Chapter 1

WHY SINGLE-CASE RESEARCH METHODS?

The methods of science have been enormously successful wherever they have been tried. Let us apply them to human affairs.

—B. F. Skinner (1953, p. 5)

These words, written a half century ago by America's leading behavioral scientist, reflect the purpose of this book. All around us, human service professionals—be they psychologists, nurses, rehabilitation specialists, or physical and occupational therapists—attempt to salve the aches, pain, and anxieties of being human in the 21st century. Increasingly, their efforts are being informed by the latest findings from the research-oriented disciplines of the behavioral and health sciences. As a consequence, it has become imperative that students in the human service fields acquire an understanding of and appreciation for the many philosophies and methods that characterize research in these areas. Indeed, being a competent professional in any field requires a working familiarity with the latest relevant research, particularly when this research bears important implications for applied interventions.

This book is intended as an introduction to the philosophical and strategic features of single-case research as conducted within the behavioral and health sciences. Single-case research represents a powerful and effective alternative to the large group designs that have characterized much of the history of behavioral science but that often prove impractical, particularly in the applied setting of the field or clinic. The flexibility and sensitivity of single-case designs to "local" factors offer substantial benefits to those charged with conducting research in clinical

settings. Moreover, the single-case approach, in both spirit and practice, meshes well with the needs of professionals who are almost exclusively providing care for individual clients. We will be considering the philosophical underpinnings, historical development, design features and advantages, contemporary use, and future prospects of single-case research as conducted by psychologists, nurses, physical and occupational therapists, and other allied health scientists.

MANAGED CARE

Rising health care costs have changed the way health care practitioners offer their services and the ways in which they are reimbursed. **Managed care practices** affect the work of all health care providers in the United States in some way, whether they are psychologists, physicians, nurses, social workers, physical therapists, or occupational therapists. Given that approximately 170 million Americans subscribe to a managed care insurance plan (Kent & Hersen, 2000), health care providers are affected by the provisions set forth by their patients' managed care organizations. The managed care market is a product of free enterprise, and health care, like other systems, has not been spared the consequences of a competitive market.

The earliest recognized prepaid health care arrangement occurred in the early 20th century in the Pacific Northwestern portion of the United States with the development of the Western Clinic. The founders of the Western Clinic, physicians Thomas Curran and James Yocum, contracted with several lumber company representatives to provide comprehensive health care for their employees at the rate of 50 cents per employee per month. Curran and Yocum collected this fee independent of the number of patients they saw. The success of the Western Clinic inspired other physicians to build on this idea and to contract with employers from the railroad, mining, and lumber industries in the northwestern states, producing a rapid rise in such prepaid contacts between physicians and industry bosses. A second example of an early prepaid contract occurred in Texas in the early 1930s: Baylor Hospital contracted with 1,250 schoolteachers who agreed to prepay the hospital annual premiums in exchange for a set number of days of hospital care. This agreement is cited as the first group health insurance plan, eventually giving rise to Blue Cross (Rickel & Wise, 1999).

The Great Depression, with the uncertainties created by economic hardship, advanced early forms of managed care. More and more middle-class Americans wanted protection from the hardships brought on by an unexpected injury or illness. As a result, health care providers found more acceptance from Americans with strained incomes in changing their traditional ways of charging for their services.

Perhaps one of the best known and most successful of the Depression-era managed care arrangements came with the development of Kaiser Permanente, today's

leading managed care organization with, as of the year 2004, over 7 million members (Moon, 2004). In 1931, Henry Kaiser and his business partners won a bid from the federal government to build Boulder Dam (now called Hoover Dam). For five cents per employee per work hour, Kaiser hired Sidney Garfield, and a group of physicians recruited by Garfield, to provide health care for his workers. As the dam's construction began, Kaiser built a 10-bed hospital on wheels that was pulled along in the direction of the construction. This early managed care structure possessed two features that are still found in today's **health maintenance organizations (HMOs)**: (1) prepaid arrangements and (2) group practice (Hendricks, 1993). Kaiser Permanente expanded its operations throughout the West Coast and eventually spread throughout the country, including states such as Texas, Ohio, and Maryland.

The success of Kaiser Permanente was due, in part, to the willingness of Americans to embrace these concepts. As Americans were becoming more technologically informed, they were generally not offended by the idea of their health statuses viewed as things to be "maintained," nor could they predict the mechanical approach to patient care that results in part from this philosophy of health (Hendricks, 1993). Interestingly, the American Medical Association (AMA) initially vehemently opposed such prepaid group plans for health care and advocated maintaining the traditional fee-for-service arrangements, for two reasons. First, the AMA argued that prepaid plans ethically compromised the patient–doctor trust. Second, the AMA stated that it would be impossible to hold a corporation accountable for breaches in standards of practice. Additionally, the AMA was disturbed by what it believed was intrusiveness into the lives of employees by their employers. In the early 1950s, the AMA argued against prepaid group health, claiming it was a form of "socialized medicine" (Hendricks, 1993). Despite these objections, prepaid group arrangements flourished.

For the most part, these early prepaid arrangements centered on the mission of providing affordable health care to the laborers of industrial companies. Employers typically provided workers a choice between traditional indemnity coverage and enrollment in an HMO. However, these early prepaid group plans served as models for the development of government-sponsored HMOs of the 1970s that led to the rapid growth of HMOs in the 1980s. Although HMOs in the 1980s were primarily involved in the private sector, they increasingly participated in publicly sponsored programs such as Medicare and Medicaid.

With the development of the social programs Medicaid and Medicare, the federal government fully stepped into the health insurance arena. Medicaid was established in 1965 by the federal government through Title XIX of the Social Security Act to provide health care to poor and disabled Americans (Spidle, 1999). It was modeled on the traditional Blue Cross/Blue Shield service benefits, thus emulating the private sector. Although Medicare was designed to be administered and

handled by the federal government, Medicaid's budgetary spending was to be determined by state need, with each state government deciding how much it needed to spend. Historically, Medicaid has presented huge challenges to state budgets, leading an increasing number of states to look toward managed care operations to provide service for their Medicaid beneficiaries.

In the mid-1960s, President Lyndon Johnson made Medicare one of his administration's top priorities. By the early 1970s, the federal government spoke of a "national health care crisis." The Nixon Administration searched for ways to curtail what it perceived as the looming catastrophe associated with social welfare programs. Paul Ellwood, a Minneapolis physician, argued that the existing fee-for-service arrangements rewarded those physicians who kept their patients ill. He proposed a system in which the federal government rewarded physicians for maintaining health. Ellwood's model was based on the Kaiser Permanente models and led to the **HMO Act of 1973,** which provided economic incentives for the development of HMOs.

The creation of these HMOs was an effort to curtail the rising U.S. health and mental health care costs. The percentage of the gross national product spent on health care rose from 6% in 1963 to 10% in 1987 (Broskowski, 1994). Advancements in medical technology and pharmacology, although improving health and increasing the life span, cost the federal government more money. Finally, premiums for private insurance were also increasing.

Over the next several years, six amendments were made to the HMO Act of 1973 relaxing the requirements of the original act. The **1974 Employment Retirement Security Act (ERISA)** gave early HMOs a great boost by allowing employers an exemption to state laws requiring federally qualified HMOs to base premium rates on the health care costs of the entire community. By basing their premium costs solely on the health care of their employees, HMOs were able to reduce their premium rates, leading to a rapid expansion of HMOs in the 1980s (Zieman, 1998).

The HMO Act of 1973 was of particular interest to mental health providers. The legislation required provision of outpatient mental health care and referral services for drug and alcohol abuse. A 1976 amendment allowed HMOs to utilize clinical expertise of "other health care professionals," including clinical psychologists, rather than the traditional psychiatrists.

As noted earlier, both general health care and mental health care have experienced soaring costs in the last several decades. These high costs are frequently given as a rationale by insurance companies for increasing control over services provided by utilization review methods. Mental health professionals, embedded in today's managed care policies, work in an environment much different from the payment arrangements of the 1970s and a large portion of the 1980s. During those times, mental health professionals had more discretion in the types of treatments

they chose for their clients. Often, they were not required to provide lengthy evidence and validation for the work they did in therapy. Mental health professionals who contract with HMOs earn a fixed amount per referral, regardless of the number of psychotherapy sessions required for treatment. Rickel and Wise (1999) wrote, "HMOs control costs by putting providers in a position to lose money by extensive or inefficient treatment, or having an unusually sick population" (p. 34). HMOs typically restrict their members' options for mental health care by limiting which mental health professional they will reimburse for services.

Preferred provider organizations (PPOs), compared with HMOs, are managed care structures that allow for a greater degree of flexibility in enrollees' choice of providers. When the member desires to see a mental health provider not on the PPO list of providers, the PPO typically reimburses the mental health provider by paying a percentage of the "usual, customary, and reasonable fee" for treatment.

Almost every managed care structure in which mental health providers (psychologists, social workers, occupational therapists, physical therapists, etc.) will be involved uses the practice of **utilization review** (management). This utilization review involves monitoring the treatment plan, including plans to help the client overcome the problem, diagnosis(es), previous treatments the client has received, and the time frame needed to achieve stated goals. The primary goal of such review is to limit costs that the insurance company must pay. Concerned about variations in practice, the health care community has focused on improving care as well as reducing costs by reviewing the empirical literature, developing protocols, and encouraging practitioners to voluntarily adopt the suggested treatment guidelines. In the early 1990s, for instance, a federal agency called the Agency for Health Care Policy and Research developed a series of treatment guidelines for various conditions (Clay, 2000). The primary treatments endorsed by managed care structures are solution-focused therapies; crisis interventions; group therapies; behaviorally oriented therapies; therapies that involve biopsychosocial assessments; and more recently, computer-assisted therapies.

The range of reactions to the advent of managed care from health care providers spans the gamut from denial and resistance, refusal to cooperate with utilization review demands, and career changes, to acceptance and adjusting and tailoring practices to fit managed care demands (Broskowski, 1994). Supporters of managed care policies assert that by requiring outcome research and the integration of physical and mental health care, managed care encourages the establishment of scientific foundations of practice (Sanchez & Turner, 2003). On the other hand, authors such as Hersch (1995) refer to managed care as "the most tangible and problematic manifestation of health care reform" (p. 16), and even "the corpse in the living room" (Pipal, 1995, p. 323).

Outcome measures, regardless of one's personal perspective, are becoming part of standard treatment in which service providers must demonstrate their efficacy as they are quantitatively being compared to one another. Cohen (2003) wrote:

> Outcome management serves several important functions in the mental health field, including evaluating and refining treatments, providing clear descriptions of therapeutic procedures, and enhancing the credibility of psychotherapy. The current marketplace of mental health care increasingly demands greater accountability of its practitioners. (p. 39)

Evidence suggests that outcome measures are valued by clinicians but are not widely used in practice. In the American Psychological Association's (APA's) 1998 Committee for the Advancement of Professional Practice survey on the effects of managed care on psychological practice, 29% of respondents reported that they used some type of outcome measure in their practice. Of these, 40% used a standardized method (e.g., administering the Beck Depression Inventory at multiple intervals), and the remaining 60% used nonstandardized methods of assessing client outcome (Phelps, Eisman, & Kohout, 1998). Hatfield and Ogles (2004) investigated provider factors associated with the use of outcome measures and concluded that clinicians are increasingly using outcome measures both because of the calls for accountability placed on practitioners by managed care and because of the usefulness of the information such measures can provide for treatment decisions.

EVIDENCE-BASED PRACTICE

Like nursing, medicine, social work, and other health care disciplines, psychology is struggling with **evidence-based practice (EBP)**. EBP has become a major movement calling on practitioners in all areas of health care, including mental health care, to use the best available scientific evidence as a basis for formulating treatments for individual clients. In cancer care, for example, EBP may mean informing patients about the most recent advances in chemotherapy and guiding them to the best type for their particular illness (DeAngelis, 2005). In psychology, Division 12 of the APA Task Force on the Promotion and Dissemination of Psychological Procedures created a firestorm when it published guidelines for evidence-based practice. The most recent update of the report (Chambless et al., 1998) lists 16 empirically supported treatments and 56 efficacious treatments (treatments supported, but with fewer studies). The empirically supported treatments (see Table 1.1 for a list) represent a range of orientations, including behavioral, cognitive, interpersonal, and family, although cognitive–behavioral and behavioral treatments are the most common. Each year's report has included

a preamble that deals with issues related to the mandate of the task force or with reactions to its work. For example, the most recent report extended its review to include couples and family treatments for disorders, treatments for the severely mentally ill, and treatments within the field of health psychology. Critics of such EBPs argued that managed care companies could misuse findings to narrowly define EBPs and that the findings could give malpractice lawyers material with which to seek potential cases. In response, Levant (2005) wrote that by internally defining practice guidelines, psychologists can demonstrate their authority of the best treatments and avoid having them imposed by outside forces. Division 29 of the APA compiled a task force to examine empirically supported practices from a slightly broader perspective. Its findings emphasized the importance of considering the therapeutic relationship in research on empirically supported therapy (Ackerman et al., 2001). Elements of the therapeutic relationship that the committee found to be demonstratively effective include empathy, goal consensus between the therapist and the client, and collaboration.

Table 1.1 List of empirically supported treatments identified by Chambless et al. (1998)

Disorder	*Empirically Supported Treatments*
Anxiety and stress	Cognitive–behavior therapy for panic disorder with and without agoraphobia
	Cognitive–behavior therapy for generalized anxiety disorder
	Exposure treatment for agoraphobia
	Exposure/guided mastery for specific phobia
	Exposure and response prevention for obsessive–compulsive disorder
	Stress inoculation training for coping
Depression	Behavior therapy for depression
	Cognitive therapy for depression
	Interpersonal therapy for depression
Health problems	Behavior therapy for headache
	Cognitive–behavior therapy for bulimia
	Multicomponent cognitive–behavior therapy for pain associated with rheumatic disease
	Multicomponent cognitive–behavior therapy with relapse prevention for smoking cessation
Problems of childhood	Behavior modification for enuresis
	Parent training programs for children with oppositional behavior
Marital discord	Behavioral marital therapy

Source: Adapted from Chambless et al. (1998).

One problem that arises with conducting studies that determine EBPs is the incompatibility of psychological studies with research designs. The Food and Drug Administration uses randomized, double-blind placebo control group designs to determine which drugs will meet approval. This method has become the standard in fields as diverse as medicine, agriculture, and education. In fact, Chambless et al. (1998) argued that rigorous research methods are required to demonstrate treatment efficacy and document that any benefits observed may be reasonably attributed to the effects of the treatment and not to chance or confounding factors such as passage of time, the effects of psychological assessment, or unique client characteristics. In Chambless and Hollon's (1998) view, efficacy is best demonstrated in **randomized controlled trials (RCTs),** or carefully controlled *single-case research designs* and their group analogues.

Unfortunately, the limitations of RCTs have become increasingly apparent. Wampold and Bhati (2004), for instance, wrote that placebo-controlled groups are not suited for psychotherapy research because it is impossible for them to be blind; the psychologist would necessarily have to be aware of the treatment being administered during psychotherapy sessions. They also suggested that a psychologist who is assigned the noneffective placebo control cannot avoid communicating cues about his or her belief in the treatment. DeAngelis (2005) presented a compelling argument that such RCTs may present problems in **external validity**, that is, the ability of a treatment to work in real-life settings. RCTs' greatest strength is in demonstrating that a given intervention leads to a certain outcome by controlling for client characteristics and randomizing clients to different treatments. This methodological restriction, though, produces a very homogeneous client profile, resembling very little of the client variability often seen in practice. The unique client characteristics encountered by professionals poses serious problems for the generalizability of RCT findings.

In the subsequent chapters of this book we argue that single-case research offers substantial advantages over large-group designs, especially for scientists and practitioners working in applied behavioral and health care settings. Although single-case research has been enthusiastically endorsed by a number of professionals in psychology (Blampied, 1999, 2000; Kazdin, 1981, 1982b; Morgan & Morgan, 2001), nursing (Elder, 1997; Sterling & McNally, 1992), and rehabilitation science (Gill, Stratford, & Sanford, 1992; Gonnella, 1989; Joshi, 2000; Ottenbacher, 1990a; Zhan & Ottenbacher, 2001), the method has yet to be widely adopted within these professions. This reluctance may stem from several factors, perhaps the most important being that such professionals probably received the same training in research methods that their professors received, dominated by a focus on large-group research designs. Fortunately, research methodologists have reopened a considerable dialogue on the questionable hegemony of traditional large-group

research designs (Cohen, 1990, 1994; Loftus, 1993, 1996; Wilkinson & The Task Force on Statistical Inference, 1999) and have encouraged the development of alternative strategies. Among these alternatives, single-case designs hold out unique promise for those charged with evaluating clinical interventions.

INTERIM SUMMARY

Managed care systems have changed the nature of insurance in the United States. Such systems have impacted consumers as well as health care providers, leading to a situation in which many practitioners are asked to justify the procedures they use with their clients. EBP encourages practitioners to utilize treatments that have been shown to be most effective by research and to collect outcome measures documenting that the treatment provided is effective. Traditional large-group research designs, however, are a poor fit with the practice of health care practitioners. Fortunately, single-case research designs offer with practical and valid strategies for empirically validating clinical interventions.

CONTEMPORARY THEMES IN SINGLE-CASE RESEARCH

In a perfect world, interventions delivered by health care professionals would be directly informed, perhaps even dictated by, current findings from basic research. Perfect worlds, of course, exist only in utopian novels, and the actual relationship between science and practice can be described only as an uneasy alliance. Although professional training programs profess commitment to the ideal of science-informed practice, practitioners report an altogether different reality. Psychologist Joseph Matarazzo, a recognized scientist and clinician, claimed some time ago that "few of my research findings affect my practice. Psychological science per se doesn't guide me one bit" (Bergin & Strupp, 1972). Such a statement is an alarming claim coming from such a notable **scientist–practitioner**, but it sheds important light on the contentious nature of the science–practice relationship and confirms what has become a widespread concern among professionals (Barlow, 1981; Stricker, 1992; Stricker & Trierweiler, 2006). This reluctance on the part of many health care providers to embrace EBP may be due to many factors. For example, the "clinical wisdom view" of practice has frequently been based on what the AMA Evidence-Based Practice Working Group (1992) referred to as (a) unsystematic observations from clinical experience, (b) valuing common sense over empirical findings, (c) a belief that clinical training and experience lead to effective practice, and (d) an assumption that wiser and more experienced

clinicians are available for consultation. Unfortunately, all of these assumptions are grounded in a paradigm that tends to be subjective and is most often clinician rather than client focused.

Statistical Versus Clinical Significance

Perhaps one of the most salient factors leading to this disconnect between science and practice is the research training received by behavioral and health care professionals. This training has been dominated by the conventions of large group research design and the statistical methods used in such research. Of particular value to those professionals in training who will be delivering services to clients in applied settings is the distinction between statistical and clinical significance. Statistical significance, as we discuss in Chapter 2, refers to a specific probability that a calculated value of a test statistic, such as reflected in the difference between two group means on a dependent variable, is due to chance. If this probability is very low (usually 5% or less) and the study was conducted in a methodologically sound manner, then the results are said to be **statistically significant**, leading to the inference that the group difference was due to the independent variable.

For many practicing professionals, however, an intervention is significant, or important, to the extent that it produces a noticeable, real world change in functioning for the client. This standard, known as **clinical or practical significance**, has been recommended as a more relevant criterion for evaluating change than the purely mathematical criterion of statistical significance. There are, however, various ways to conceptualize clinical significance, and there exists no standard measure for evaluating treatment effectiveness in this manner. Despite this ongoing challenge, many applied researchers have argued forcefully for pursuing measures of clinical significance as being more appropriate and relevant than statistical significance within the clinical domain. As we discuss further in Chapter 4, single-case researchers have been frequent contributors to the dialogue on statistical versus clinical significance and have offered promising methods for assessing clinical or practical significance (Barlow & Hersen, 1984; Hayes, 1981).

External Validity and Traditional Large-Group Research Designs

In traditional large-group research designs, it is standard to assume that the research findings will generalize to people similar to the ones included in the study. For example, if a study examined 3,500 depressed women, then we take for granted that the results of the study would apply to a depressed woman encountered in another setting. However, this is not necessarily the case, because of the manner in which data in such studies are analyzed and interpreted. In traditional large-group

research designs, researchers usually calculate group statistics by aggregating the data across all subjects, ordinarily producing group means. Separate means for experimental and control groups are then compared statistically to determine whether the clinical intervention was effective. However, these results, calculated at the group level, are meaningful only when applied to the larger population from which the subjects were sampled; thus, the study's group means are used to draw inferences about the means of the population. The results may or may not have any relevance for a particular client, and this is the dilemma faced by the practicing clinician. Even in a large group, individual clients will respond differentially to any treatment. The individual practitioner, whether psychologist, nurse, or occupational or physical therapist, is in no position to assume that an intervention shown to produce an effect at the group level will produce an identical effect for a particular client. To the extent that the findings of such a study possess external validity, such validity can be interpreted only at the level of the group, not the individual.

External Validity and Single-Case Research

Single-case researchers confront a slightly different issue regarding external validity. On the one hand, it might appear intuitive that the findings from a particular single-case study would have very little external validity, or applicability to other cases or settings. This characteristic of single-case designs is, in fact, frequently identified by authors of methodology textbooks as the most conspicuous shortcoming of single-case research methods. We tend naturally to be distrustful of small numbers, and so we might logically question whether the results of an intervention for one client would have any bearing on the effects of the intervention on other clients.

However, our ability to apply or generalize the results of any study is dependent on a number of factors, sample size being only one of these. Inevitably, questions about external validity often come down to such nuances as participant characteristics, such as age, gender, and ethnicity, and procedural details, such as the length, intensity, and competence with which the intervention was delivered. Many of these issues are as relevant to single-case research as they are to large-group research, although they are handled quite differently within these separate research traditions. Because single-case researchers tend to make little use of probability theory and statistical inference, their approach to establishing the external validity of a finding is quite disparate from the tradition embraced by group researchers. Single-case researchers, in keeping with the conventions of the natural sciences, endorse replication as the primary mechanism for establishing the generality of an empirical finding. Indeed, as we will see throughout much of this book, many of the designs used

by single-case researchers are in part defined by strategies for conducting replications, both across multiple subjects and within the same subject over time. Replications of large group studies are difficult to conduct and require both considerable resources and time. The inherent flexibility of single-case research, however, makes replication quite feasible, and, as we will see in later chapters, most single-case designs derive their rigor from the ways in which such replications are conducted.

INTERIM SUMMARY

The distinction between statistical and clinical significance has been a contentious issue for decades, and it has very real implications for professionals delivering clinical services in the current managed care landscape. Single-case researchers have argued that this science-versus-practice gap has resulted largely from the conventional group research training received by most applied professionals. External validity, the extent to which research findings can be applied to subjects and/or settings beyond a particular study, constitutes a substantial challenge for any researcher. Group researchers tend to address this challenge through the use of large, representative samples of subjects or clients, whereas single-case researchers view replication as the most powerful and efficient method for ensuring the generalizability of findings.

KEY TERMS GLOSSARY

Managed care practices Any system of health care delivery aimed at controlling costs. Managed care systems typically rely on a primary care physician who acts as a gatekeeper through whom the patient has to go to obtain other health services, such as specialty medical care, surgery, or physical therapy.

Health maintenance organizations (HMOs) A type of managed care organization that provides health insurance coverage through contracted hospitals, doctors, and other providers. Unlike traditional insurance, the care provided generally follows a set of guidelines, typically allowing for a lower monthly premium.

HMO Act of 1973 This act provided economic incentives for the development of HMOs.

1974 Employment Retirement Security Act (ERISA) This law boosted HMOs by allowing employers an exemption to state laws requiring federally qualified HMOs to base premium rates on the health care costs of the entire community.

Preferred provider organizations (PPOs) Similar to HMOs; however, in a PPO care is paid for as it is received instead of in advance in the form of a scheduled fee, which may lead to more flexibility by allowing for visits to out-of-network professionals at a greater expense. Visits within the network require only the payment of a small fee. A primary physician within the network handles referrals to specialists covered by the PPO. After any visit, the policy holder must submit a claim and will be reimbursed for the visit minus his or her copayment.

Utilization review A process for monitoring the use and delivery of services, especially one used by a managed care provider to control health care costs.

Outcome measures Evaluate the success of a treatment by comparing the patient's behavior or progress with behavior at the beginning of treatment or at first assessment.

Evidence-based practice (EBP) Advocates using the best available scientific evidence as a basis for formulating treatments for individual clients.

Randomized controlled trials (RCTs) A study in which subjects are allocated at random (by chance alone) to receive one of several clinical interventions. One of these interventions is the standard of comparison or control. The control may be a standard practice, a placebo (e.g., "sugar pill"), or no intervention at all.

External validity When the findings of a study can be applied in other settings, under different conditions, or with different participants.

Scientist–practitioner A model of training and education leading to professional practice in which practitioners adhere to scientific methods, procedures, and research in their day-to-day practice.

Statistically significant A result is said to be statistically significant when the result would occur less than 5% of the time if the populations were really identical.

Clinical (practical) significance When a noticeable, real-world change in client symptoms or behavior is produced.

Replication The repetition of a research study to determine whether the basic findings of the original study can be generalized to other participants and circumstances

SUPPLEMENTS

Review Questions

1. Identify and describe two historical factors in the development and proliferation of managed care systems.

2. How did the HMO Act of 1973 and the 1974 Employment Retirement Security Act (ERISA) impact managed care?
3. What is EBP, and why is it so controversial?
4. What is the difference between clinical and statistical significance? Provide an example of how this might impact a health care provider.
5. Describe three problems with the use of large-group research for health care providers. How might single-participant research designs address these problems?

SUGGESTED READINGS/HELPFUL WEB SITES

http://www.pohly.com/terms.html
This Web site has a very comprehensive glossary for managed care terms.

http://healthlinks.washington.edu/index.jsp?id=e64464ae-50e1-4b89-b1d0-6c58f01b017f
This Web page is devoted to many issues relevant to evidence-based practice. Many links offer access to ways to calculate evidence measures, issues relevant to research methodology, and research centers that specialize in evidence-based practice.