Evidence-Based Practice

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What is Evidence-Based Treatment?

The most widely used definition of EBP has its foundation in the definition of evidence-based medicine articulated by Sackett and colleagues: “… the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients … integrating individual clinical expertise with the best available external clinical evidence from systematic research” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71).

This definition was adapted and expanded upon in an influential report by the Institute of Medicine (IOM, 2001), and more recently forms the basis for the American Psychological Association’s (APA) landmark policy statement regarding EBP in psychology, “[EBP is] the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA, 2005, p. 1).

Thus, EBP for substance use disorders must focus on the integration of the best available research evidence with clinical expertise and patient values. Integration is highlighted in this definition to stress the importance of all three components of this definition. Although integration of these components is critical, identification of the core components is likewise important.

What is Research Evidence?

What is research evidence? What counts as research evidence? Where does one find research evidence? How does one apply research evidence to answer clinical questions? In general, research evidence refers to knowledge obtained through careful and controlled observations applying the scientific method and methodologies generally accepted by a professional field. Sackett et al. (1996) define “best available clinical evidence” as “clinically relevant research, often from the basic sciences of medicine, but especially from patient centered clinical research… (p. 71).” The IOM (2001) uses essentially the same definitions. The APA (2005) policy statement similarly defines “best research evidence” as “scientific results related to intervention strategies, assessment, clinical problems, and patient populations in laboratory and field settings as well as to clinically relevant results of basic research in psychology and related fields (p. 1).” Notably, all three definitions cast a wide net to include as evidence not only the results of randomized clinical trials (RCTs) of specific treatments with defined populations or problems, but also research involving assessment (reliability, validity, clinical utility, etc.), psychopathology (including description, etiology, and prognosis), treatment process, fundamental psychological processes (e.g., learning, cognition, or emotion), and a host of other relevant areas of scientific knowledge.
Quality of the Evidence

When trying to define the boundaries of research evidence, however, it becomes easy for reasonable professionals to disagree. Rather than approaching the issue in search of an arbitrary boundary of what is or is not research evidence, we favor an approach that treats all evidence as existing on a continuum (McCabe, 2004). Simply put, some research evidence is stronger and more trustworthy than others. For example, research evidence from a single unreplicated experiment is less trustworthy than research evidence supported by a number of replicated experiments. Similarly, research evidence from a cross-sectional correlation study is not as trustworthy as research evidence from a carefully controlled longitudinal study in terms of the independent variable’s strength of inference. Thus, we find it more useful to consider all possible research evidence as existing on a continuum that takes into account the strength of the evidence, including the validity and reliability of the finding, the strength of inference offered by the research design, the generalizability to a population of interest, and the size of the effect in both statistical and clinical terms. An example of a continuum-based hierarchical organization of sources of scientific evidence can be found in Table 7.1.

<table>
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<tr>
<th>TABLE 7.1 Hierarchical Levels of Evidence</th>
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<tr>
<td><strong>Level I:</strong> Evidence from true experimental designs.</td>
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<tr>
<td>1. Evidence derived from rigorous reviews of several experimental studies, including meta-analyses.</td>
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<td>2. Evidence from one or more well-controlled randomized study.</td>
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<td>3. Evidence from practice guidelines derived from rigorous reviews of scientific evidence.</td>
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<td><strong>Level II:</strong> Evidence from quasi-experimental designs.</td>
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<tr>
<td>1. Evidence derived from well-designed, controlled trials without randomization.</td>
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<tr>
<td>2. Evidence from multiple time series, cohort, or case-control studies.</td>
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<tr>
<td>3. Evidence from dramatic results in one uncontrolled study (sometimes seen in medicine or public health, but rare in behavioral science)</td>
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<tr>
<td><strong>Level III:</strong> Evidence from expert consensus.</td>
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<tr>
<td>1. Evidence derived from the multiple opinions of respected authorities, based upon known clinical and/or research experience.</td>
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<tr>
<td><strong>Level IV:</strong> Evidence from qualitative literature reviews and other publications.</td>
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<tr>
<td>1. Evidence derived from a qualitative review of published evidence without quantitative synthesis (as in meta-analysis).</td>
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<tr>
<td>2. Evidence derived from opinion essays, case reports, etc.</td>
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<tr>
<td>3. Evidence derived from opinions of influential individuals, if those opinions are based upon relevant personal clinical experience (e.g., authors of popular books).</td>
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<tr>
<td><strong>Level V:</strong> “Someone once told me…” or “I once treated a case like this…”</td>
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<tr>
<td>1. Evidence based upon a single training experience (e.g., expert advice from a supervisor or course instructor).</td>
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<tr>
<td>2. Evidence based on recollection of single similar case in one’s history without rigorous data and/or follow-up.</td>
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Relevance of the Evidence

Evidence can come from a variety of types of research, from basic laboratory science to applied clinical science with clinical populations. Some evidence is more directly relevant to the clinical question than others. For example, when considering a decision about the ideal treatment for a Hispanic-American man with cocaine dependence, the following lines of research are increasingly relevant to the clinical question (although all may be useful): (a) basic research describing fundamental learning processes (e.g., modeling, operant and classical conditioning); (b) laboratory research with animals studying learning processes relative to cocaine as a reinforcer; (c) laboratory research with humans studying behavioral economics of alternative reinforcers; (d) laboratory research with humans who are dependent on cocaine studying behavioral economics and behavioral choice; (e) correlational research with cocaine-dependent men studying deficiencies in alternative reinforcement; (f) a randomized controlled trial of a treatment featuring contingency management/community reinforcement as a treatment for alcohol dependence in men; (g) a randomized controlled trial of a treatment featuring contingency management/community reinforcement as treatment for cocaine dependence in Anglo-American men; and (h) a randomized controlled trial for a treatment featuring contingency management/community reinforcement for cocaine dependence in Hispanic-American men.

Of course, one would be quick to observe that the “level” of each study is not independent; each incorporates and builds upon knowledge generated by the other. In fact, one might observe that in a well-developed field of scientific inquiry, each subsequent level explicitly and carefully builds upon the best available evidence from the previous levels. Nonetheless, the final study mentioned above is most closely related to the clinical question and would likely be considerably more useful in informing clinical decision making. Frequently, however, this type of evidence may not yet be available in the research literature, and the practitioner may have to integrate other levels of evidence, or extrapolate from evidence regarding similar problems or populations, with expertise and patient values to answer the clinical questions and derive a treatment plan.

Where does one Find Evidence?

Although debates continue about what constitutes evidence that should inform clinical practice, there is little disagreement that evidence exists in the scientific literature that can serve in this role. One issue however, is that the evidence available in the literature grows exponentially over time, and generally becomes more complex and sophisticated in regard to sampling, design, measurement, and analysis strategies as science progresses and the evidence base matures. To further complicate matters, the nature of scientific evidence is such that historic evidence will over time be superseded or replaced by new evidence, requiring all practitioners of EBP to remain abreast of new developments in the research. The abundance of evidence and the dynamic nature of evidence are such that relying upon primary sources is simply not feasible (Sackett, Straus, Richardson, Rosenbert, & Haynes, 2000) and other means of obtaining and utilizing evidence are necessary (referred to as “evidence management” by McCabe, 2004). Members of the practice community often lack the time and resources (e.g., access to
database searches or full-text copies of literature) to make personal primary-source searches for evidence practical or even possible. Fortunately, a growing number of resources are available that provide credible reviews and summaries of the most current evidence available which are much more useful to practitioners. These resources generally represent Level I or Level II sources of evidence relative to the hierarchy depicted in Table 7.1.

**Commissioned Reviews or Institute Reports** Given the importance of EBP to inform policy, governments may at times commission summaries of evidence to guide prudent use of our limited health care resources. One example of this type of report from the field of psychotherapy are the reports by Roth and Fonagy (2004) commissioned by the National Health Service of the United Kingdom. Examples from the addictions field include reports from the National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) such as, Principles of Drug Addiction Treatment (National Institute of Drug Abuse, 1999) or the Treatment Improvement Protocol Series (TIPS; SAMHSA, 2008) that combine brief reviews of the research evidence with practical protocols for implementing empirically supported practices in real-world settings. Another example of commissioned reviews is the summary of empirically supported psychological treatments commissioned by David Barlow, then president of Division 12 (clinical psychology) of the American Psychological Association (Task Force on Promotion and Dissemination of Psychological Procedures, 1995; Chambless et al., 1996, 1998).

**Clinical Practice Guidelines and Consensus Statements** Clinical practice guidelines can be initiated and produced by a variety of sources. The Michigan Quality Improvement Consortium has developed an extensive list of health care practice guidelines (see http://www.mqic.org). The National Guideline Clearinghouse lists 39 clinical practice guidelines for “substance-related disorders” including the popular Treating Tobacco Use and Dependence clinical practice guideline issued by the U.S. Public Health Service (Fiore et al., 2000).

**Cochrane Reviews** Since 1993, the Cochrane Collaboration has produced and distributed dozens of reviews of randomized controlled trials of treatments for health problems (see http://www.cochrane.org). Although the collaboration’s primary focus is on medical health care, the Cochrane Library (see http://www.cochranelibrary.com) also includes a number of reviews on the prevention and treatment of drug and alcohol dependence (pharmacological and psychosocial).

**Textbooks** Although there are a number of textbooks devoted to the assessment and treatment of substance abuse, including this text, Sackett and colleagues (2000) suggest caution in using text books as a sole source of evidence summaries because they may be biased editorially and become out of date quickly as the status of the evidence is always changing. In general, we would caution against placing trust in textbooks that offer little connection to research evidence or evidence-rich textbooks more than a few years old as authoritative guides for practice. The present text has attempted to provide the reader with guidelines regarding the current state of assessment and treatment at the time of publication, and encouragement for continued reading and life-long learning.
What is the Evidence Telling Us?

Randomized clinical trials (RCTs) testing the efficacy of specific treatments to ameliorate specific problems are frequently considered the gold standard for informing EBP (Behar & Borkovec, 2003). When rigorously designed, these between-group experimental trials provide the strongest possible inference about the treatment by controlling for and ruling out several other rival hypotheses. For this reason, RCTs are widely used in medicine and remain the standard for approval of any new medicine or medical procedure. RCTs were also the primary design used by the Division 12 Task Force in determining whether to designate a certain treatment as “empirically supported.”

The major concern about focusing too much on RCTs is that it is tempting to equate EBP with RCTs and to assume EBP is the implementation of Empirically Supported Treatments (Collins, Leffingwell, & Belar, 2007). Some have expressed fears that a movement towards EBP will result in a policy-driven prescription of certain treatments for some problems, a prohibition of some therapeutic activities, or an end to creative pursuit of new, innovative, and potentially more effective approaches. Such outcomes would indeed be unfortunate, but will only occur if the movement towards EBP is misunderstood or misrepresented. EBP, as defined by Sackett (2000) and APA (2005) recognizes that current research evidence will always be inadequate to guide all (if not most) clinical decision making and treatment planning, and retains the professional clinician, in the context of each individual patient, to be the arbiter of decision making through the integration of evidence with clinical expertise and patient values.

If RCTs are not to be construed as the be-all-end-all standard of evidence, then what is to be gleaned from this evidence? Borkovec and colleagues (Behar & Borkovec, 2003; Borkovec & Castonguay, 1998) argue that what we learn primarily from well-designed RCTs is not an answer to the question, “Does this treatment work?” but rather we learn something fundamental about the nature of human problems and the processes by which change in those problems is most likely to occur. Perhaps the question best answered by RCTs, and the most useful answer for informing EBP, is “What is the nature of the disorder and its maintaining conditions such that this particular component or combination of components specifically leads to improvement?” (Behar & Borkovec, 2003, p. 218). Viewed in this manner, RCTs are easier to view as integrated with so-called “basic science” findings that contribute to a conceptual understanding of the disorder itself, which should in turn lead to more rapid scientific advances and the most efficient development of more powerful treatments (Miranda & Borkovec, 1999). The NIDA guide, Principles of Drug Treatment described earlier (National Institute of Drug Abuse, 1999) is an exemplar of a summary including research evidence that integrates both basic and applied research in order to extrapolate evidence-based principles of best practices (see Table 7.2).

What is Clinical Expertise?

The second component of EBP is clinical expertise. Although clinical expertise is recognized as an important aspect for effective EBP, it may well be the most misunderstood and controversial component. Clinical expertise incorporates therapist characteristics, skills, attitudes,
In this section, we address this question by first identifying general components of clinical expertise that are important for EBP in the assessment and treatment of substance use disorders and to discuss methods for the identification of components thought to be important for effective clinical expertise. Although there are clear gaps in our knowledge, particularly agreement as to the best method(s) for assessment of these competencies, we focus on aspects of expertise that have been shown to be associated with positive outcomes. Finally, we provide a summary discussion of the importance of identifying aspects of clinical competence for substance abuse counseling. These aspects include level of professional training and draw heavily on competencies identified for professional practice in related disciplines. These competencies are the foundation upon which clinical expertise is based and it is critical for substance abuse practitioners to ensure that they have acquired these minimal practice competencies.

Although focusing on clinical expertise and the importance of expertise for influencing treatment outcome, it is not our intention to overemphasize the unique contribution of clinical expertise. Consistent with the definition of EBP, we fully believe that best practice is accomplished when therapy is based on the integration of the best research evidence with clinical expertise and patient characteristics, values, and context. Outcomes are influenced by treatments used (Barlow, 2004), individual patient characteristics, and other characteristics that are outside the therapeutic relationship such as social support or the presence of other Axis I disorders (Lambert & Barley, 2002). Thus, evidence-based treatment of substance use disorders involves the integration of a multitude of factors, with clinical expertise being one

| TABLE 7.2  
Research-Based Principles of Substance Use Disorder Treatment |
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<td>1. No single treatment is appropriate for all individuals.</td>
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<td>2. Treatment needs to be readily available.</td>
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<td>3. Effective treatment attends to multiple needs of the individual, not just his or her drug use.</td>
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<tr>
<td>4. An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person's changing needs.</td>
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<tr>
<td>5. Remaining in treatment for an adequate period of time is critical for treatment effectiveness.</td>
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<td>6. Counseling (individual and/or group) and other behavioral therapies are critical components of effective treatment for addiction.</td>
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<tr>
<td>7. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.</td>
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<td>8. Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way.</td>
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<tr>
<td>9. Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use.</td>
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<td>10. Treatment does not need to be voluntary to be effective.</td>
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<td>11. Possible drug use during treatment must be monitored continuously.</td>
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<tr>
<td>12. Treatment programs should provide assessment for HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases, and counseling to help patients modify or change behaviors that place themselves or others at risk for infection.</td>
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<tr>
<td>13. Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment.</td>
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factor. However, the ability to effectively accomplish this integration is, in part, at the heart of clinical expertise and, as such, it is important that this aspect of EBP remain a central component of practice.

Components of Clinical Expertise

Recently, clinical expertise has been defined as “the ability to integrate knowledge, experience, technical and relational skill, critical thinking, prediction, decision-making, and self-assessment within a fluid situation that often is uncertain and ambiguous” (Goodheart, 2006). This definition implies a level of cognitive decision making that, although easy to conceptualize and affirm, is difficult to objectively observe and identify. As such, it may be most useful to identify components of expertise and use clinical outcomes as an indirect method for assessing expertise.

An alternative to this more cognitive conceptualization of clinical expertise is to focus on the components of expertise. Lambert and his colleagues (Lambert & Barley, 2002) have identified three major categories that comprise clinical expertise that are not mutually exclusive: Therapist Attributes, Facilitative Conditions, and Therapeutic Alliance. These categories are somewhat arbitrary and very interdependent upon one another, however, it seems to us to be useful to discuss these distinct components of clinical expertise using this framework.

Therapist Attributes and Facilitative Conditions

It has been well understood for some time that some therapists are more effective than others. Orlinsky and Howard (1978) reviewed the outcomes of 23 therapists for 143 female clients. Their review indicated significant variability between therapists. Clients of some therapists were more likely to have better outcomes than others and these differences were not obviously related to the type of treatment used. In fact, even for therapists who, on average, showed less effective client outcomes, some of their clients displayed positive outcomes. These findings have been supported in other studies (Luborsky, McLellan, Diguer, Woody, & Seligman, 1997), including focused manualized treatments (cf., Shapiro, Firth-Cozens, & Stiles, 1989).

Several factors have been identified that appear to characterize more effective therapists. More effective therapists have been described as sensitive, gentle, and honest (Lazarus, 1971), or as warm, attentive, interested, understanding, and respectful (Strupp, Fox, & Lessler, 1969). Orlinsky, Grawe, and Parks (1994) in a review of studies found several characteristics to be related to positive outcomes: (a) therapist credibility, (b) therapist skill, (c) empathic understanding, (d) affirmation of the patient, (e) ability to engage with the patient, (f) ability to focus on the patient’s problems, and (g) ability to direct the patient’s attention to the patient’s affective experience.

The most frequently identified therapist variables appear to be characterized into three components: (a) empathic understanding, (b) nonpossessive warmth and positive regard, and (c) congruence. These components have been shown to be important for cognitive behavioral treatments (Ablon & Jones, 1999; Murphy, Cramer, & Lillie, 1984), interpersonal psychotherapy (Ablon & Jones, 1999), and behavioral treatment of alcohol consumption (Miller, Taylor & West, 1980).
Other therapist characteristics that have at times been shown to be related to specific treatment outcomes include gender, race, cultural attitudes, emotional well-being, and therapeutic style. It should also be noted that few studies have focused on these characteristics with substance-using clients alone. It is possible that therapist characteristics that are associated with positive outcomes will be similar for most disorders, however, it is also possible that for some characteristics, the relationship between the characteristic and successful treatment outcome will be different for specific substance-using populations. Thus, we have encouraged all authors to address these issues where appropriate, even if the conclusion is that more research is needed to better understand these relationships.

**Therapeutic Alliance** In addition to the therapist characteristics reviewed above, therapeutic alliance appears to be an important aspect of treatment effectiveness (Horvath & Greenberg, 1994). Therapeutic alliance is a conceptually derived, but empirically supported, construct that describes the relationship between a therapist and client. Most definitions of therapeutic alliance focus on three aspects of this construct: (a) a collaborative relationship, (b) an affective bond between the client and therapist, and (c) mutual agreement upon treatment goals and tasks (Martin, Garske, & Davis, 2000). Measurement of therapeutic alliance has grown from observer rating scales to self-report scales used by therapists and/or clients. Regardless of how it is measured though, the importance of the therapeutic alliance appears to be independent of treatment modality (Martin et al., 2000).

Research has consistently shown a moderate effect size (.22–.26) between alliance and therapy outcomes (Horath & Bedi, 2002; Horvath & Greenberg, 1994). Most studies reported in the literature measure alliance early in treatment (before session 5). It is interesting to note studies that measure alliance at different time points show small differences in the relationship between alliance to outcomes with the strongest relationships observed for measures made early and late in treatment. This pattern has been well replicated empirically and is underscored by theoretical explanations (for additional information, see Horvath & Bedi, 2002; Wampold, 2001).

In short, the measurement of alliance early in treatment is very important and the ability to develop a positive therapeutic alliance early in treatment should be viewed as a positive indication of clinical expertise.

**Enhancing Clinical Expertise**

It may seem presumptuous to begin to talk about enhancing clinical expertise when there is no agreed-upon definition or method(s) for assessment of expertise (Keen & Freeston, 2008). However, to a large extent, clinical expertise represents the development of professional competencies that are tied to aspirational goals of professional training programs. In professional psychology, for example, core competencies for practice have already been identified (Kaslow et al., 2004). As practice competencies are developed for addiction counseling, it is likely that they will be modeled after related disciplines and focus on such broad areas as clinical intervention and assessment, as well as cross-cutting competencies such as multicultural competence, ethical and professional development, and consultation and interdisciplinary relationships.
In the chapters in Section III of this text, attention is given where available to specific competencies that have been shown to be related to positive outcomes. It is important to point out, however, that professional education and training are lifelong. One must maintain skills and competencies, and like research evidence, knowledge about effective clinical expertise is evolving and treatment providers must adapt to this knowledge base.

When is Clinical Expertise Present?

Although specific definitions and assessment methods do not exist, we believe that it is possible to identify the presence of clinical expertise by looking at client outcomes. Specifically, in a clinical setting with a number of treatment providers, there will be variability both between clinicians and between clients for a particular clinician. With respect to variability in outcomes between clinicians, it is important to develop local norms and it is critical that systematic outcome data be collected by all clinicians for all clients. Staff need to evaluate these data and identify those clinicians for whom clients have poor outcomes.

Having identified clinicians who are not successful with clients allows for retraining, continuing education, and/or self-exploration to determine why lower outcomes are present. Just as one would use those treatment strategies that produce superior outcomes, one must determine how to maximize outcomes for specific clinicians. To our knowledge, this is rare outside training clinics. However, EBP demands that not only does the clinician use those treatment strategies that have been shown to be more effective, clinicians must develop (and use) those clinical skills that are also more effective. This may require systemwide assessment.

Likewise, individual clinicians need to be aware of the characteristics of clients that they see who show differential outcomes. Specifically, clinicians need to understand the extent to which they are not as effective with particular client groups and through self-observation and supervision, understand the extent to which these differential outcomes are due to different therapist behaviors with different clients or whether the same therapist behaviors are differentially effective. From a system perspective, it is possible that an agency could use different clinicians for different types or clients, or clinicians could refer out the types of clients for whom they are less effective. All of these alternatives would be consistent with enhanced EBP.

New Competencies Required for EBP

In addition to the clinical competencies already described, the clinician must also develop new competencies specific to the practice of EBP. These competencies include skills for accessing relevant research evidence and integrating it into clinical decisions. Such skills include asking well-formulated questions, searching for and acquiring evidence, evaluating the evidence, and applying that evidence to the question at hand. Recognizing the need for training in these new skills, the Office of Behavioral and Social Sciences within the National Institutes of Health has funded the development of an Internet resource, EBBP.org, for disseminating and enhancing competencies related to EBP. This resource will include online training modules for each of the new competencies required for EBP.
Identification of Clinical Expertise for Substance Abuse Counseling

As noted previously, each of the chapters in Section III of this text provides information about what is currently known about the research on treatment effectiveness, clinical expertise, and patient values. The integration of research evidence, clinical expertise, and patient values is only possible if the clinician has sufficient clinical expertise to accomplish this integration. Although we believe that specific components of clinical expertise can be identified and trained, the whole is greater than the sum of the parts. By knowing that clients are improving, and fortunately in the area of substance abuse outcome measures can be quite specific (e.g., abstinence), one can identify effective practice.

This process of identification of competencies for substance abuse counseling must draw on the knowledge gained in the psychotherapy literature while at the same time being open to divergent perspectives. Just as treatment techniques are subjected to rigorous evaluation, we must rigorously evaluate competencies needed for effective practice, and when such competencies are shown to be critical for effective outcomes, ensure that all treatment providers master those critical competencies.

What are Patient Values?

We now turn to the third and final component of EBP, with a particular emphasis on the treatment of substance-related disorders. Patient values refers to “the unique preferences, concerns and expectations that each patient brings to a clinical encounter and that must be integrated into clinical decisions if they are to serve the patient” (IOM, 2001, p. 147). Despite the fact that this component is mentioned third, it is important to note that the definition addresses a true integration of all three components without indicating that one is more important than the next. Although the EBP movement has returned to prominence the idea that patient–treatment interactions are related to clinical outcomes, research reports from the past three decades have indicated that treatment outcomes can be enhanced by carefully matching individuals, based on personal characteristics, to specific treatment approaches.

We first review the normative data on what types of treatments work for whom, with a focus on the findings from Project MATCH, a multisite clinical trial for the treatment of alcohol-use problems. Next, we outline general client characteristics that have been shown to be related to outcome and retention in psychotherapy and follow with a discussion of patient characteristics that may be unique to substance use disorders. Finally, we provide a summary of how a clinician might incorporate the personal values of the client and his or her preferences into the available effective treatment interventions.

What Works for Whom: Findings from Project MATCH

During the 1980s, psychotherapy research began to study client characteristics with greater rigor and numerous small studies (e.g., de Jong, Treiber, & Henrich, 1986; Emmelkamp, Brilman, & Kuiper, 1986; McCrady, Noel, Abrans, & Stout, 1986) seemed to indicate that behaviorally oriented treatments might significantly interact with such characteristics.
The National Academy of Science’s Institute of Medicine consequently recommended a large-scale investigation of matching specific treatments to specific patients, with the idea that this would result in better outcomes, increased cost-effectiveness, and improved utilization of available treatment resources. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) responded to this challenge and, in 1989, launched an eight-year, multisite trial of “Matching Alcoholism Treatments to Client Heterogeneity” (a.k.a. Project MATCH; 1993, 1997).

Three psychosocial treatments were selected for inclusion in the trial, each distinctive from the other, and all having demonstrated effectiveness in previous, well-controlled research trials. The three treatments were 12-step facilitation therapy, cognitive-behavioral therapy, and motivational enhancement therapy. An indeterminate number of patient characteristics could have been investigated, but to preserve power in analyses, Project MATCH focused on those supported by research evidence and/or widely believed theory, including a demographic variable (i.e., gender), alcohol-related variables (i.e., severity of alcohol involvement, typology of alcoholism, social support for drinking versus abstinence), and individual differences (i.e., cognitive impairment, sociopathy, level of conceptual reasoning, meaning-seeking, psychiatric severity, and motivational readiness to change). Response to treatment was operationalized as the average number of drinks per drinking day and the percentage of days abstinent during the year following the course of treatment provided through Project MATCH. A total of 64 potential interactions could have been examined, although only 16 relationships were formally proposed in hypotheses. During analyses, the only identified “match” that emerged was between patients with low psychiatric severity and 12-step facilitative treatment. Such individuals reported more days of abstinence than those individuals treated in the cognitive-behavioral condition. Notably, this relationship was not explicitly stated in the initial hypotheses. As a result of Project MATCH many researchers and clinicians concluded that matching of patients to treatment does not substantially alter outcomes and research investigations began to shift in emphasis to better elucidating the biophysical mechanisms of dependence.

Despite the enormous amount of time and money invested in this undertaking, Project MATCH was not without methodological weaknesses. Specifically, although the treatments provided were tightly controlled to ensure high quality and standard delivery, patients were not prohibited from pursuing parallel informal experiences that may have affected treatment. Most notably, many of the patients assigned to cognitive-behavioral or motivational enhancement therapy concurrently attended meetings of Alcoholics Anonymous. Although this was conceptualized by the researchers as more of a mutually supportive fellowship, rather than a formalized treatment, it is unclear how this may have manifested itself when the data were being analyzed.

Furthermore, and perhaps more relevant to this chapter, is that Project MATCH was not intended to examine client preferences, concerns, or expectations, which is inconsistent with our working definition of evidenced-based treatment. However, a closer examination of the project’s findings may indeed reveal significant relationships reflecting patient values. For example, outpatient clients who were categorized as being more motivated for treatment evidenced better outcomes, suggesting that differing outcome expectancies may have been present. Similarly, social support for drinking was found to be predictive of poorer outcomes which may reflect differing individual preferences pertaining to ending or limiting those relationships. Additional information revealing the importance of client preferences is found in
Project MATCH’s report of participant recruitment. Specifically, 459 potential participants declined to participate following the initial screening because they considered participation in the study to be too inconvenient or time consuming. Other possible participants were excluded because they evidenced concurrent drug dependencies, did not have stable housing, or reported legal or probation problems. It is quite likely that such individuals would report differing preferences, concerns, expectations, and values compared to those participants who were included in the study. Although the purpose of this chapter is predominantly one of exploring client values in the form of preferences, concerns, and expectations, these variables cannot be extricated from individual characteristics, including personality variables, and the familial and societal cultures pertaining to the individual.

**Client Characteristics and Psychotherapy: What is Generally Known?**

**Age** Psychotherapy studies generally indicate that age is not strongly related to treatment retention or treatment outcome (Dubrin & Zastowny, 1988; Sledge, Moras, Hartley, & Levine, 1990). Younger individuals, however, appear to be more likely to have a history of mental health service utilization and report stronger intentions of using such services in the future (Smith, Peck, & McGovern, 2004). However, in the case of the substance-related disorders, youth appears to be a specific risk factor for premature termination and poorer outcome (Agosti, Nunes, & Ocepeck-Welikson, 1996).

**Gender** Research examining the relationship of gender and psychotherapy outcome also generally reveals no differences (Garfield, 1994; Petry, Tennen, & Affleck, 2000), with the possible exception of those in treatment for depression (Thase, Frank, Kornstein, & Yonkers, 2000). However, the possibility exists that gender differences are exerting an influence in how treatment options are evaluated by clients, prior to actually initiating psychotherapy. For example, Smith et al. (2004) observed that women were more likely to possess positive attitudes about help-seeking behavior. They also reported that women were more likely to have a history of utilizing mental health services and to report an intention of utilizing mental health services in the future if needed.

Robertson and Fitzgerald (1992) provide further evidence suggesting the presence of gender differences with respect to the initiation of psychological services. In this study, men were asked to rate their preferences when presented with descriptions of mental health services. As a group, men reported greater preference for the more structured service options, considering them to be less emotionally involving. In a more recent study (Blazina & Marks, 2001), men who endorsed traditional masculine gender roles were more likely to report a negative reaction when presented with treatment options, with the most pronounced negativity directed at unstructured group services (i.e., a men's support group). Although both of these studies were conducted with non-help-seeking, male undergraduates, who may not be comparable to help-seeking populations, NIMH has acknowledged that gender may play a significant role in treatment initiation and selection given their development of the *Real Men, Real Depression* marketing campaign.

More specifically to substance-abusing populations, a study of adolescents suffering from substance-abuse problems (Blood & Cornwall, 1994) found no significant predictors of treatment
completion among female participants, but four distinct predictors among male participants:
(1) severity of problems with alcohol; (2) greater use of drugs other than alcohol, cannabis, and
tobacco; (3) lower self-esteem; and (4) more internalizing symptoms of emotional distress. The
finding regarding the role of internalizing symptoms is unclear however, given that another
study of adolescents (Rivers, Greenbaum, & Goldberg, 2001) revealed that males who reported
more internalizing symptomatology reduced their drug use more compared to their low inter-
nalizing peers. With respect to female participants, those who initially reported experiencing
more family problems became more self-efficacious about future drug avoidance.

Within adult substance-abusing populations, there also appear to be some gender-specific
findings. In one study it was found that an alcohol-related diagnosis was predictive of treat-
ment initiation in females (Green, Polen, Dickinson, Lynch, & Bennett, 2002). Completion
of the course of treatment was predicted both by having a higher income and by being referred
by an agency or legal entity. Length of treatment course was predicted by alcohol- or opiate-
related diagnoses and also by legal/agency referral. In contrast, failure to initiate treatment
was predicted by the presence of one or more mental health diagnoses and failure to com-
plete treatment was predicted by greater impairment in employment and comorbid substance-
dependence diagnoses. For men, initiation of treatment was predicted by being employed and
by being married. Less education was predictive of a failure to initiate treatment, and treat-
ment completion was predicted by older age. Fewer mental health diagnoses, higher educa-
tion, domestic victim status, or prior 12-step attendance were all predictive of length of time
in treatment. Failure to complete treatment was predicted by worse psychiatric status, receiv-
ing Medicaid, and motivation for entering treatment.

Ethnicity and Culture  Research into the relationship among ethnicity, culture, and psycho-
therapy outcome suggests that the client–therapist alliance is especially salient when working
with ethnic minority populations (e.g., Gibbs, 1985; Griffith & Jones, 1979; Jenkins, 1997;
Sue & Zane, 1987). For example, literature in this field indicates that egalitarian attitudes
by therapists may be particularly useful when working with low-income, African-American
clients (Ross, 1983). Some research indicates that the biases and/or discomfort of the therapist
when working with members of a different ethnicity may adversely affect treatment outcome
(Garb, 1997; Whaley, 1998). However, other research suggests that the impact of therapist
attitude may actually be related to SES status, rather than ethnic status (Lerner, 1972).

Cultural variables and how they may influence treatment outcome has also been examined
empirically. Specifically, judgments pertaining to satisfaction in life may be influenced by the
individual’s subjective determination of needs and goals which appear to be influenced by the
individual’s experience and understanding of culture and society (Diener & Lucas, 2000). A study examining Asian-American college students found that the level of self-reported
cultural identity was a significant moderator of credibility ratings for treatment rationales of
both time-limited psychotherapy as well as cognitive therapy (Wong, Kim, & Zane, 2003). Other studies have noted that common constructs of Western psychotherapy may inherently
conflict with conventional expectations in non-Western cultures (e.g., Leong, 1986), particu-
larly in terms of emphasis on individualism versus collectivism (Duan & Wang, 2000).

Cultural differences are also likely to play a significant role in cases of immigration. A large-
scale study of disability levels and health utilization in Australia found that individuals from
non-English-speaking backgrounds, particularly those born in Asia, Africa, or the Middle East, were less likely to utilize health services and, consequently, more likely to suffer from high levels of disability (Boufous, Silove, Bauman, & Steel, 2005). Thus, the importance of cultural differences should not be overlooked as their influence may be misinterpreted by clinicians as indicative of resistance (Reid, 1999) and, in turn, be linked to premature termination and unsuccessful courses of treatment.

A recent meta-analysis examining smoking cessation treatment programs concluded that although treatments appear to be effective across racial and ethnic groups, there are no studies that have examined the relative efficacy rates (Piper, Fox, Welsch, Fiore, & Baker, 2001). Nevertheless, evidence does suggest that use and dependence factors may vary across groups. Value systems may also vary significantly between groups in ways that are relevant to treatment. For example, Ortega and Alegría (2002) reported that an attitude of self-reliance was related to utilization of mental health services in low-income Puerto Ricans. Specifically, those with higher levels of self-reliant attitudes were less likely to access services, even when deemed to be in need of such services.

**Intelligence** General intellectual abilities are not typically thought to relate significantly to therapy outcome (Haaga, DeRubeis, Stewart, & Beck, 1991). However, most studies reporting no differences include only a restricted range of cognitive abilities. As such, a comprehensive review of this area is beyond the scope of this chapter. For a more detailed review of psychotherapy involving persons with mental retardation, including suggestions of modifications that might be useful for each of the major schools of psychotherapy, see Nezu and Nezu (1994).

**Psychiatric Comorbidity** The existing treatment outcome literature suggests that fewer comorbid mental health problems lead to a better prognosis (AuBuchon & Malatesta, 1994; McDermut & Zimmerman, 1998; Rossiter, Agras, Telch, & Schneider, 1993); however, this is overly simplistic. At present, a preponderance of psychotherapy research is centered on examining the efficacy of specific treatments in clinical populations with a singular diagnosis (for illustrative purposes, see Chambless et al., 1998). As such, a paucity of research is devoted to developing treatments for those with comorbid diagnoses. In general, it appears that the presence of one or more personality disorders is a specific risk for premature treatment discontinuation, with estimates ranging from 42 to 67% (Chiesa, Drahosrd, & Longo, 2000; Gunderson et al., 1989; Shea et al., 1990; Skodol, Buckley, & Charles, 1983).

The examination of symptom severity is another way of investigating this issue, regardless of diagnoses. It has been widely and repeatedly demonstrated that higher levels of symptomatic distress are related to poorer treatment outcomes, and this finding holds true in substance abusing populations (McLellan, Luborsky, Woody, Druley, & O’Brien, 1983; McLellan et al., 1994).

**Expectancies** Research on psychotherapy attrition (or “premature termination”) has estimated that 30 to 60% of clients in outpatient settings discontinue treatment before the therapist considers termination appropriate (Sledge et al., 1990). In fact, in some urban mental health centers as many as 37–45% may not return after the first session (Fiester & Rudestam,
One contributing factor that has been identified as predictive of which individuals may experience negative initial outcome is disconfirmed expectations (Garfield, 1994). Research examining expectancies has demonstrated that clients with more accurate expectations for treatment evidence better outcomes (e.g., Gaston, Marmar, Gallagher, & Thompson, 1989; Joyce & Piper, 1998). Conversely, clients who formulate a negative impression of their therapist, based on whatever subjective or idiosyncratic variables they consider salient, have been found to be more likely to drop out of treatment (Beckham, 1989), perhaps because these clients do not expect that such therapists will be able to help them effectively with their presenting concerns.

Preferences Clients present with idiosyncratic preferences that may also influence treatment, including treatment selection and continuation, acceptance of treatment rationales, decision making, and delivery of feedback. For example, a large study examining preferences related to treatment options in Germany found that psychotherapy was the preferred treatment over medication (Riedel-Heller, Matschinger, & Angermeyer, 2005). What is also notable from this study, given the overall theme of this book, is that it appears that research evidence may not be well known, or perhaps as influential, in guiding clients when faced with making treatment-related decisions. Instead, clients appeared to rely more heavily on their beliefs, expectations, and preferences in making treatment decisions.

Agreement of treatment attrition predictors across treatment populations is not readily found in the literature, but several studies pose strong heuristic value and lay groundwork for the subsequent substance- and population-specific chapters. An excellent review of these factors is available in Ciraulo, Piechniczek-Buczak, and Iscan (2003).

Clients not only appear to differ in terms of the information they consider in decision making, they also vary in their preferences for how decisions are made during treatment. A recent population-based survey of a representative sample examining decision making in medical settings found that most individuals (96%) wanted to be offered treatment choices and have their opinion solicited in the decision-making process (Levinson, Kao, & Kuby, 2005). Nevertheless, 44% of the respondents reported that they preferred to rely on their providers for information and not seek that information themselves, illustrating the importance of providers being fully up to date on the research evidence for available practice options. This point is further confirmed by the finding that more than half (52%) of the respondents identified that their preference is to leave the final treatment decisions up to the provider.

Interestingly, this study also revealed group differences in preferences. Specifically, more active decision-making involvement was desired by females, people in good health, and those with more education. Up to the age of 45, a preference for greater involvement was evident, although this preference subsequently declined. Regardless of age, individuals identifying themselves as African-American or Hispanic were more likely to state a preference for their provider to make treatment-related decisions.

Clients also may have differing preferences for communication exchanges, including preferences for how they disclose information and how those disclosures are responded to by the provider. Floyd, Lang, and McCord (2005) examined this issue in a primary care setting and found that clients who reported they would most likely share their concerns by simply describing their symptoms preferred being asked biomedical questions by the provider in response.
In contrast, clients who indicated they would provide a “clue” to their underlying concern while sharing their symptoms noted no clear preference and were equally comfortable with the provider responding by posing biomedical questions, exploring the clue, or simply facilitating further disclosure. Finally, those clients who indicated they would explicitly state their concern to the provider preferred that the provider respond by, first, acknowledging the concern and, then, exploring the source of the concern.

Client differences in disclosure preferences indicate that previous treatment encounters with a provider may influence level of disclosure (Maguire, 1984; Passik et al., 2002). Unfortunately, some clients withhold information because they consider their provider to be too busy to be bothered by their concerns (Maguire, 1984). Client personality variables may also influence disclosure. For example, a fatalistic orientation in thinking style can moderate a client’s willingness to disclose or solicit treatment-related information (Aitken-Swan & Paterson, 1955). Similarly, patterns of interpersonal control can influence how and when a client makes a disclosure to her provider (Street, Krupat, Kravitz, & Haidet, 2003). Factors specific to the nature of the disclosure are also salient. Clients may be reluctant to disclose information to their provider for fear of appearing foolish or mentally unstable (Cornford, Morgan, & Ridsdale, 1993) and some anticipate feeling shameful or humiliated by disclosure (Lazare, 1987).

Finally, it is important to consider that clients may have preferences for how negative feedback is provided. To our knowledge, there are no studies examining this issue in the mental health literature, but a recent study examining how patients prefer to be given bad news from physicians can be informative (Mast, Kindlimann, & Langewitz, 2005). In this study a patient-centered communication style produced higher ratings of perceived physician emotional expression, availability, and hopefulness. In addition, they were viewed as less domineering and more appropriate in conveying information. Overall, patients were more satisfied with the visit and reported less of an increase in negative emotions following being told the bad news. More specific to substance-related disorders, client preferences may vary widely. These preferences are considered in greater detail in later chapters, including preferences related to moderation approaches versus abstinence models, inpatient versus outpatient settings, and individual versus family modalities. In brief, Patkar and colleagues (2004) noted that when making predictions of treatment outcome, one should be very cautious when such predictions are based on the primary drug of abuse, but client demographics and preferences may be useful. Future research in this area is likely to include novel, Web-based approaches, with early indications being that hazardous drinkers may prefer such interventions (Kypri, Saunders, & Gallagher, 2003).

We encourage practitioners to balance client preferences and characteristics, such as those just listed, with available effective treatments. A study by Thornton et al. (2003) may provide an illustrative example. In this study it was found that clients who displayed a more “helpless” demeanor achieved better outcomes in behaviorally oriented, structured treatments. In contrast, a less-structured, facilitative treatment milieu was found to be more efficacious for those deemed less “helpless.”

Values The overview of client preferences thus far may lead a practitioner to conclude that adopting a patient-centered communication style will ensure the best outcomes. Alas, research in this area illustrates that patient-centered care is more complicated than simply
using patient-centered communication. Patient-centered care requires the care to center on the patient, which includes appreciating their value systems. Somewhat ironically this means that, for some clients, patient-centered communication may conflict with the values of a particular individual client (Aita, McIlvain, & Backer, 2005). Nevertheless, the Institute of Medicine’s (2001) definition of EBP requires that the individual’s unique values be integrated into clinical decision making.

Although it is heavily encouraged that practitioners discuss client values in session rather than make assumptions about personal values, an unusually large \((N = 77,528)\) multinational \((N = 70)\) study examining gender differences is worth keeping in mind (Schwartz & Rubel, 2005). In this study, 10 basic values were examined, and small, but significant effect sizes \((d = .15–.32)\) were found suggesting that men more highly value power, stimulation, hedonism, achievement, and self-direction. In contrast, women were shown to value benevolence and universalism more highly. No gender differences were found for values of tradition and conformity and differences in valuing security were inconsistent. Although the study focused on gender differences, the authors also noted that culture moderated all gender differences. In all, research examining the relationship of values in psychotherapy has demonstrated that some values may be more (e.g., Jensen & Bergin, 1988; Strupp, 1980), or less (e.g., Furnham & Bochner, 1986), facilitative of patients’ subjective well-being. Subjective well-being, in turn, is thought to contribute to positive psychotherapy outcome (Barkham et al., 1996; Callahan, Swift, & Hynan, 2006).

Clinical lore has long held that individuals may expect to feel worse before they begin feeling better in psychotherapy. Although the preceding studies offer strong evidence that such lore is unfounded (Barkham et al., 1996; Callahan et al., 2006; Howard, Lueger, Maling, & Martinovich, 1993), there is some evidence to suggest that when an individual’s values are incompatible with those of an environment they may experience internal conflict (Schwartz, 1992; Tetlock, 1986) and a decline in subjective well-being (Oles, 1991; Sagiv & Schwartz, 2000). Given the demonstrated importance of subjective well-being to successful psychotherapy, it is important for practitioners to be mindful of client values and their congruence with the treatment environment.

**Implementing EBP for Substance Abuse Assessment and Treatment**

Effective assessment and treatment of substance abuse disorders requires attention to each of the three components of EBP and continued integration of each of these components. Thus, one must remain current on the most recent evidence in assessment and treatment. Developing strategies for life-long learning are essential as well as developing habits that allow for easy access to the most current research literature. The field needs to develop better methods for access to current research, but more work is needed to ensure that access will result in inclusion of research findings into practice (cf., Hardisty & Haaga, 2008, for a discussion of these issues).

Each of the chapters in Section III of this text addresses EBP for specific disorders. We hope that each chapter provides a foundation and that this foundation serves to encourage
you to learn more about assessment and treatment. Continued training, through workshops, supervised experiences, and self-exploration is critical. What we know today will be replaced by new and more effective strategies.

References


