There is a wealth of professional opportunities for practicing psychologists, particularly given the recent recognition of psychology as a health care profession. A number of dimensions are discussed that can be used as a heuristic to outline the participation of psychologists in the general health care arena. Dimensions include the breadth of disease categories in which psychology has been involved, the involvement of psychologists at different stages of the progression of illnesses, and the diverse roles that psychologists may play in health care. Examples are provided to exemplify the contributions psychologists have made to health care. Recommendations are made to strengthen psychology’s role in the health care system. Recent challenges are also reviewed regarding the association of health care and the delivery of services that demand the participation of psychologists.

Changes in the nature of health problems over time have been associated with increased opportunities for psychologists in health care. The purpose of this article is to highlight these expanding employment opportunities for psychologists within health care. With medical advances and improvements in living conditions, contemporary medicine has focused on psychological determinants of health.
nants and sequelae of disease. In fact, the U.S. Public Health Service has reported that lifestyle and behavioral factors constitute 7 of the top 10 leading health risk factors in the United States (cf. VandenBos, DeLeon, & Belar, 1991). The first goal of this article is to highlight some of the dimensions that can be used to describe the scope of opportunities for, and contributions of, the psychology profession in the general health care field. The second purpose is to outline some of the challenges our profession faces as we continue to expand our roles within the health care system.

With the growth of behavioral medicine, psychologists have had increasing opportunity to collaborate with other health care disciplines in addressing important health issues. Over the years, we have witnessed the application of behavioral principles to a broad range of medical problems (for review, see Beutler, 1992). Collaborative endeavors between psychology and medicine have contributed to improving health outcomes and reducing mortality.

Although traditional medicine has largely focused on the treatment of disease, recent concerns regarding the rising costs of health care and the cost-effectiveness of treatments may help shift the focus of health care toward preventive efforts; psychologists are well positioned to contribute in this area. Our nation’s recent emphasis on health promotion highlights the importance of psychologists’ work toward the prevention of specific disorders and diseases as well as health promotion. Finally, with the advent of evidence-based medicine, psychologists have had unique opportunities to contribute to the empirical basis of health care. Psychologists’ expertise in research and evaluation should allow significant contributions to empirically based treatments, both physical and psychological. These changes have provided psychologists with many opportunities to expand beyond traditional practice to exciting new domains in the delivery of health care. There are already abundant signs that psychology’s impact is being felt in the medical community. For example, it has been shown that in primary care settings, medical utilization and medical costs can be reduced via psychological interventions (cf. Sobel, 1995).

A Framework for Examining the Role of Psychology in Health Care

To review the breadth of contributions psychology has made to health care is beyond our scope in this article. However, it is important to recognize psychology’s contributions to health care for the purposes of reimbursement for services, federal funding, and future training endeavors. Dimensions include the range of disease states that psychologists have worked with, the diverse services that psychologists provide, and the timing of psychologists’ contributions to health care, ranging from primary through tertiary prevention.

Within the wide range of disease entities, psychiatric or mental health disorders are conceptualized as health conditions having the same importance as other disease categories. Psychologists have been involved in virtually all of these disease categories through research and/or clinical practice. For many of the diseases, there are interventions grounded in psychological theory that may be used to prevent, manage, or ameliorate the symptoms or sequelae of the disease. To participate in the management of these disorders, psychologists have developed a broad range of treatments, including empirically supported interventions ranging from weight-control programs to cognitive–behavioral therapy and a host of other interventions that have been shown to significantly improve health and well-being.

The Timing of Psychologists’ Contributions to Health Care

Traditional psychological practice has emphasized a tertiary care role in the mental health arena. However, psychologists have played an integral role in public health initiatives, with researchers, service providers, and policymakers calling for the inclusion of prevention efforts in public health policies (e.g., Lorion, Myers, & Bartels, 1994). Such calls for change in the delivery of health care support psychology’s contributions in the areas of primary and secondary prevention activities and across a broader range of health conditions.

Primary prevention refers to those efforts aimed to decrease the prevalence of a disease or disorder by reducing its incidence (Caplan, 1964). Thus, primary prevention addresses risk and protective factors that may influence the onset of a disease in the general population. The goals of primary prevention are to prevent specific disorders and diseases and to foster the general enhancement of health through education. Secondary prevention refers to those efforts aimed at reducing the prevalence or severity of a disorder via early identification and treatment (Caplan, 1964). Prevention at this level encompasses work with at-risk populations, the assessment of early disease states, and the implementation of interventions to prevent the exacerbation of symptomatology. Finally, tertiary prevention refers to efforts to minimize the sequelae of established disorders or diseases via rehabilitation (Caplan, 1964).

Primary prevention. Primary prevention, or health promotion, has become a priority in health policy initiatives (e.g., Kaplan, 2000). This has been reflected in the growth and development of programs to promote health and reduce those risk factors associated with illness. Programs to promote healthy dietary and exercise habits in an effort to prevent or delay the onset of disease exemplify primary prevention. An example of a primary prevention initiative is illustrated in an investigation conducted by Rodrigue (1996) that evaluated a program designed to promote healthy attitudes and behaviors related to sun exposure. The comprehensive program not only provided factual knowledge regarding sun exposure but also taught behavioral skills and addressed personal risk factors and barriers to behavior change. Findings revealed that the intervention was successful in changing participants’ attitudes and beliefs about sun exposure, thereby increasing behaviors that are consistent with reduced risk for skin cancer.

Secondary prevention. Psychologists play an important role in secondary prevention efforts. Targets for secondary prevention efforts might include individuals at high risk for adverse health outcomes due to risk factors that are biological (e.g., genetic disorders), environmental (e.g., familial and sociological), and ethnic or cultural (e.g., some diseases are more prevalent among specific ethnic groups). Psychologists have successfully employed secondary prevention efforts with premature and low-birth-weight infants at risk for health problems and developmental and cognitive delays. One example of the many successful mother–infant programs that have been developed is the Infant Health and Development Program, which comprises pediatric follow-up plus family support and psychoeducation, as well as educational day
care from birth to 3 years of age (Bradley et al., 1994). An examination of the efficacy of this secondary prevention program in a sample of low-income families recruited from hospitals in eight cities across the United States yielded positive effects on infant health and development beyond those provided by pediatric follow-up alone.

Another example of secondary prevention is a study of middle-aged executives presenting with risk factors predictive of coronary heart disease (Roskies et al., 1987). Participants with marked Type A behavior and excessive cardiovascular responses to laboratory stressors received an intervention that comprised aerobic exercise, weight training, or cognitive–behavioral stress management. Findings revealed that although both aerobic exercise and weight training had a positive impact on strength and fitness, only the cognitive–behavioral intervention was associated with significant reductions in Type A behaviors. These examples reflect only two of the many investigations that have revealed improved health-related outcomes when psychosocial interventions are incorporated into health care.

**Tertiary prevention.** For those individuals suffering from a disease or an illness, psychologists frequently have employed tertiary prevention efforts to alleviate suffering and to reduce problems that are residual to the illness or disorder. Numerous empirically supported behavioral interventions have been used to manage pain (e.g., Kerns, Turk, Holzman, & Rudy, 1986). For example, a number of psychosocial variables (e.g., cognitive distortions such as catastrophizing) have been found to be related to the management of the excruciating pain associated with sickle-cell disease (Gil, Abrams, Phillips, & Keefe, 1989). Gil et al. examined a program that employed a cognitive-treatment paradigm to train patients with sickle-cell disease to use active coping strategies. The successful use of these strategies was associated with reductions in patients’ reports of pain. In another study focusing on tertiary intervention, patients with chronic fatigue syndrome were assigned randomly to receive either medical care or medical care coupled with cognitive–behavioral intervention (Sharpe et al., 1996). Findings revealed that the addition of cognitive–behavioral therapy to medical care was associated with better outcome; of the patients receiving the cognitive–behavioral intervention, 73% attained normal daily functioning, compared with 27% of the patients who received traditional medical care only.

Traditional perceptions of psychological practice generally focus on the domain of tertiary prevention. However, recognition of the significance of the timing of interventions has grown over the years as the focus of health care has placed greater emphasis on disease prevention and cost reduction of long-term health care costs. For some, this represents a paradigm shift from treating diseases and disorders to the promotion of health and prevention of disease, necessitating recognition that potential clients are not only those who are ill but also those who are at risk for various adverse health outcomes (Rae-Grant, 1991).

**Service Activities Provided by Psychologists**

The services provided by psychologists in health care delivery are varied and include such activities as assessment, intervention, and liaison.

**Assessment.** Psychologists may be asked to evaluate or assess a range of factors associated with health, including mental health status, factors contributing to disease processes, psychological factors affecting manifestation of symptoms, styles of coping, and psychological adaptation to, and consequences of, disease. For example, the psychologist may be asked to assess the emotional capacity of an individual about to undergo an organ transplant and to determine whether the individual is capable of adhering to complex medical procedures. Recently, normative data have been published for a battery of psychological tests used to assess cardiac (Sears, Rodrigue, Sirois, Urizar, & Perri, 1999) and liver transplant (Streisand et al., 1999) candidates.

Assessment occurs at different times during the progression of a disease or an illness. In the case of breast cancer, for example, assessment at the level of primary prevention might involve the evaluation of candidates for genetic screening for breast cancer (Carter & Hailey, 1999). Secondary prevention efforts in the area of assessment might involve the evaluation of depressive symptoms and anxiety among women recently diagnosed with breast cancer. For example, Tjemsland, Soreide, and Malt (1996) examined acute traumatic stress responses in early breast cancer and found that nearly half of the patients reported high levels of intrusive symptomatology and that approximately one third reported avoidance symptoms. Finally, assessment at the level of tertiary prevention might involve the evaluation of posttraumatic stress disorder symptoms following diagnosis and treatment of breast cancer (Andrykowski, Cordova, Studts, & Miller, 1998) or the assessment of memory functioning among women who had received systemic chemotherapy for breast cancer (Wieneke & Dienst, 1995).

**Intervention.** Psychologists’ intervention efforts, like their assessment efforts, have been directed across a range of disease categories and across different time frames in the progression of disease. Intervention occurring at the time of primary prevention (health promotion) might include programs in occupational and educational settings designed to promote exercise and healthy eating patterns. Secondary prevention, or early intervention, might include teaching children at risk for depression to challenge pessimistic thinking (Jaycox, Reivich, Gillham, & Seligman, 1994), implementing a smoking cessation program with cancer survivors (Eriksen & Kondo, 1989), or providing stress-reduction interventions to patients who have suffered myocardial infarctions in an effort to prevent subsequent lethal coronary episodes (Frasure-Smith & Prince, 1985). The Elmira Prenatal/Early Infancy Project is an excellent example of a preventive intervention that targets an at-risk population to prevent health, social, and psychological problems in children and their mothers (Olds et al., 1998). The program targets children deemed at risk (due to variables such as young maternal age, single-parent status, or low socioeconomic status) and makes available prenatal care, primary pediatric care, and a range of social services. In a well-designed, randomized control trial, this program has demonstrated positive results, including reduced rates of child abuse and neglect, fewer emergency room visits and accidents, and greater use of formal and informal support services. Furthermore, long-term effects have been documented in a 15-year follow-up (Olds et al., 1998).

Finally, tertiary intervention includes traditional psychotherapy efforts to ameliorate the residual effects of mental illness, as well as efforts to promote adaptive coping among individuals suffering
from chronic or acute conditions. For example, Caudill, Schnable, Zuttermeister, Benson, and Friedman (1991) studied the impact of a behavioral group intervention targeting the psychological and physical stress associated with chronic pain. Participants included over 100 patients who had endured chronic pain for more than 6 years. Following the 10-week intervention, patients reported reductions in physical pain and psychological distress. The program also lowered the cost of subsequent health care by significantly decreasing patient clinic visits over a 2-year period following participation in the program (Caudill et al., 1991).

Liaison. Liaison activities can be defined as didactic activities provided by psychologists to other health care providers. These activities may involve educating other professionals regarding psychological issues associated with health and the services that may be provided by psychologists. Liaison activities highlight a number of areas in which psychologists have expertise and might involve lecturing to nursing staff regarding pain management, assisting medical staff in addressing issues associated with death and dying, or educating staff regarding those factors that will maximize patients' adherence to medical treatment regimens. At the level of primary prevention, liaison activities might include teaching school nurses how to educate children and adolescents regarding the risks of smoking. At the level of secondary prevention, liaison might involve providing in-service training to educate teaching staff on how to facilitate a child’s return to school after initial treatment for cancer. Finally, liaison activities at the late or tertiary stage may include training staff at a cancer clinic to assess and recognize problems in posttreatment adjustment among cancer survivors.

Some of the roles that psychologists may play and the timing of specific services they may provide are conceptualized in Figure 1. Timing of assessment and intervention are likely to assume greater importance during the next several years as the focus shifts to preventing disease and reducing the economic burden of health costs. The health matrix model recognizes that service and prevention activities may be applied across the spectrum of diseases as psychology continues to make a contribution to health care. Some of the specific services that psychologists can provide when participating in the care of individuals with asthma are shown in Figure 1.

Focus of Service

With respect to focus, psychologists may become involved in the health care system at different system levels. Services may target individuals, families, classrooms or schools, work sites, communities or, more broadly, federal and state public policy. Psychologists have long been involved in service delivery at the individual and family level. At the school level, Cunningham and colleagues (1998) implemented a student-mediated conflict-resolution program in three elementary schools. These investigators found that this school-based, student mediation program reduced physical aggression observed on playgrounds by more than 50%. Psychologists have also been increasingly influential in the shaping of federal and state policy. In fact, in 1995, the Public Policy Office of the American Psychological Association (APA) published A Psychologist’s Guide to Participation in Federal Policy Making (APA, 1995). This volume developed partially out

Figure 1. Health service matrix role.
of APA’s participation with the American Association for the Advancement of Science Congressional Fellowship program. Since 1974, 75 psychologists have been selected as APA Congressional Fellows and have represented the field of psychology to policymakers and scholars from other disciplines. Serving in the U.S. Congress, they have furthered the enactment of specific pieces of federal legislation, brought experts from across the nation to testify at congressional hearings, and enlightened policymakers about the value of psychological knowledge in addressing many of society’s most pressing concerns (Rickel & Becker, 1997).

One example of psychology’s increasing voice in public policy issues in the health arena is the work of Lizette Peterson and colleagues (e.g., Peterson & Stern, 1997) regarding accidental injuries in children. In a recent review, Tremblay and Peterson (1999) outlined how injury-prevention efforts can be enhanced by using our knowledge of behavioral principles and child development. They argued that the training of clinical psychologists provides them with unique skills with which to assess practices that place children at risk. They also argued that psychologists must work collaboratively with others (i.e., citizens, other professionals) to mount persuasive campaigns to target the reduction of accidental injuries in children. Finally, Tremblay and Peterson delineated obstacles that may have stunted federal emphasis on injury prevention and provided specific suggestions to improve public policy.

Setting

Psychologists have rendered services in many different types of settings. In the past, the traditional setting has been the private office, followed by community mental health centers. Other settings have included hospitals, correctional institutions, schools, nursing homes, and assisted-living facilities. For example, the work of Cowen and colleagues (see Cowen et al., 1996) has focused on the school setting as a venue for preventive efforts. The Rochester Primary Mental Health Project screens children en masse soon after they begin school. Children designated as at-risk for maladjustment participate in therapeutic activities with parents who serve as child aides. This program is notable for its active, systematic screening for early school maladjustment, its contextual relevance, and the manner in which it has wedded research and clinical service and used research findings to improve service delivery.

Cunningham, Bremner, and Secord-Gilbert (1994) developed a community-based parent-training program in an effort to increase the availability, accessibility, and cost effectiveness of intervention services for parents of children with behavioral problems. In a randomized trial comparing the community-based program with traditional, clinic-based parent training, parents of children with severe behavior problems were more likely to enroll in the community program. Also, families who participated in the community program reported greater improvements in child behavior and better maintenance of these improvements than did families who received clinic-based services (Cunningham, Bremner, & Boyle, 1995).

A 1998 study by APA found that the vast majority of APA’s licensed practitioner members were continuing to provide traditional mental health services in independent practice settings (Phelps, Eisman, & Kohut, 1998). However, newer graduates were more likely to be working in some form of medical setting, suggesting a trend to move from independent practice to multidisciplinary settings. In large part, this has been due to changes in the funding of mental health services, but it may also reflect the fact that the most frequently cited content of training in clinical programs is in health or behavioral medicine (Sayette & Mayne, 1990). This clearly illustrates that the practice of psychology is not limited to private offices or mental health clinics. It is expected that there will be increasing opportunity for psychologists to participate in nontraditional health care settings.

Domains of Functioning

Although psychological services traditionally have targeted psychosocial and cognitive functioning, which may include emotional, behavioral, and neuropsychological functioning, there has been increasing recognition that psychologists have contributed to the enhancement of functioning in other domains. Psychologists have been involved in the prevention and management of physical symptoms and disorders. For example, psychologists have played an important role in targeting physical functioning in cardiac rehabilitation and programs for the management of pain, weight, and diabetes. Also, psychologists have assessed problems and designed interventions in the academic domain (e.g., assessment of learning problems). In the occupational domain, industrial-organizational psychologists have made numerous contributions to reducing work-related stress, increasing employee productivity, and enhancing safety in the workplace. For example, DerKarabetian and Gebharbp (1986) examined the effects of employee participation in a physical fitness program and found that participation in the program was associated with greater job satisfaction and fewer days missed from work due to illness. Psychologists have also made efforts to help diminish the frequency of accidents or injuries in the workplace. For example, Sulzer-Azaroff, Loafman, Merante, and Hlavacek (1990) implemented an injury prevention model in a large industrial plant and found that the intervention increased target safety behaviors among employees and significantly reduced the number of accidents and injuries resulting in time lost from work.

The Role of Psychologists in Health Care

As highlighted above, psychologists have made significant contributions to health care as providers of a variety of clinical services. In addition, the unique training of psychologists in research design and methodology makes the discipline an ideal resource in health care research. Psychologists have worked with other health professionals across an array of disciplines (e.g., medicine, nursing, and occupational therapy) in conducting their research. As researchers, psychologists have also worked to develop measures to assess specific areas (e.g., quality of life) and have empirically validated interventions, studied health service utilization, and delineated risk and protective factors for predicting health outcomes. Increasingly, psychologists have been called upon by pharmaceutical companies to design and evaluate clinical trials. For example, psychologists have led research teams that have conducted pharmacokinetic studies to examine drug concentrations over time and provide essential information for determining appropriate dosing and dose frequency (e.g., Pelham et al.,
Such organization is the Children's Oncology Group, a consortium funded by the National Cancer Institute and mandated to conduct research in the area of pediatric cancer epidemiology, prevention, and control. An important committee of the Children's Oncology Group is the psychology committee that is responsible for developing protocols to evaluate the long-term psychological effects of the cancer experience and to examine late effects, or potentially deleterious long-term effects, on cognitive functioning that may be associated with the disease and its treatment (e.g., Lockwood, Bell, & Colegrove, 1999). The Centers for Disease Control and Prevention is another example of a major health organization that has recognized that psychology makes a unique contribution to public health and is an important discipline within the health care arena, alongside other disciplines such as epidemiology, laboratory sciences, and other traditional biomedical sciences (Snider & Satcher, 1997).

Psychologists have also been educators, providing in-service training about health and mental health issues to schools, businesses, and health organizations. They have taught and supervised trainees in psychology and other disciplines (e.g., nursing, medicine, social work). In addition, psychologists have been involved in disseminating psychological expertise to the public by participating in community education programs.

In addition to clinical, research, and teaching activities, psychologists have had increasing opportunities in the areas of administration and management within the health care arena. For example, psychologists have filled such administrative roles as administering grants or conducting program evaluation and outcome assessments. Psychologists might also serve as multidisciplinary team leaders in various medical clinics (e.g., a cystic fibrosis clinic) or program directors for health programs such as cancer wellness centers or summer camps for children with chronic illness.

Perhaps one of the greatest contributions psychologists have made to health care is the development of theoretical and conceptual models to aid in the understanding of people's attitudes and behaviors related to health, the influence of stress on illness and related behavior, and people's adjustment to illness (Taylor, 1990). For example, the transtheoretical model of behavior change developed by Prochaska and colleagues (Prochaska & Velicer, 1997) focuses on individuals' decision-making processes along a continuum of readiness to change a problem behavior or adopt a desirable, health-enhancing behavior. The model outlines five stages through which an individual may progress: precontemplation, contemplation, preparation, action, and maintenance. A number of processes have been outlined that occur as individuals progress through these stages of behavior change (Prochaska & Velicer, 1997). Knowledge of these processes and stages of change has helped in the design of intervention strategies to facilitate behavior changes that will ultimately impact health outcome. The transactional model has been applied to a number of health-related behaviors and outcomes, including smoking (DiClemente et al., 1991), exercise (King et al., 1998), condom use to prevent the transmission of HIV (O'Campo et al., 1999), self-management strategies of patients with arthritis (Keefe et al., 2000), and receipt of mammography (Rakowski et al., 1998).

Summary

The above dimensions highlight the diverse ways in which psychologists can participate in health care. Over the years, psychologists have made significant research and clinical contributions to the prevention and treatment of an expanding array of diseases (Resnick & Rozensky, 1996). Opportunities for psychologists in primary and secondary prevention will likely continue to grow because of national efforts to decrease the cost of health care and the resultant changes in health care delivery. It is reasonable to expect that this growth will be sustained as psychologists continue to make viable contributions to the prevention of disease states, to an understanding of the psychosocial influences on the onset and course of illness, and to a delineation of important psychosocial factors in the management of illness and delivery of health-related services. Psychological services have targeted multiple domains of functioning, ranging from the psychological and physical functioning of individuals to levels of safety in the workplace.

Challenges and Opportunities as Psychology Continues to Grow as a Health Care Profession

As has been demonstrated in psychologists' clinical practice and research, psychology can be conceptualized as a health profession (Belar, 2000). As financial pressures grow in the health care system, psychology will thrive best by promoting its contributions to the primary care domain in preventing mental and physical health problems and managing existing ailments and by continuing to interact and share its knowledge with other health care disciplines so as to maximize its contribution to human welfare. To illustrate the breadth of health issues and concerns addressed by psychology as a profession within the health care domain, we have highlighted only a few of the clinical and scientific contributions that psychologists have made. The growth of psychology in the health care arena is exemplified in the remarks of former U.S. Department of Health and Human Services Secretary Donna Shalala, who said that the year 2000 marked the largest increase in federal funding for behavioral research across federal government organizations, including the National Science Foundation and the National Institutes of Health (NIH), and that it is anticipated that behavioral research programs will be a core component for each of the NIH programs (cited in Foxhall, 2000). As psychology continues to grow as a health care profession, several challenges and opportunities emerge. These challenges are conceptualized at the clinical, organizational, and systemic levels in Table 1.

Ethical issues encountered in health care settings are apt to be different than in settings in which psychologists have traditionally practiced, and there will be differences in the application of psychologists' ethical standards within health care settings (Koocher & Keith-Spiegel, 1990). Changes in health economics and service delivery systems (e.g., managed care) have also brought about increased attention to ethical issues encountered within health care settings. Thus, some revision and augmentation of ethical stan-
Table 1

Challenges to Psychology as a Health Care Profession With Regard to Clinical, Organizational, and Systemic Activities

<table>
<thead>
<tr>
<th>Clinical</th>
<th>Organizational</th>
<th>Systemic</th>
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<tr>
<td>Provide greater delivery of services in the primary care setting</td>
<td>Revise ethical standards of psychologists to reflect clinical activities in health care settings</td>
<td>Integrate behavioral health and physical health through research and grant activities</td>
</tr>
<tr>
<td>Manage comorbid psychological problems on inpatient services and outpatient clinics</td>
<td>Develop skills for interdisciplinary (e.g., psychologists, physicians, nurses) clinical communication so psychologists may work in health care settings</td>
<td>Develop data at the local and national levels focused on cost offset and clinical utility</td>
</tr>
<tr>
<td>Evaluate patients’ suitability for transplantation</td>
<td>Develop CPT codes that recognize psychological services in clinical health care settings</td>
<td>Broaden training opportunities for psychologists in various health care settings</td>
</tr>
<tr>
<td>Use family therapy to increase adherence to various medical procedures for individuals with asthma</td>
<td>Develop curriculum that enhances training of psychologists to actively engage in clinical activities within a health care environment</td>
<td>Increase psychopharmacology training for practicing psychologists</td>
</tr>
<tr>
<td>Use psychological testing to evaluate the toxicities associated with chemotherapy to treat breast cancer</td>
<td>Explore health service provider licensure for psychologists</td>
<td>Arrange for full voting membership of psychologists on medical staff</td>
</tr>
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Note. CPT = current procedural terminology.

standards, as well as promulgation of new ethical guidelines relevant to unique ethical dilemmas that may be encountered in health care settings, may be required. Salient issues in health settings include withholding and withdrawing treatment, informed consent for medical procedures, evaluation of capacity to consent and elements of informed medical decision making, confidentiality, and record keeping. In traditional medical settings, patients are often relegated to a dependent position and exposed to a number of providers who will be making decisions regarding their care. This is in contrast to traditional psychological practice in which there are typically fewer parties involved (e.g., often only the client and provider). Psychologists providing services to individuals with a chronic illness face particular challenges regarding confidentiality that include communication of information to the referral source, charting information in a traditional medical chart, and discussing the patient’s psychological status with a multidisciplinary team or the patient’s family members. Such issues are apt to be more commonly encountered in medical settings and thus warrant special consideration.

As the practice of psychology in medical settings and broader areas of health has grown, service delivery has expanded beyond the psychological services covered by the traditional mental health current procedural terminology (CPT) code system. So that appropriate reimbursement may occur, new procedure codes that recognize treatment of specific medical conditions with psychological interventions are needed. Following several years of advocacy, an APA proposal for a new series of CPT codes to reflect the services provided by psychologists to patients with diagnoses of physical health conditions has been approved for publication by the American Medical Association committee overseeing CPT codes (“APA Wins Approval for New CPT Codes,” 2000). Although psychologists in traditional practice have been required by health insurers to pair procedural codes with mental health diagnoses, the new series of codes recognize psychologists’ and other health professionals’ contribution to the assessment and management of biopsychosocial factors associated with physical health problems and traditional medical treatments. The 2002 CPT manual will introduce six new codes: two for health and behavior assessment services and four for health and behavior intervention services. This exciting new development represents formal recognition of the psychology profession’s contributions to health care beyond traditional mental health services.

Although the approval for publication of these new codes is an important step, reimbursement for these codes will be challenging. In recent years, we have witnessed a rapid growth in health service delivery systems (e.g., HMOs, preferred provider organizations) that may restrict access to and reimbursement for services provided by psychologists. To facilitate changes in reimbursement systems, psychologists must continue to generate data showing both the clinical utility and the cost savings of psychological interventions in general medical systems.

The education and training of graduate students in psychology has, over the past 3 decades, increasingly focused on preparing students for broader roles in health care. However, as opportunities for psychology in health care expand, we must better prepare our new graduates to function in the realm of primary health care by expanding education and training efforts, exposing trainees to interdisciplinary training models, and mentoring new graduates as
they forge their identities as an integral part of the health care system. Education and training should address not only basic knowledge and skills but also the unique ethical, legal, and professional issues that may emerge in health care settings.

Expanding psychologists’ scope of practice mandates that we be accountable and evaluate our competency in these new areas. Aside from the universal requirement to master core domains of knowledge and skills and the ethical imperative to practice within the boundaries of one’s competence, there are no specific standards for practitioners who wish to expand their scope of practice within the health care arena. Although this permits flexibility in the development of practice areas, the lack of standards offers little guidance to those who wish to extend their practice. Hence there is great need for training opportunities for psychologists already engaged in practice. This may be accomplished by means of continuing education programs that are sponsored at national or state levels. Readers who are interested in expanding their scope of practice in health care are encouraged to examine the recent self-assessment guidelines reviewed by Belar et al. (2001) that enable practitioners to evaluate their competence and identify areas where knowledge and skills need to be enhanced before engaging in specific areas of practice.

As psychology’s role in health care continues to grow, issues pertaining to licensure and board certification also emerge. This may necessitate revisiting licensure statutes, as they may be overly restrictive with regard to practice, particularly within a health care setting. Some states restrict the management of physical diseases in their medical licensing acts. This has important implications for the practice of psychology. For example, behavioral approaches have been demonstrated to be successful in the management of several physical conditions; to restrict management of these conditions by those licensed under the medical practice act is not compatible with current empirical data that are actually published in well-respected medical journals. Some states have facilitated practice in health psychology by offering a health service provider certificate for the clinical psychology license.

Another issue that has arisen as psychology continues its journey from being perceived as a mental health profession to a health care profession is prescription privileges. Levels of preparation for psychologists’ involvement in psychopharmacology have been delineated in order to provide guidance for training (Smyer et al., 1993). Level 1 refers to the provision of basic psychopharmacological education in psychologists’ graduate training. This level is incorporated in APA’s recommendations for program accreditation. Level 2 refers to basic training needs for collaborative practice with physicians. This level is particularly relevant to psychologists who practice in health care settings and involves a more in-depth understanding for the purpose of consulting with physicians regarding pharmacotherapy. Finally, Level 3 refers specifically to prescription privileges.

As psychology’s role in health care delivery grows in recognition, it is this third level that has been the subject of much debate (for review, see Phelps, Brown, & Powers, 2001; Sammons & Schmidt, 2001). The debate pertaining to prescription privileges notwithstanding, psychologists have established themselves in psychopharmacological research, and many are knowledgeable about pharmacological interventions and are asked to provide recommendations regarding the prescription of psychotropic medications. Regardless of legislative and legal decisions that impact this issue and continuing debates within our own and the psychiatric profession, psychologists will continue to make important contributions to pharmacological research and will be called upon by health care teams for input regarding multimodal intervention including psychotropic medication. Therefore, some training in psychopharmacology is essential for psychologists practicing in any aspect of health care.

Conclusion

We must work to educate members of our profession, the public, and policymakers about the multiple and varied contributions that psychologists can make to the field of primary care and in working with medical populations. As with any change, some apprehension may ensue as the realm of psychology expands beyond the confines of traditional roles. However, it will be adaptive for the discipline as a whole to be flexible with regard to the increasing diversity of settings in which psychologists may practice and to collaborate with professionals in other health care disciplines. As we move ahead in the new millennium, we hope that psychologists’ contributions to public health will continue and that an increasing number of psychologists will be prepared to meet the opportunities and challenges arising from our evolving health care system.

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