

Chapter 2

A History of Clinical Psychology in Medical Settings

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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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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

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