Chapter 2
A History of Clinical Psychology in Medical Settings

Mark Vander Weg and Jerry Suls

It is impossible to understand the history of clinical health psychology without first describing some developments in mainstream clinical psychology, psychiatry, and medicine in the late nineteenth and twentieth centuries. So we will start with those and then shift to health psychology and clinical health psychology, in particular. The second major section will discuss issues about generalist versus specialist training and the role of the clinical health psychologist in primary and specialist medical care as they have evolved over time.

Roots and History of Clinical Health Psychology

Clinical Psychology

Clinical psychology received its formal start from Lightner Witmer, a psychologist at the University of Pennsylvania, who had trained with Wundt in Germany in the 1890s [1]. Witmer's initial research interests concerned individual differences in sensory and perceptual abilities, but he was also eager to use psychological principles to solve applied problems. He became interested in what is now referred to as

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M. Vander Weg (✉)
VA Iowa City Health Care System, CADRE (152), 601 Highway 6 West,
Iowa City, IA 52246-2208, USA
e-mail: mark-vanderweg@uiowa.edu

The University of Iowa, Iowa City, USA

J. Suls
Behavioral Research Program, Division of Cancer Control & Population Sciences,
National Cancer Institute, 9609 Medical Center Drive
MSC 9764, Bethesda, MD 20892, USA
e-mail: jerry.suls@nih.gov

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special education—the problems exhibited by children in school. Witmer not only created the term "clinical psychology" but also founded the first psychological clinic in the last decade of the nineteenth century at the University of Pennsylvania [2]. The clinic was established to treat children's speech problems, sleep disturbances, behavioral problems, hyperactivity, and refusal to stay in school. Witmer instituted a routine for any child referred to the clinic by parents or teachers to be given a complete check to rule out physiological causes. If the problem appeared not to be medical in nature, Witmer's approach was to individually communicate information to children at a level comprehensible to them so they could work on specific problems [2]. Because both learning and conditioning were still in their formative stages, Witmer's approach was very pragmatic. He used the term "clinical" because he saw his approach as resembling medicine at that time, which involved intense observation and care of individual patients. He defined "clinical psychology" as the observational or experimental study of people to promote change. Witmer also started the first journal for this new field, *The Psychological Clinic* [1]. The word spread, and by 1914 there were 26 similar clinics in the USA [2, 3].

Although Witmer thought medicine and clinical psychology shared key features, cognitive and personality assessments were the main focus of most clinical psychologists in the first decades of the twentieth century. During World War I, two intelligence tests, *Army Alpha* and *Army Beta*, were developed by psychologists to assess recruits [4]. Serious mental distress was the domain of psychiatrists and neurologists. Of course, there is a blurry line between cognitive problems and mental disorders, so in some cases physicians and psychiatrists had contact and made referrals to clinical psychologists. After the war, testing continued to be the main preoccupation for clinical psychologists although this would change during the next war.

Scientific Medicine

What was conspicuously absent from the purview of early clinical psychologists was *physical health*, which was considered exclusively to be in medicine's domain. Modern readers, of course, tend to think of medicine with its sophisticated tests, procedures, devices, and medications. Prior to the mid-twentieth century, however, physicians mainly relied on bedside manners, involving "empathy compassion and a nurturing feeling for the ill individual ([5], p. 10)." These were the tools that physicians had to rely on because they had few effective clinical, surgical, and pharmacological procedures. This is also why medical education in the nineteenth century mainly took the form of an apprenticeship relationship between the practicing physician and a student in training. With the advent of the cellular theory of disease, the demise of the concept of spontaneous generation, the germ theory of disease, and advances in physiology and anatomy in the late nineteenth century, medicine acquired a more substantial scientific basis, whose foundation science was microbiology.

Medicine adopted the biomedical model, which only makes provision for biological causes of illness and embraces a reductionism in which illness is derived from a single primary factor. The model is predicated on mind–body dualism (dating back to Descartes)—mind and body are separate and autonomous entities that interact minimally. In the biomedical model, psychological, social, and behavioral variables were considered to play minor roles for understanding and treating physical illness.

Scientific advances in biology, chemistry, and physiology and the biomedical model also prompted the demise of the apprenticeship teaching approach in medicine. Some didactic information about basic sciences was provided by medical schools in North America in the late nineteenth and early twentieth centuries, but these efforts failed to provide systematic or comprehensive coverage of the relevant sciences, such as organic chemistry, biology, and physiology. Motivated partly by competition with "healers" and by advances in the life sciences, the American Medical Association asked the Carnegie Foundation to study medical school education and make a report [6]. Alexander Flexner was given that task and he visited more than 150 medical schools in the USA and Canada and found the majority seriously wanting. Lecturers tended to be part time and not necessarily expert in the fields they taught, the educational curriculum was haphazard, and the content in the laboratory sciences was dated. Only a few medical schools, such as the Johns Hopkins University, had rigorous scientific curriculum and clinical training adapted from the European model of training medical doctors. The distribution and acceptance of the Flexner report had widespread effect, creating new accreditation standards and effectively closing medical schools that failed to adopt Flexner's recommendations for a comprehensive scientific and clinical medicine curriculum [6, 7].

Positive changes resulted from the adoption of the Flexner curriculum, but with the consequence that courses were taught by experts trained in specialty subjects, such as anatomy and chemistry, and internships were completed according to specialty, such as medicine and surgery. This had the effect of providing physicians in training experiences primarily along departmental lines. Consequently, "(there was) little or no overlap or integration from one course to another ([5], p. 13)." The practitioner-specialist, rather than the generalist, tended to become the norm. Traditional bedside medicine, treating the "whole patient," began to decline.

This tendency might have been counteracted by including content on psychological aspects of medicine. Indeed, as early as the 1910s, there were psychologists and physicians recommending such content to be added to the medical school curriculum. In fact, the famous behaviorist John B. Watson taught and published a curriculum for a course on psychology for medical students at the Johns Hopkins University [8]. However, psychology was not as advanced a scientific discipline as biology, chemistry, and physiology in the first half of the twentieth century. Psychology was not made a requirement in the medical school curriculum although there were gradually increasing roles for psychology in medical education [9].

Changes in Life Expectancy and Causes of Death

During the twentieth century, life expectancy was extended, on an average, by about 30 years, which was commonly attributed to medical scientific advances. Also in 1900, death due to infectious diseases was the leading cause of death, which comprised about 30 %. In the year 2000, deaths due to infectious disease comprised only 3 % [10–12]. Vaccination, safer drinking water, and milk supplies, thought to be results of scientific advances, were credited with this change. However, deaths from infectious disease were starting to decline prior to the introduction of vaccination. Epidemiologists agree that antibiotics and advanced surgical procedures actually played minor roles in the increase in life expectancy. Three other factors do seem to have had a positive role—improved nutrition, sewage disposal, and healthier lifestyle (such as exercise). These changes occurred, mainly, independently of scientific research in the life sciences and medicine. Regardless of the actual evidence, modern scientific medicine, following the biomedical model, was commonly credited with increases in longevity and decline of infectious diseases.

From the 1950s through the 1960s, optimism was high among medical scientists and practitioners who perceived little reason to consider nonbiological factors as important contributors to health and illness. This was a significant departure from the bedside medicine of the nineteenth century that had explicitly or implicitly recognized psychological and social factors in determining causes and formulating treatment. Perhaps psychologists were in the best position to identify the role of nonbiological factors in physical health, but clinical psychologists served primarily to assess mental abilities.

Psychosomatic Medicine. In the early twentieth century, there was a discipline that was concerned about physical disorders and their psychological origins/treatment. Psychiatry was extending Freud's theories to physical conditions, leading to the development of psychosomatic medicine. Freud originally studied disorders that seemed to have no physical cause, such as hysterical blindness or paralysis. His explanation was that unconscious emotional conflicts had been converted into a physical form. Freud's followers, such as Franz Alexander and Flanders Dunbar, extended these ideas and developed psychodynamic explanations for disorders such as headache, hypertension, and asthma. In fairness, Alexander and others believed that emotional conflict made the patient susceptible to a specific physical disease process because of the "biological weakness" associated with the corresponding organ system [13]. However, in the first half of the twentieth century, psychiatry failed in its methods to identify these biological weaknesses or mediating physiological processes.

Psychosomatic medicine was dominated by psychiatrists who diagnosed and treated physical diseases that were supposedly the result of psychological conflicts. Psychodynamic approaches to physical disease mainly relied on case studies and descriptive retrospective methods. Often there was little evidence for attributing the diseases to a distinctive conflict about a particular emotion such as anger. In light of their orientation, psychiatrists in the psychosomatic field primarily relied

on Freud's talking therapy as the mode of treatment. Such treatment was popular for decades, but Freud's theory lost popularity, and so did the psychoanalytic elements of psychosomatic medicine. By the late 1960s, the psychodynamic version of psychosomatic medicine was replaced by a perspective that recognized the role of stress and personal vulnerability factors in the interaction with biological processes.

Rise of Clinical Psychology in Mental Health Treatment

World War II created a significant demand for mental health services for military personnel and veterans. The so-called neuropsychiatric patients outnumbered patients with other kinds of disorders in veterans' hospitals [14]. (As soldiers began to return from combat, psychologists started to notice symptoms of psychological trauma labeled "shell shock," eventually to be relabeled as posttraumatic stress disorder, that were best treated as soon as possible.) Because physicians (including psychiatrists) were overextended in treating bodily injuries, psychologists were called to help treat such psychological problems. To cope with the need for assessment and psychotherapy, the Veterans Administration (VA) established clinical psychology internships that were attached to psychiatric services, supported research, and sponsored training conferences (e.g., [15]). Clinical training of interns mainly concerned the interpretation of psychological tests and diagnostic interviewing. The development of behavioral treatments was still some time away. When such treatments began to emerge in the 1950s and 1960s, principles of learning and conditioning tended to dominate psychological interventions.

After World War II, the National Institute of Mental Health (NIMH) was created to promote mental health and devote support to advancing diagnostic and treatment approaches for mental illness. At the same time, the VA was providing training sites, and NIMH was providing grants for students and supporting research on mental health. It was the VA, however, that established the doctorate as the entry-level degree for clinical psychology [16]. The United States went from having no formal university programs in clinical psychology in 1946 to over half of all Ph.D.s in psychology in 1950 being awarded in clinical psychology [4].

Clinical psychologists were beginning to serve in both assessment and treatment roles, but their focus remained on behavioral and emotional disorders. Early pioneers were Guze et al. [17], who wrote about the need to consider psychological and environmental factors to understand both the causes and treatment of physical illness [17]. They drew upon Dollard and Miller's integration of learning theory, psychoanalytic thinking, and sociocultural observations [18]. Therapeutic strategies were proposed to improve the patient's "adjustive techniques" to cope with stressors and reduce the anxiety or other emotions that magnify physiological processes that may lead to infection, illness, or injury. Guze et al.'s proposal was not initially appreciated, however, "…because the apparently effective handling of complex diagnostic and therapeutic problems by twentieth century medical specialists was accompanied by a decrease in those therapeutic elements in the practice of medicine which were associated with knowing and understanding the patient ([5], p. 14)."

A Changing Landscape for Medicine and Psychology

At least three parallel developments helped to create an environment much more receptive to the call for a more comprehensive medicine with a role for clinical psychology. First, there was increasing appreciation that the aforementioned decline in infectious diseases was accompanied by increases in diseases stemming from individual behavior and lifestyle (e.g., heart disease, cancer, emphysema) [19]. Changes in illness prevalence and longevity focused attention on behavior rather than on specific biological pathogens. Although vaccination could prevent most infectious diseases, there were no "magic bullets," referring to prevention or treatment measures that "cure" a medical condition, such as cancer or heart disease. Instead, changes in lifestyle behavior, for example, physical exercise and smoking cessation, were the most viable ways to prevent disease.

Second, increasing costs, in some cases as a result of sophisticated medical procedures, technologies, and medications, were absorbing a large proportion of the nation's financial resources [20]. As noted above, expectations about "magic bullets," were diminishing in the context of common chronic and debilitating physical diseases. Instead, physicians increasingly had to find ways to assist patients with management of chronic conditions. Frequently, changes in behavior were becoming the focus of many programs with respect to prevention, coping, and adaptation. For example, smoking, hypertension, and serum cholesterol were the three risk factors that were the focus for the Multiple Risk Factor Intervention Trial program sponsored by the National Heart, Lung and Blood Institute [21].

Third, stress and disease were becoming major topics of interest to biobehavioral scientists and medical scientists in the 1960s and 1970s. The earlier empirical insights of Walter Cannon on "flight or fight" responses and Hans Selye's demonstration of a general physiological reaction to noxious stimulation provided a foundation for researchers [22, 23]. The idea "in the air" was that physical and social sources of stress can increase mental and physical illness. Scholars such as Orville Brim, David Glass, David Hamburg, David Shapiro, and P. Leiderman were using earlier constructs and empirical evidence to explore the interface of social behavior and biological processes. "Interdisciplinary" was becoming the watchword. As Glass [24] observed:

> ….each discipline cannot ignore the conceptual and empirical advances of the others. Just as complex behavior cannot be understood in purely biological terms, mental events cannot be understood without some recourse to the relevant biological processes within the organism. And, it is true also, that relevant social environmental factors must be incorporated into any serious effort to understand behavioral and physiological outcomes (p. xvii) [24].

Glass, who played a major organizing role (besides conducting pioneering studies with Jerome E. Singer on the effects of stress and noise on human social behavior), has described some "vectors" in the 1960s and 1970s that increased the momentum for research, providing an alternative to the biomedical model [25]. First, several medical centers initiated behavioral science research and training programs in departments of psychiatry and epidemiology, often supported by private foundations

and federal agencies, such as NIMH, National Science Foundation, and other institutes of NIH (e.g., National Heart, Lung and Blood Institute and National Cancer Institute).

A second vector was financial support for research and interdisciplinary conferences. One of the first conferences, sponsored by the Office of Naval Research led to a book coedited by Leiderman and Shapiro, which was followed by conferences held at the Rockefeller University and sponsored jointly with the Russell Sage Foundation [26]. These events were unique in bringing together representatives of a wide range of disciplines, including psychiatry, psychology, sociology, economics, anthropology, ethology, nutrition, and genetics. What emerged were common themes, constructs, and evidence about associations between stress and physical and mental outcomes.

These efforts were extended by meetings of the Social Science Research Council, which obtained funding for special summer training institutes to train social scientists to combine psychosocial and biological concepts and methods in their research. Institutes were held on such topics as medical physiology, genetics, psychophysiology, and neurobiology. These experiences provided unique interdisciplinary knowledge and skills to the next generation of stress researchers.

Biology Meets Behavioral and Social Science

From the mid-1950s, psychologists, including those in the clinical subfield, began to conduct research on phenomena and practical problems extending beyond mental health concerns. For example, the Health Belief Model (HBM) was developed by Hochbaum, Kegeles, Leventhal, and Rosenstock, all psychologists in the US Public Health Service, who were trying to understand why people were not being vaccinated against tuberculosis [27, 28]. HBM became an important conceptual framework for prevention efforts and remains influential.

Successes in applying behavioral therapy to traditional mental health problems, such as phobia and obsessive–compulsive disorder, inspired behaviorally oriented clinicians to apply this approach to medically related problems, such as obesity and smoking [29]. Systematic desensitization, operant conditioning, aversive conditioning, and modeling were adapted to treat damaging health behaviors.

Neal Miller's research on the conditioning of physiological processes (i.e., visceral learning) in animals elicited substantial interest because it contradicted prior beliefs that voluntary control of fundamental physiological processes (such as heart rate and blood pressure) was impossible [30]. Soon, researchers recognized that the growing body of evidence about stress and its effects on physical function could be tied to Miller's research on visceral control and biofeedback in animals.

The key idea was that providing biofeedback—rapid accurate feedback about physiological activity, such as brain waves, heart rate, or hand temperature—to subjects might enable them to learn how to change physiological responses. For example, Schwartz, Shapiro, and colleagues demonstrated that patients provided

with rapid feedback about their blood pressure or heart rate via biofeedback could reduce their blood pressures [31]. These early successes encouraged clinical psychologists to develop interventions to test the effects of biofeedback on heart dysfunction, blood pressure, headache, and other physical disorders [32].

At the same time, Herbert Benson, a cardiologist at Harvard, was studying the effects of meditation on physiological functions. He explored the idea that meditation or relaxation may counteract the acute and perhaps the long-term effects of stress on physiology, something which may be particularly important for persons with a disorder, such as hypertension. In some of his studies, the patients' blood pressures were reduced significantly after several sessions of learning meditation [33]. (These successes led to subsequent efforts using transcendental meditation and more conventional relaxation techniques, such as controlled breathing, that had been used earlier by clinical psychologists for purely psychological problems).

Behavioral treatments, featuring biofeedback, relaxation, meditation and operant conditioning, and systematic psychological assessments were beginning to make their appearance in medical settings. One indication was the publication in 1976 of a landmark article by Schofield in the *American Psychologist* on "The role of psychology in the delivery of health care services [34]." Five years later, the American Psychological Association (APA) established a task force to collect information on the progress of health behavior research by North American psychologists.

During this same period, research showing that exposure to chronic stress made animals susceptible to physical dysfunction, such as ulcers and even death, motivated researchers to develop assessments of recent occurrence of life events and to measure illness incidence [35]. The idea was that major changes in habits and routine, such as death of a spouse or job loss, could create a physiological stress response, thereby increasing the risk of physical disease. These efforts inspired a stream of research to assess real-life stressors and their relationship with physical disease risk.

Lazarus conducted pioneering studies demonstrating how cognitive appraisals affected human emotional and psychophysiological responses to acute stressors in the laboratory [36]. A stressor appraised as threatening or harm-producing would engender an aversive physiological response, but the stress response could be short-circuited if a stressor was perceived as benign or a challenge. Lazarus also demonstrated that mental or behavioral efforts to manage the demands of stress, referred to as coping strategies (e.g., distraction, intellectualization), could reduce potential stress responses.

During the same time, Schachter, a social psychologist, was developing a theory of emotion, which, like Lazarus' theory, depended on subjective appraisal as a major component [37]. Schachter was particularly interested in identifying the circumstances under which people use the social context, rather than visceral cues to label emotions. This research on internal versus external cues would eventually lead Schachter and his students to study social and physiological determinants of obesity and smoking behavior [38, 39].

Stress-coping models inspired programs in stress management and cognitive-behavioral therapy (CBT). CBT also developed out of efforts in clinical psychology,

including Ellis's rational emotive therapy, Aaron Beck's cognitive approach, and Meichenbaum's stress inoculation approach [40–42]. Although these approaches were formulated chiefly for psychological disorders, their applicability to medical patients quickly was perceived. CBT involves a collaborative relationship between client and therapist and is based on the premise that psychological distress is largely a function of disturbances in cognitive processes. Thus, the treatment focuses on changing cognitions to produce desired changes in affect and behavior. Unlike the Freudian talking cure, CBT is time limited and focuses on specific and structured target problems. It features questioning and testing cognitions, assumptions, evaluations, and beliefs that might be unhelpful and unrealistic; gradually facing activities which may have been avoided; and trying out new ways of behaving and reacting. Relaxation and distraction techniques are also commonly included.

In the meanwhile, epidemiological research was emerging on an emotional–behavioral complex, referred to as "type A" behavior, which appeared to increase the risk of developing premature cardiac disease, independent of traditional risk factors. This construct originated with two cardiologists, Meyer Friedman and Ray Rosenman [43]. A psychological perspective was advanced by David Glass, a social psychologist, who, with his students, began a series of experimental studies documenting that type As responded more intensely to stressors and tested a theory to explain type A on the basis of learned helplessness theory [44]. This research was to provide the frame for subsequent research on the role of individual differences, such as anger and depression, in stress vulnerability, and stress resilience.

Behavioral Health Zeitgeist

In 1977, Engel published a paper entitled "The Need for a New Medical Model: A Challenge for Biomedicine" as a lead article in *Science* [45]. Engel proposed a new model, the biopsychosocial model, which recognized that illness and health were a function of three interrelated systems—biological, psychological, and social. Engel perceived that adoption of the biopsychosocial perspective would bring the "whole patient" back into the sights of medicine. Evidence was accumulating and interventions were being adopted that exemplified the biopsychosocial model and created optimism that researchers were on the right track. Initially, the term "behavioral medicine" was used to refer to this field by the physicians, psychologists, and allied professionals who were attracted to this emerging interdisciplinary field.

Matarazzo, who had coauthored the call for a "comprehensive medicine" with Guse and Saslow in the early 1950s, recognized that psychologists whose interests spanned across the many subfields of psychology could contribute to advancing the study of the etiology, prevention, and treatment of physical illness [46]. "Health psychology" was the name given to this new field. Matarazzo, who was at the newly founded Department of Medical Psychology at the Oregon Health Services University, and Stephen Weiss, who was the chief of the newly established Behavioral Medicine Branch at the NHLBI, developed a petition to the APA to establish a new

division of Health Psychology (Division 38), which was approved in 1978. Consistent with its mission, psychologists from different fields became members: social, clinical, counseling, physiological, comparative, etc. Shortly afterward, Division 38 founded a journal, *Health Psychology*, to serve as an outlet for research in this field, which first appeared in 1982 [47].

In 1978, Weiss and Schwartz convened a conference on behavioral medicine at Yale University, which brought together a group of behavioral and biomedical scientists to define this emerging field. One consequence was founding of the *Journal of Behavioral Medicine*. Those assembled at this meeting represented different kinds of training. Some researchers were educated in medicine and psychiatry and tended to identify with the field of psychosomatic medicine although putting aside its psychodynamic origins. Researchers from medicine and psychology drew from theories of learning, basic research on animal physiological psychology and human psychophysiology, and from research in social and clinical psychology. Schwartz and Weiss observed that psychosomatic medicine has traditionally emphasized etiology and pathogenesis of physical disease, whereas behavioral medicine was directly concerned with behavioral approaches to the treatment and prevention of physical disease [48, 49].

Behavioral medicine was perceived to overlap with, but was not identical to, health psychology. Researchers in behavioral medicine were interdisciplinary and tended to concentrate on direct patient evaluation and treatment (sometimes referred to as "medical psychology"); health psychologists tended to consider principles and research in mainstream psychology as their "home base." However, in recent years, the growth of medical collaborations and interdisciplinary biobehavioral science has effectively eliminated this distinction. In the late 1960s and 1970s, another segment of investigators perceived behavioral medicine as the specific application of "behaviorism" to medicine, emphasizing operant and classical conditioning or forms of behavior therapy (emphasizing cognitive self-control procedures and social learning theory). However, just as behavior therapy has become more "cognitive" in recent decades, so has behavioral medicine.

As these fields were formed, venues were needed for conferences and conventions for like-minded researchers and interventionists. APA Division 38, of course, contributed a program of addresses, papers, and symposia to the annual American Psychological Association Annual Meeting held in August of each year. In 1978, Neal Miller, who pioneered research on biofeedback, founded the Academy of Behavioral Medicine Research to provide a yearly forum for established (senior) behavioral medicine researchers (from medicine, psychiatry, psychology, epidemiology) where ideas could be exchanged in an informal atmosphere. In the following year, psychologists and physicians who were members of the American Academy of Behavior Therapy decided to form a professional group that was specifically concerned with prevention, promotion, and treatment of physical ailments. This became the Society of Behavioral Medicine, which now also includes nurses, sociologists, and public health researchers.

By the early 1980s, the need to develop systematic graduate curricula and training standards for health psychology was perceived. Hosted by APA Division 38, the

national "Working Conference on Education and Training in Health Psychology" was held at the Arden House outside Harriman, New York, in 1983. A select group of psychologists from a wide variety of subdisciplines were invited to represent the new field and develop a curriculum. A special issue of *Health Psychology* was devoted to the proceedings of that conference. The next year, Division 38 and the Council of Health Psychology Directors established the American Board of Health Psychology (ABHP) as the credentialing body for the specialty practice of clinical health psychology [47].

By the 1980s, there was clear recognition of health psychology and its clinical specialty. The work was perceived to have made so much progress that the editors of the *Journal of Counseling and Clinical Psychology* decided to devote a special issue to "Behavioral Medicine and Clinical Health Psychology" in 1982, edited by Professor Edward Blanchard, a widely respected clinical researcher specializing in biofeedback for physical disorders [50]. Noted researchers provided surveys of state of the science and treatment on particular topics, such as smoking, obesity, headache, insomnia, and blood pressure. In 1992, Blanchard edited an update with the now "traditional topics," and topics that emerged after the 1982 issue, such as psychoneuroimmunology, immunodeficiency syndrome (AIDS), and the role of psychology in cancer [51]. In his introduction to the 1992 Special Issue, Blanchard observed:

> There now exist many controlled evaluations, across a wide array of traditionally medical disorders, of psychological therapy either as the primary therapy or as an important part of the total care of the patient. In some instances it seems established that psychological treatments are the treatment of choice. Thus, I believe that those of us in clinical and counseling psychology who treat the medically ill can be truly proud of what we have to offer. Certainly, the importance of behavior and behavior change to health care was forcefully presented in the recent Department of Health and Human Services blueprint.

In 2002, Smith, Kendall, and Keefe edited another update noting the broad "… range of topics and methodological eclecticism…black box models of connections between behavioral inputs and disease outcomes have been steadily replaced by much more specific and testable descriptions of mechanisms (lead)…to the pathophysiology of disease, and the development of approaches to evaluate the clinical significance of intervention effects in the specific context of a particular health problem or treatment setting ([52], p. 495)." In summary, clinical health psychology has emerged with a strong body of intervention strategies, evidence, and theories.

Special Issues in Clinical Psychology in Medical Settings

Generalist Versus Specialized Training

A perennial question within professional psychology pertains to relative merits of a generalist versus a more focused, or specialized, approach to training and practice. Indeed, the extent to which the field of psychology should view itself as single,

unitary discipline as opposed to a more diversified area of study containing multiple specialties and subspecialties has been debated almost from the beginning of the profession. This issue has been the source of particular discussion within clinical and counseling psychology, where several distinct areas of clinical emphasis and specialization have emerged, including health. As more and more trainees and practitioners have begun to focus their clinical practice on specific patient populations, presenting problems and settings, debate over whether such specialization is necessary and good for the profession (and the patients who are served) has continued.

When addressing the potential need for specialization, it is important to consider the variety of activities being done by those who practice in this area. Clinical psychologist in medical settings often identify themselves as clinical health psychologists to distinguish what they do from other professional psychologists. Although specific medical conditions and treatment applications are addressed in detail elsewhere in this volume, a brief review of the scope of practice of clinical health psychologists in medical settings will perhaps be beneficial for the purposes of this discussion. Based on a slight modification of Matarazzo's [46] original definition of the field, Belar [53] has described the practice of clinical health psychology as follows:

> "A clinical health psychologist applies, in professional practice, the specific educational, scientific, and professional contributions of the discipline of psychology to the promotion and maintenance of health; the prevention, treatment, and rehabilitation of illness, injury, and disability; the identification of etiologic and diagnostic correlates of health, illness, and related dysfunction; and the analysis and improvement of the health care system and health policy formation" (p. 411).

Accordingly, the issues commonly addressed by clinical health psychologists include psychophysiological disorders, psychological conditions resulting from physical illness, somatic manifestations of psychological conditions, psychological symptoms associated with organic illness, physical symptoms amenable to behavioral interventions, behavioral risk factors for disease and disability, prevention of complications associated with stressful medical procedures, and problems involving health care providers and health care systems [53]. It is this primary emphasis on physical symptoms and disorders, as opposed to mental health concerns, which characterizes clinical health psychology.

In addition to the common presenting complaints and issues that are addressed in practice, several important qualifications that clinical health psychologists should possess have also been identified. Training in the biopsychosocial model of health and illness [45], commitment to the Boulder model and evidence-based practice, adequate skills to gather data and design research programs in the absence of necessary evidence, familiarity with biomedical terminology and procedures, good communication skills that enable one to work in a cross-disciplinary setting, valuing cross-cultural differences, and ability to think efficiently in ways that are both flexible and critical have all been identified as essential characteristics of effective clinical health psychologists [54]. Although several of these attributes can be just as readily applied to other areas of professional psychology, the primary focus on issues related to physical health, the ability to work in a broad range of medical

settings with other health care professionals, and the application of the biopsychosocial model as a guiding framework (as opposed to a purely psychological or psychosocial model) are key features which distinguish it from clinical psychology more broadly [55, 56].

While specialization offers the advantage of more extensive and focal expertise related to the assessment and treatment of medical problems, some have argued that it comes at the expense of the more comprehensive foundation afforded by a generalist approach. For example, the types of complaints and issues commonly addressed by clinical health psychologists rarely occur in isolation. Instead, multiple mental and physical health comorbidities tend to be the norm rather than the exception. Consequently, it is important for the clinician to have a sufficiently broad base in professional psychology to be able to treat the full range of issues that may emerge. In addition, the possibility that specialization could lead to a decreasing proportion of clinicians practicing as generalists, a development not unlike that which occurred in medicine starting in the latter part of the twentieth century, has also been noted [57, 58]. Given the unfortunate marginalization of the general medicine practitioner [57] and the fragmentation that currently characterizes contemporary health care in the United States, professional psychology should carefully consider whether it can afford to follow a similar course. Concerns have also been raised that specialization could perpetuate itself to the point where clinical health psychology becomes comprised of a growing number of increasingly narrow subdivisions (e.g., weight management psychologists, psycho-oncologists, cardiac psychologists, transplant psychologists, pain management psychologists, etc.) [59]. Such a tendency toward more finite practice also increases the risk that patients could come to be classified according to their medical problems or health behavior patterns rather than viewed as whole individuals, contributing to what Belar and Deardorff [59] have referred to as a "behavior–person dualism."

Roberts [60] has spoken of what he refers to as an "essential tension" between the balance of unification and fragmentation in professional psychology. Although he addressed this issue in the context of developments in clinical child psychology, his comments apply equally well to health psychology. He suggested that the narrow and more focused science and practice that accompanies specialization is a natural (and necessary) consequence of advances in the field, and that it has generally had an invigorating effect on the profession. Furthermore, while it may be argued that there was once something more akin to a "single psychology," the breadth of accumulated knowledge in the field has rendered such a perspective untenable [60]. Indeed, clinical health psychology has itself become sufficiently diverse that no single practitioner can be proficient with all types of medical problems addressed, patient populations, settings, or situations [55]. Thus, some degree of specialization has become a necessary reality. Ultimately, Roberts concluded that the tension between breadth and specialization is best addressed through the careful and balanced integration of the latter into a broad core, such that a comprehensive foundational base is supplemented by more focused expertise in a particular area.

There is perhaps no context in which the tension between a breadth (generalist) versus depth (specialist) approach has been more rigorously debated than the

establishment of guidelines for pre- and postdoctoral training. Whether specialized training should be considered necessary or sufficient for the practice of clinical health psychology was deliberated as far back as the Arden House National Working Conference on Education and Training in Health Psychology in 1983 [61], which was mentioned earlier. The consensus of conference participants was that students should receive comprehensive training in general psychology comprised of sufficient breadth and depth of resources combined with specific core requirements in health psychology [61]. That is, in order to function effectively as a specialist in clinical health psychology, one must first receive the necessary training and possess the requisite competency to practice generally as a clinical psychologist (for an alternative perspective, see, [62]). Recommendations resulting from the Arden House Conference have largely continued to guide education and training to this day [63], with contemporary doctoral programs in clinical health psychology sharing several features including common training competencies, a graduated sequence of training experiences, an emphasis on broad and general training, reliance on the biopsychosocial model, and the integration of science and practice throughout training [64].

It should be noted, however, that there is a small but growing number of doctoral programs, which Larkin [64] has described as "exclusive," and for which training focuses entirely on preparing students to become clinical health psychologists. For these programs, all coursework and practicum activities are specifically designed to expose students to the types of issues, patient populations, and experiences they are likely to encounter as clinical health psychologists [64]. As such, little emphasis is given to providing students with generalized training in professional psychology. Whether training programs adopting an exclusive approach are as (or more) effective at preparing trainees to practice as clinical health psychologists than more traditional approaches in which specialization in health psychology is embedded in general training in clinical or counseling psychology remains to be determined.

Although arguably necessary, broad generalist training in professional psychology is itself not a sufficient foundation to practice as a clinical health psychologist. Achieving competency as a clinical health psychologist almost certainly requires both didactic and applied experiences outside of what is typically provided as part of most general clinical psychology training programs. As noted by Belar [53], there is an essential knowledge base and skills specific to clinical health psychology that must be acquired to function competently in this area. These include: the biological, cognitive–affective, social, and psychological bases of health and disease, statistics and research design in health research, psychological and health measurement, clinical health psychology assessment, intervention and consultation (including clinical practice guidelines), interdisciplinary collaboration, and ethics and professional issues, with a special focus on those specific to clinical health psychology [53]. Thus, the practice of clinical health psychology requires one to possess both a diverse range of core competencies in professional psychology as well as advanced skills and knowledge in specialized areas related to health and practicing in the health care system [64]. As such, the standard education and training to become a clinical psychologist or a nonclinical health psychologist are insufficient for practicing as a clinical health psychologist [56].

One strategy for evaluating the need for specialization is to consider the skills that are expected of someone to practice competently in a given content area. Carefully examining the essential competencies the field has chosen to require for clinical health psychology provides one means of helping to determine whether specialized training is necessary, or whether a broadly trained generalist can effectively practice in the area. In an effort to revisit the standards for graduate curricula and training in clinical health psychology, the Board of Directors of Division 38 of the APA sponsored a summit meeting in Tempe, Arizona, in March 2007.

One of the primary aims of this meeting was to identify a preliminary set of competencies for doctoral-level clinical psychologists, the recommendations for which have been summarized by France and colleagues [63]. Using the cube model of core competencies in professional psychology that was originally developed by Rodolfa et al. [65], the conference participants set out to outline what were considered to be the essential functional (applied) and foundational (knowledge-based) competencies for the discipline, including both those common to all professional-scientific psychology and those unique to clinical health psychology. Thus, consistent with guidelines established 25 years earlier at the Arden House, participants endorsed a training approach comprised of a broad, generalized core in professional psychology as a foundation, coupled with more concentrated training in health psychology.

These competencies were subsequently updated and refined at the inaugural meeting of the Council of Clinical Health Psychology Training Programs (CCHPTP) in San Antonio, Texas, in 2008 [54]. Consistent with prior consensus statements [61], the prevailing opinion among meeting participants was that training at the predoctoral level should be very broad and general, involving foundational training in the core areas of psychology [54]. The more focused and intensive applied training opportunities in assessment and intervention approaches specific to health psychology, therefore, should be introduced primarily during internship, during which clinical health psychology trainees will have the opportunity to refine their clinical and research skills and learn to function effectively within a health care setting [54, 64]. Tensions regarding generalist versus specialist training are largely resolved at the postdoctoral (and beyond) training level, as it is understood that the emphasis will be on the development of a more specialized focus on trainees' individual goals and interests at this stage of professional development [66].

In conclusion, although there are those who will argue that specialization in clinical health psychology is unnecessary and, if it comes at the expense of more generalized training in professional psychology, potentially detrimental, the prevailing opinion is that it offers considerable advantages to both patients and practitioners. Furthermore, the importance of identifying specific training guidelines and competencies for evaluating clinical health psychologists is being increasingly understood, as demonstrated by the recognition of health psychology as a clinical specialty by the American Board of Professional Psychology (ABPP) in 1991, inaugural educational summits recently convened by the leadership of Division 38 of the APA and the CCHPTP, and guidelines for lifelong competency development and self-assessment [66, 67]. Such efforts will help to ensure that practitioners receive

adequate training to function competently as clinical psychologists in the area of health, while also protecting behavioral health care consumers from those claiming expertise without the requisite education, knowledge, and experience [66].

Role of the Clinical Health Psychologist in Specialty Medical Care

The past several decades have seen professional psychology gain an increasingly prominent place in health care. Recognizing the potential for psychologists to play an important role in this arena, the APA's Council of Representatives identified an expansion of psychology's role in advancing health as one of the three primary goals of the Strategic Plan adopted in 2009 (www.apa.org/about/index.aspx). The recent changes have been the result of a variety of factors including a growing recognition of both the prevalence and impact of psychological disorders among the general medical population and the increasing evidence base demonstrating both the efficacy [68–70] and cost-effectiveness [71–73] of psychosocial interventions for the prevention and treatment of many common medical problems. These factors have brought about exciting new opportunities for psychologists as health care providers.

Although clinical health psychologists work in a wide range of health care locations and contexts, a useful distinction can be made based on whether one practices in primary care as opposed to settings focused on secondary or tertiary care, prevention, or rehabilitation [56]. While the services that are provided (assessment, consultation, liaison, multidisciplinary collaboration, intervention) share many similarities, there are also notable differences that distinguish the roles of the psychologist and overall approaches to care provided in these types of settings. Because the practice of clinical psychology in primary care is the focus of another chapter in this volume (Chap. 14) and is also addressed extensively in a chapter on education and training (Chap. 3), we do not cover it here. In the sections that follow, we briefly review applications for clinical health psychology in specialty care.

Whereas primary care focuses on the initial response to patients' presenting complaints, assessment of medically undifferentiated, complex problems, and continuity of care, the emphasis in specialty care is on targeted, episodic care [74]. Although psychology's presence in primary care is a relatively new development, clinical health psychologists have long been involved in providing specialty care for a variety of physical conditions. Areas in which clinical health psychologists frequently play key roles (often as part of an interdisciplinary treatment team) include cardiac rehabilitation, pain management, sleep medicine, weight management, organ transplant, eating disorders, substance use disorders, oncology, endocrinology, reproductive health, genetic testing, dialysis, and pulmonary and physical rehabilitation, to name but a few. Consequently, depending on their area of clinical focus, they may work with a variety of different specialists including nurses, obstetrician-gynecologists, surgeons, dentists, psychiatrists, anesthesiologists, oncologists, neurolo-

gists, rheumatologists, endocrinologists, pulmonologists, physical therapists, social workers, and occupational therapists, among others [55]. Services range from assessment of psychosocial contributors to physical conditions, evaluation of suitability for medical procedures, psychoeducation, strategies for improving adherence to complex medical regimens, biofeedback, and coping with chronic illness. Clinical health psychologists are also frequently involved in the delivery of evidence-based behavioral interventions to help manage a variety of conditions (e.g., chronic pain, obesity, bulimia nervosa, substance abuse and dependence, somatoform disorders, dyssomnias). In addition, they often engage in liaison activities in which they provide education to other health care providers regarding biopsychosocial factors associated with illness [75]. While many of the types of services provided are similar to those seen in primary care, clinical health psychologists working in a specialty setting tend to develop a greater depth of focal expertise related to a particular disease or patient population. As noted above, care also tends to be provided on a more episodic basis, with less emphasis on establishing and maintaining ongoing relationships with patients.

Historically, clinical health psychologists in specialty settings have been primarily involved in the provision of tertiary care to help manage and reduce the symptoms and sequelae of an illness or disorder [75]. With the growing emphasis on health promotion and preventing disease, however, clinical health psychologists have become increasingly involved in primary and secondary prevention [75]. As such, they are often involved in programs designed to modify risk factors for injury or illness. Common examples include dietary modification, physical activity promotion, and tobacco-use prevention and cessation.

Clinical health psychologists involved in specialty care may work in an independent practice setting, group practice, or institutional practice [55]. They may also be involved in health care at different system levels, providing services that target individuals, families, classrooms, work sites, or communities [75]. Consequently, the opportunities for clinical health psychologists to serve as specialist health care providers are nearly limitless with regard to setting, patient population, and disease focus.

Conclusions

In this chapter, we presented a selective history of clinical health psychology as it evolved in the context of medicine, trends in illness and causes of death, clinical psychology, and interdisciplinary research on biological processes and behavior. The second half of the chapter discussed issues of generalist versus specialist training and the different roles that clinical health psychologists play in specialty care. The historical events bringing clinical psychologist to medical settings provide a perspective on the important theories, people, and events that have contributed to our current state of clinical practice. Being mindful of our history and the evolving role of clinical psychologists in medical settings can help us to shape our future in a way that is mutually beneficial for patients, professional psychology, and medicine.

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