence of myocardial infarction, Dusseldorp et al. argue that psychosocial interventions aimed at modification of risk factors and reduction of emotional distress should be provided to all coronary heart disease patients. Although further research may identify specific types of psychosocial interventions for individuals with varying risk factors, lifestyles, and cultural contexts, the general recommendation for provision of psychosocial interventions for coronary heart disease patients is solidly evidence-based. Initial clinical observations informed clinical research, and the cumulative process of scientific inquiry and shared findings resulted in a growing body of converging findings that became substantial enough to impact usual or customary clinical care (e.g., Pearson et al., 2002). This story remains unfinished as additional research studies are being conducted and the interplay continues across domains. It is important to note, however, that psychologists have been key players in this interdisciplinary process, which is consistent with Brown et al.'s observation that the advent of evidence-based medicine has expanded opportunities for psychologists in health care (Brown et al., 2002).

Example 2. Interplay between clinical practice and policy: Reimbursement policies impact availability of health care. Key policies influencing clinical services include those that pertain to reimbursement for professional services. The relatively recent approval of Current Procedural Terminology (CPT) codes for "health and behavior assessment and intervention" (effective January 2002) acknowledges the importance of biopsychosocial factors across disease states. These codes are for services provided to patients with physical diagnoses and serve to broaden the range of health and psychological services captured by CPT codes. This important policy advance likely reflects several years of advocacy efforts coordinated by the Practice Directorate of the American Psychological Association (APA, 2003) in addition to a growing emphasis on interdisciplinary health care.

A number of psychologists involved in the direct provision of clinical services have taken a proactive stance to ensure that these policies are implemented in the best interests of patients. As one example of this interplay between policy and clinical practice domains, Holloway recently reported on the persistent efforts of psychologists in several states to advocate for improved Medicare policies on psychological services (APA, 2003). Most parameters on Medicare services are set by insurance carriers through local medical review policies (LMRPs). Psychologists in Pennsylvania worked proactively with the Medicare carrier in their State to develop guidelines for the new health and behavior codes. They developed and finalized the LMRP, but they had continued concern with this LMRP's implications for treating patients with co-occurring physical and mental illnesses. The psychologists persisted until they obtained written clarification indicating that if the primary diagnosis billed to Medicare is a physical diagnosis, psychologists can still be reimbursed under psychotherapy codes for services provided for the mental health disorder.

Continuing the dynamic interplay, these new "health and behavior assessment and intervention" codes will contribute to momentum in all domains. Research momentum builds to develop ever more effective interventions and to improve their feasibility in health care settings. Such research gradually impacts clinical practice. Education and training guidelines (e.g., Tovian, Rozensky, & Sweet, 2003) or self-assessment guidelines for the "ethical expansion of practice" (Belar et al., 2001) continue to develop in relation to new clinical procedures. Because the CPT manual is used by Medicare and other third party payers, approval of these new codes is only a first step toward reimbursement for services. Continued efforts in the policy arena can be expected to focus on issues of reimbursement. These will include the Health Care Financing Administration's (HCFA) reimbursement formula for Medicare services as well as the policies of other third party payers (APA, 2003). The dynamic interplay among research, policy, and clinical practice is evident in each of these activities.

Advocacy efforts were also recently waged in California in response to the psychotherapy LMRP

for patients with dementia (APA, 2003). The initial policy reportedly indicated that psychotherapy was inappropriate for patients with dementias and other organic conditions affecting cognition. California psychologists made use of psychological research on the effectiveness of psychotherapy for individuals with dementia, and they recommended revisions to expand both the guidelines for psychotherapy with these patients and the number of sessions available for nursing home patients. These revisions were accepted and an updated policy was put into effect. Psychologists were active in the interplay among policy, research, and clinical domains, which resulted in an improved health care delivery system and improved reimbursement for psychological services.

Example 3. Interplay between research, clinical practice, and policy: Models for the treatment of depression in primary care. Epidemiological studies point to the high proportion of mentally ill individuals who are treated in primary care settings. The extent of these patients' difficulties in terms of functional impairment and the exacerbation of medical illness is substantial. It has been reported that the average primary care physician spends more than 20% of his or her clinical practice time providing direct treatment for mental disorders (Howard, 1992), and that the majority of mental health services are provided within the primary care setting (e.g., Knesper & Pagnucco, 1987). As discussed by Kush (2001), the tendency of such patients to seek care in primary care settings, coupled with the high rates of psychiatric and medical comorbidity, lead to a natural and productive collaboration between clinical psychologists and primary medical care providers.

Efforts to address the problem of depression in primary care settings provide an excellent example of such interdisciplinary collaboration. Epidemiological findings from the National Comorbidity Study indicate that the lifetime prevalence of major depressive disorder is 21.3% for females and 12.7% for males (Kessler et al., 1994). In a study of more than 75,000 primary care patients, Zung, Broadhead, and Roth (1993) identified clinically significant depression in 20.9% of patients. The extent of impairment in these patients is substantial and often additive to the impairment associated with medical conditions (Wells et al., 1989). It is perhaps not surprising that the World Health Organization (WHO) has ranked depression as one of the most disabling of all diseases in the world, leading all other diseases in years lived with disabilities (Murray & Lopez, 1996).

Several randomized controlled studies have investigated interventions for depression that involve the delivery of services by mental health professionals in the primary care setting. Two studies by Katon and his colleagues employed a biopsychosocial model for the delivery of treatment by mental health professionals in the primary care clinic (Katon et al., 1995, 1996). Each study emphasized coordination between primary care providers and on-site mental health professionals. One study investigated a Liaison Psychiatry model, which involved up to 10 patient visits with liaison psychiatrists. Psychiatrists served as consultants to the primary care physicians and also monitored pharmacy data concerning patient refills of antidepressants, with notification to the primary care team if patients failed to obtain refills on schedule. This model had several positive effects, including improved satisfaction with care and improved clinical outcomes in patients with major depression, and adherence with antidepressant medication regimens (Katon et al., 1995). One drawback was that providers had a tendency to revert to previous prescribing patterns after the study ended.

The second study evaluated the Integrated Program model, which involved in-person and telephone follow-up visits with psychologists. This intervention was based on several psychological theories and emphasized psychoeducation, development of coping skills, behavioral experiments tailored to patient's psychosocial goals, self-assessment techniques, and development of a tailored relapse prevention plan. This model also resulted in significant improvements on depression outcome measures for patients with major depression (Katon et al., 1996). One advantage of the Integrated Program model was its feasibility, presumably because it supported treatment options already in operation in the primary care setting. Eighty-eight percent of the patients completed basic program elements; patients assigned to the Integrated Program were more satisfied with treatment than control group patients at all follow-up points, and participating physicians preferred the Integrated Program to specialty mental health treatment for their patients.

In the dynamic interplay that occurs among clinical, research, and policy domains, there are still issues related to fiscal feasibility and cost offset associated with these health care delivery models. Despite the positive findings reported above, full implementation is currently not sustainable in most academic health systems. As the interplay among domains continues to take place, the models may need to become more cost-effective and garner even more

empirical support, including data concerning possible cost-offsets.

Psychologists have much to contribute to the interdisciplinary effort to identify and treat depression in primary care settings. Possible approaches include consultation to assist with the development and implementation of screening efforts to improve recognition of depressive disorders (e.g., Flynn, Marcus, Barry, & Blow, 2003; Zygowicz & Saunders, 2003) and involvement in clinic-wide programs for the on-site delivery of brief, evidence-based treatments by mental health providers (e.g., Robinson, Wischman, & Del Vento, 1996). Other options are patient- or provider-centered consultations concerning psychosocial interventions for reducing depressive symptoms, improving adaptive functioning, and enhancing treatment adherence. Clinical providers who work in primary care settings emphasize that these new approaches must fit and be workable in the framework of a fast-paced primary care setting and also appropriate for a wide variety of medically ill patients (Robinson, 1998).

SUMMARY

Psychologists fill a variety of roles in academic health systems. Given the breadth of their training and skill sets, as a group they are not limited to one clinical, teaching, research, or administrative role. Some psychologists function as full-time clinical providers or full-time research investigators, whereas others fulfill multiple roles as clinical providers and educators, or as clinical providers, educators, and researchers. Still others are promoted to administrative and leadership positions within the academic health system. Each of these roles involves psychologists in the dynamic interplay between clinical practice, research, and policy domains.

It is only a subset of individuals in academic health centers who have the combination of knowledge, tools, and scientific values to take the lead in addressing gaps in our knowledge. Such efforts require a broad knowledge base that crosses the areas of health/disease, biobehavioral and social influences, clinical service delivery, and the scientific method. It also requires a scientific "bent," an interdisciplinary problem-solving style, and a drive to learn, to pose and test hypotheses, and to move the field forward. Psychologists' knowledge base and clinical abilities uniquely position them to make contributions within academic health systems, and the broader field of health promotion and disease prevention.

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