

Chapter 1

Evidence-Informed Practice

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Should we take our ethical obligations to clients seriously (e.g., to offer them services most likely to help them achieve outcomes they value)?

Social workers make life-affecting decisions under conditions of time pressures, scarce resources, and uncertainty about the effects of their choices. Evidence-based practice (EBP), also referred to as evidence-informed practice, was developed to help professionals make informed decisions in these difficult circumstances. EBP and health care originated in medicine in part because of variations in services offered and their outcomes (Wennberg, 2002). Variations in services naturally raise questions such as “Are they of equal effectiveness?” or “Do some cause harm?” The history of the helping professions shows that common practices thought to help people were found to harm them (e.g., see Blenkner, Bloom, & Neilson, 2001; McCord, 2003). EBP was developed to help professionals to draw on research findings regarding important decisions in a timely manner, using their clinical expertise to integrate data from varied sources. There were (and are) troubling gaps between available knowledge and what is used by professionals. Literature suggests that professionals do not draw on practice-related research findings to inform practice decisions (e.g., Mullen & Bacon, 2004). Not keeping up with new research findings related to important decisions renders knowledge increasingly out of date. As a result, decisions may be made that harm rather than help clients (e.g., Jacobson, Foxx, & Mulick, 2005; Lilienfeld, Lynn, & Lohr, 2003; Thyer & Pignotti, 2010; Thyer & Pignotti, in press). Lipsey (2009) argues that “interjection of unproven social programs into people’s lives under the guise of helping is little more than quackery” (p. 19). Many clinicians do not honor obligations described in professional codes of ethics regarding informed consent (e.g., see Braddock, Edwards, Hasenberg, Laidley, & Levinson, 1999).

EBP suggests and explores ways to decrease gaps at the levels of both clinical practice and decision making about groups and populations, for example, purchasing services. It is as much about the ethics of educators and researchers as it is about the ethics of practitioners and agency administrators. Gray (2001a) suggests that the helping process can be undermined by the following problems:

1. Overenthusiastic adoption of interventions of unproven efficacy or even proven ineffectiveness;

2. Failure to adopt interventions that do more good than harm at a reasonable cost;
3. Continuing to offer intervention services that have been demonstrated to be ineffective;
4. Adoption of interventions without adequate preparation such that the benefits demonstrated in a research setting cannot be reproduced in the ordinary service setting;
5. Wide variation in the rates at which interventions are adopted or discarded. (p. 366)

Although interlinked in professional codes of ethics and accreditation standards, ethical and evidentiary issues are often worlds apart in practice. If professionals are not familiar with the evidentiary status of alternative practices and policies, they cannot pass this information on to their clients; they cannot honor informed consent obligations (NASW, 2008). If some alternatives are more effective than others in helping clients, and practice proceeds in ignorance of this information, clients are deprived of opportunities to achieve hoped-for outcomes. Currently, gaps between what research suggests is effective and what services are provided are hidden. For example, rarely do child protection staffs compare the services offered by agencies to which they refer clients for parent training with what research suggests is effective training and share this information with clients. Clients are typically not informed that recommended services have not been critically tested or have been found to be ineffective or harmful.

Descriptions of EBP differ in how accurately (or if) they describe the original view of EBP, including obstacles, to assist readers to make up their own minds regarding its value to social workers and clients. The most popular use of the term *EBP* refers to interventions deemed effective by a researcher or organization—for example, the “EBPs” approach (Norcross, Beutler, & Levant, 2006). Another popular use of the term is to simply attach it to a practice to make the practice or policy look good or to be “in tune with the times”; this could be the use of the name without the substance. Still others promote total distortions of EBP as described in original sources (see Gambrill, 2011). Many descriptions of EBP ignore hallmarks of this process, such as involving clients as informed participants. Given these different views, it is important to review the vision of EBP and health care as described by their creators. Otherwise, potential benefits to clients and professionals may be lost.

What Is Evidence-Informed Practice?

EBP (AKA evidence-informed practice) describes a process for a new professional educational format (problem-based learning) designed to help practitioners to link evidentiary, ethical, and application issues. It is assumed that professionals often need information to make decisions, for example,

concerning risk assessment or what services are most likely to help clients attain outcomes they value. As Gray (2001a, p. 354) suggests, when evidence is not used, important failures in decision making occur, such as:

- Ineffective interventions are introduced.
- Interventions that do more harm than good are introduced.
- Interventions that do more good than harm are not introduced.
- Interventions that are ineffective or do more harm than good are not discontinued.

Although its philosophical roots are old, the blooming of EBP as a process attending to evidentiary, ethical, and application issues in all professional venues (education, practice/policy, and research) is fairly recent, facilitated by the Internet revolution.

EBP describes a philosophy and process designed to promote effective use of professional judgment in integrating information regarding each client's unique circumstances and characteristics, including their preferences and actions, and external research findings. It involves the "integration of best research evidence with clinical expertise and [client] values" (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000, p. 1):

Without clinical expertise, practice risks becoming tyrannized by external evidence, for even excellent external evidence may be inapplicable to or inappropriate for an individual patient. Without current best external evidence, practice risks becoming rapidly out of date, to the detriment of patients.

(Sackett, Richardson, Rosenberg, & Haynes, 1997, p. 2)

Evidence-informed practice is a guide for thinking about how decisions should be made (Haynes, Devereaux, & Guyatt, 2002). It requires the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual [clients]" (Sackett et al., 1997, p. 2). It is a process for handling the uncertainty surrounding decisions that must be made in real life, in real time. Sources of uncertainty include limitations in current knowledge, lack of familiarity with what knowledge is available, and difficulties in distinguishing between personal ignorance and lack of competence and actual limitations of knowledge (Fox & Swazy, 1974). Uncertainties may be related to lack of information about problem-related causes, clients' ambivalence about pursuit of certain goals, and whether resources are available to help clients.

A willingness to acknowledge ignorance and uncertainty, combined with taking steps to see if needed information is available, increases the likelihood that important uncertainties can be decreased or identified (Chalmers, 2004). This helps us to honor ethical obligations to involve clients as informed participants. Intuition and unsystematic clinical expertise are considered insufficient grounds on which to make decisions.

On the other hand, the “value-laden nature of clinical decisions” (Guyatt & Rennie, 2002, p. 4) implies that we cannot rely on evidence alone:

Thus, knowing the tools of evidence-based practice is necessary but not sufficient for delivering the highest quality of [client] care. In addition to clinical expertise, the clinician requires compassion, sensitive listening skills, and broad perspectives from the humanities and social sciences. These attributes allow understanding of [clients’ concerns] in the context of their experience, personalities, and cultures. (p. 9)

[A]ny external guideline must be integrated with individual clinical expertise in deciding whether and how it matches the [client’s] clinical state, predicament, and preferences and thus whether it should be applied.

(Sackett et al., 1997, p. 4)

Critical thinking is integral to EBP (Gambrill, 2012a). In both critical thinking as well as EBP, attention is given to ethical issues. The intellectual traits inherent in critical thinking suggested by Paul (1993) such as courage, integrity, and perseverance, reflect the philosophies of EBP described by the originators of EBP (see also Paul & Elder, 2004). Honesty and transparency (clear description of what is done to what effect) are emphasized in both. This applies to all venues of interest in the helping professions: professional education, practice, and policy (what is done to what effect), and related research (its design, conduct, and reporting).

The philosophy of evidence-based practice encourages practitioners to be effective advocates for their clients: “physicians concerned about the health of their patients as a group, or about the health of the community, should consider how they might contribute to reducing poverty” (Guyatt & Rennie, 2002, p. 9). The National Association of Social Workers (NASW) encourages social workers to stand up for others. Service is the first value described in NASW’s Code of Ethics (2008). A key characteristic of EBP is breaking down the division between research and practice, for example, highlighting the importance of clinicians critically appraising research reviews and developing a technology to help them do so: “[T]he leading figures in EBM . . . emphasized that clinicians had to use their scientific training and their judgment to interpret [guidelines] and individualize care accordingly” (Gray, 2001b, p. 26).

Clinical expertise includes use of effective relationship skills and the experience of individual helpers to rapidly identify each client’s unique circumstances, characteristics, and “their individual risks and benefits of potential interventions and their personal values and expectations” (Sackett et al., 2000, p. 1). Using clinical expertise, practitioners integrate information about a client’s characteristics and circumstances with external research findings, client expectations and values, and their preferences and actions (Straus et al., 2005; Sackett et al., 1997). Sackett and his colleagues (1997) suggest that “Increased expertise is reflected in many ways, but especially in more effective and efficient [assessment] and in the more thoughtful identification and compassionate use of individual

[clients'] predicaments, rights and preferences in making clinical decisions about their care" (p. 2). Client values refer to "the unique preferences, concerns and expectations each [client] brings to a clinical encounter and which must be integrated into clinical decisions if they are to serve the [client]" (Sackett et al., 2000, p. 1). Evidence-based health care refers to use of best current knowledge as evidence in decision making about groups and populations (Gray, 2001a). Professional codes of ethics call for key characteristics of EBP such as drawing on practice- and policy-related research and involving clients as informed participants.

Evidence-based decision making arose as an alternative to authority-based decision making, in which consensus, anecdotal experience, or tradition are relied on to make decisions (see Table 1.1). The following examples illustrate reliance on authority-based criteria for selection of service methods.

Ms. Riverton has just been to a workshop on eye movement desensitization therapy. The workshop leader told the participants that this method "works and can be used for a broad range of problems." Ms. Riverton suggests to her supervisor at the mental health clinic where she works that agency staff should use this method. When asked why, she said because the workshop leader is a respected authority in the field.

Mr. Davis read an editorial that describes the DARE programs as very effective in decreasing drug use. No related empirical literature was referred to. He suggests to his agency that they use this method.

In the first example, the authority of a workshop leader is appealed to; in the second, the authority of an author of an editorial. Evidence-based

Table 1.1 Differences Between Authority-Based and Evidence-Based Practitioners

Authority-Based Decision Making	Evidence-Based Decision Making
• Does not inform clients, or misinforms them. • Ignores client preferences (e.g., "We know best"). • Does not pose specific questions about information needs, nor search for and critically appraise related literature and share results with clients. • Motivated to appear well informed, to preserve status and save time. • Ignores errors and mistakes. • Accepts practice- and policy-related claims based on misleading criteria such as tradition and consensus. • Relies solely on self-report of clients or anecdotal observations to evaluate progress.	• Involves clients as informed participants. • Seeks and considers client values and preferences. • Poses clear questions related to information needs, seeks for and critically appraises related research findings, and shares what is found with clients. • Motivated to be an honest and competent broker of knowledge and ignorance. • Seeks out errors and mistakes; values criticism as vital for learning. • Relies on rigorous criteria to appraise claims and select practices and policies (e.g., those that control for biases). • Uses objective as well as subjective measures to evaluate progress with a focus on outcomes of value to the client.

decision making involves the use of quite different criteria. A key one is information about the accuracy of knowledge claims. Although misleading in the incorrect assumption that EBP means only that decisions made are based on evidence of their effectiveness, use of the term does call attention to the fact that available evidence may not be used or the current state of ignorance shared with clients. It is hoped that professionals who consider related research findings regarding decisions and inform clients about them will provide more effective and ethical care than those relying on criteria such as anecdotal experience or popularity.

In discussing the origins of EBP, Gray (2001b) emphasizes the increasing lack of confidence in data of potential use to clinicians, including peer review, which he referred to as “feet of clay.” He highlights the role of gaps between obligations of researchers to report limitations of research, prepare systematic reviews, and accurately describe well-argued alternative views and what we find in published literature. We find:

- Inflated claims.
- Biased estimates of the prevalence of a concern: Propagandistic advocacy in place of careful weighting of evidence.
- Lack of information on the limitations of research.
- Fragmented, incomplete literature reviews.
- Lack of counterevidence to preferred views.
- Lack of well-argued alternative perspectives and related evidence.
- Pseudoinquiry: Poor match between questions addressed and methods used to address them (e.g., see Rubin & Parrish, 2007).
- Ad hominem rather than ad rem argument.
- Disregard of unique knowledge of clients and service providers in making decisions about the appropriateness of a practice guideline.

We find incomplete, uncritical research reviews. Most reviews do not tell us how the authors researched, where they searched, what criteria they used to review studies, and whether they searched for unpublished as well as published reports. Conclusions drawn based on haphazard reviews are often misleading. Recognition of limitations in such reviews related to practice and policy questions encouraged development of the systematic review for synthesizing research findings.

The purpose of a systematic review is to sum up the best available research on a specific question. This is done by synthesizing the results of several studies.

A systematic review uses transparent procedures to find, evaluate and synthesize the results of relevant research. Procedures are explicitly defined in advance, in order to ensure that the exercise is transparent and can be replicated. This practice is also designed to minimize bias.

Studies included in a review are screened for quality, so that the findings of a large number of studies can be combined. Peer review is a key part of the process, qualified independent researchers control the author's methods and results.

A systematic review must have:

- *Clear inclusion/exclusion criteria*
- *An explicit search strategy*
- *Systematic coding and analysis of included studies*
- *Meta-analysis (where possible). (www.campbellcollaboration.org)*

The Internet offers rapid access to relevant databases, including the Campbell and Cochrane databases of reviews. Economic considerations were also a factor. No matter what system of care exists, resources are limited with pressures to use them justly and wisely including considering both individuals and populations (e.g., “Do all residents with a particular need have access to similar quality care?”).

Three Philosophies of Evidence-Based Practice

Evidence-based practice and social care involve a philosophy of ethics of professional practice and related enterprises such as research and scholarly writing, a philosophy of science (epistemology—views about what knowledge is and how it can be gained), and a philosophy of technology. Ethics involves decisions regarding how and when to act; it involves standards of conduct. Epistemology involves views about knowledge and how to get it, or if we can. The philosophy of technology involves questions such as: Should we develop technology? What values should we draw on to decide what to develop? Should we examine the consequences of a given technology? Evidence-informed practice encourages the integration of research and practice, for example, by highlighting the importance of clinicians critically appraising research reviews and developing a technology to help them to do so; “the leading figures in EBM . . . emphasized that clinicians had to use their scientific training and their judgment to interpret [guidelines] and individualize care accordingly” (Gray, 2001b, p. 26). It encourages clinicians to think for themselves—to develop critical appraisal skills. It offers practitioners and administrators a philosophy that is compatible with obligations described in professional codes of ethics as well as an evolving technology for integrating evidentiary, ethical, and practical issues. The uncertainty associated with decisions is acknowledged, not hidden. EBP requires considering research findings related to important practice/policy decisions and sharing what is found (including nothing) with clients. Transparency and honesty regarding the evidentiary status of services is a hallmark of this philosophy.

Steps in Evidence-Based Practice

Steps in EBP include the following:

1. Converting information needs related to decisions into clear questions.
2. Tracking down, with maximum efficiency, the best evidence with which to answer them.

3. Critically appraising that evidence for its validity, impact (size of effect), and applicability (usefulness in practice).
4. Integrating the critical appraisal with our clinical expertise and with our client's unique characteristics and circumstances, including their preferences and values. This involves deciding whether evidence found (if any) applies to the decision at hand (e.g., is a client similar to those studied, is there access to services described) and considering client values and preferences in making decisions.
5. Evaluating our effectiveness and efficiency in carrying out steps 1 to 4 and seeking ways to improve them in the future. (Straus, Richardson, Glasziou, & Haynes, 2005, pp. 3–4)

Questions that arise in the fourth step include: Do research findings apply to my client? That is, is a client similar to clients included in related research findings? Can I use this practice method in my setting (e.g., Are needed resources available)? If not, is there some other access to programs found to be most effective in seeking hoped-for outcomes? What alternatives are available? Will the benefits of service outweigh harms of service for this client? What does my client think about this method? Is it acceptable to clients? What if I don't find anything (Glasziou, Del Mar, & Salisbury, 2003)? What is the number needed to treat, that is, how many people must receive a service for one person to be helped? What is the number needed to harm? Evidence-informed practitioners take advantage of efficient technology for conducting electronic searches to locate the current best evidence regarding a specific question; information literacy and retrievability are emphasized.

Different Kinds of Questions

Different questions require different kinds of research methods to critically appraise proposed assumptions (e.g., Greenhalgh, 2010; Guyatt, Rennie, Mead, & Cook, 2008; Straus et al., 2005). These differences are reflected in the use of different "quality filters" to search for research findings that reflect the particular terms associated with research likely to offer critical tests of questions. Kinds of questions include the following:

- *Effectiveness*: Do job-training programs help clients get and maintain jobs?
- *Prevention*: Do Head Start programs prevent school drop-out?
- *Screening (risk/prognosis)*: Does this measure accurately predict suicide attempts?
- *Description/assessment*: Do self-report data provide accurate descriptions of parenting practices?
- *Harm*: Does (or will) this intervention harm clients?
- *Cost*: How much does this program cost compared to others?

- *Practice guidelines*: Are these practice guidelines valid and are they applicable to my client/agency/community?
- *Self-development*: Am I keeping up-to-date? How can I keep up-to-date?

Sackett et al. (1997, 2000) suggest posing four-part questions (called PICO questions) that describe the *p*opulation of clients, the *i*ntervention of interest, what it may be compared to (including doing nothing), and hoped-for outcomes. Gibbs (2003) refers to these as COPEs questions. First, they are *client-oriented*. They are questions clinicians pose in their daily practice that affect clients' welfare. Second, they have *practical* importance. They concern problems that arise frequently in everyday practice and that are of concern to an agency. For example, child protective service workers must assess risk. Asking the question about what types of clients present the greatest immediate risk for child abuse is a critical one. Third, COPEs (PICO) questions guide an electronic search for related research findings. The process of forming a specific question often begins with a vague general question and then proceeds to a well-built question. Fourth, hoped-for outcomes are identified.

A careful search requires actively seeking information that challenges or disconfirms our assumptions as well as information that supports them. The availability of the Internet has revolutionized the search for information, making it more speedy and more effective. The Cochrane and Campbell Collaborations prepare, maintain, and disseminate high-quality reviews of research related to specific questions (see earlier discussion). Abstracts of reviews are available without charge and can be searched. Reviews are prepared and maintained, based on standards in *The Reviewers' Handbook* (Higgins & Green, 2008), which is revised often to ensure that it remains up to date. The Cochrane Collaboration focuses on health concerns, however, many reviews are relevant to a wide variety of professionals. Examples are "Psychoeducation for Schizophrenia" (Pekkala & Merinder, 2004) and "Psychological Debriefing for Preventing Posttraumatic Stress Disorder" (Rose, Bisson, Churchill, & Wessely, 2002). The Campbell Collaboration, patterned after the Cochrane Collaboration, prepares reviews related to education, social intervention, and criminal justice. Coordinating groups include communication and dissemination, crime and justice, education, social welfare, and a methods group.

Different Styles of Evidence-Based Practice

Sackett and his colleagues (2000) distinguish among three different styles of EBP, all of which require integrating evidence with a client's unique characteristics and environmental circumstances. They suggest that for problems encountered on an everyday basis, we should search and critically appraise reports found. For level 2 (problems encountered less often), they suggest that we seek out critical appraisals already prepared by others who describe

and use explicit criteria for deciding what evidence they select and whether it is valid. Here, step 3 can be omitted and step 2 restricted to sources that have already undergone critical appraisal. A third style applies to problems encountered very infrequently in which we “blindly seek, accept, and apply the recommendations we receive from authorities” (Sackett et al., 2000, p. 5). As they note, the trouble with this mode is that it is “blind” to whether the advice received from the experts “is authoritative (evidence-based, resulting from their operating in the appraising mode) or merely authoritarian (opinion-based, resulting from pride and prejudice)” (p. 5). Lack of time may result in using style 2 with most problems. Guyatt and Rennie (2002) recommend the highest possible skill levels: “Only if you develop advanced skills in interpreting the [practice- and policy-related] literature will you be able to determine the extent to which these attempts are consistent with the best evidence. Second, a high level of EBP skills will allow you to use the original literature effectively, regardless of whether preappraised synopses and evidence-based recommendations are available” (p. 208).

Examples of Evidence-Based Decision Making

Dr. Price works in a mental health crisis center. The administrator of this agency sent a memo to staff that he had heard that brief psychological debriefing was effective in decreasing posttraumatic stress disorder following a crisis and suggested that his staff use this method. Dr. Price decided to see if this was accurate. He formed the following question: In clients experiencing a potentially traumatic event, is brief (1-hour) psychological debriefing, compared to no service, more effective in preventing posttraumatic stress disorder? This is an effectiveness question. He looked in the Cochrane Database and found the systematic review prepared by Rose, Bisson, Churchill and Wessely (2002). To his surprise, this review concluded that not only was this method not effective, there was some indication that it had harmful effects; one study reported that those receiving such counseling were *more* likely to experience stressful reactions a year later. Based on this review, he sent an e-mail to his colleagues questioning the use of this method for clients.

Richard works in a child protection agency that requires him to use a risk assessment measure to estimate the likely recurrence of child abuse among parents alleged to have abused their children. The method used by his agency is a consensus-based instrument; that is, it is based on the opinions of a group of experts on what they consider risk factors. His question is as follows: Among parents alleged to have abused their children, are actuarial measures, compared to consensus-based measures, more accurate in predicting the likelihood of future abuse? Notice again that this is a four-part question: (1) a client group, (2) a particular predictive measure, (3) another kind of risk measure, and (4) the hoped-for outcome. He located relevant articles by Barber (2008) and Johnson (2011). These articles concluded that

an actuarial method was the most accurate. Actuarial measures are based on empirical relationships between certain factors and the likelihood of an outcome such as abuse.

These examples illustrate distinctive features of evidence-informed decision making. Well-structured questions related to information needs were posed that guided an effective, efficient electronic search. Searches can be done in the office using appropriate search methods including Boolean logic (and/or), relevant databases, and quality filters designed to locate the best evidence for a particular kind of question. Critical appraisal skills are used to review what is found. Many sources are available to guide this appraisal that include user-friendly checklists for different kinds of questions (e.g., Greenhalgh, 2010). A search for research findings may reveal that a practice method is harmful. We may discover that there is no research that critically appraises the effectiveness of a practice or policy or that the research is too weak to draw an inference. (Ioannidis [2005] argues that most research findings are false.) All these are findings related to important decisions that must be made. If no research findings are available that provide guidance, decisions must be based on other criteria, such as an empirically grounded practice theory. This is a finding and is shared with clients.

Hallmarks and Implications of the Philosophy of Evidence-Based Practice and Care

The philosophy and related technology of EBP have implications for all individuals and institutions involved with helping clients, including educators, researchers, practitioners/policy makers, and those who provide funding. Research, practice, and educational issues are closely intertwined. For example, poor quality reviews of research related to practice and policy questions may result in bogus practice guidelines that result in poor quality services for clients. Clinicians may be misinformed about the evidentiary status of practice and policy claims and so harm rather than help clients. Hallmarks and implications are interrelated; for example, promotion of transparency contributes to both knowledge flow and honoring ethical obligations.

Move Away From Authoritarian Practices and Policies

The key contribution of EBP is moving from authority-based professions to those in which ethical obligations to clients and students are honored and critical appraisal and honest brokering of knowledge and ignorance thrive. A preference for authoritarian beliefs and actions is by no means limited to clinicians. It flourishes among researchers and academics as well. Examples include misrepresenting views, hiding limitations of research studies, ignoring counterevidence to preferred views, and not involving clients and clinicians as informed participants in decisions made (e.g., about whether

to use a certain practice guideline). Indicators of the authority-based nature of practice include large gaps between what is said and what is done (e.g., professional codes of ethics and current practices and policies)—basing decisions on criteria such as consensus and tradition, lack of informed consent, and censorship of certain kinds of knowledge such as variations in services and their outcomes.

Honor Ethical Obligations

Evidence-informed practice has ethical implications for practitioners and policy makers as well as for researchers and educators. Implications of evidence-informed practice for assessment include: (a) selecting empirically grounded assessment frameworks that reflect research findings regarding outcomes of interest; (b) using reliable, valid assessment measures; (c) involving clients as informed participants and considering their values and preferences. Implications for intervention include using practices and policies found to do more good than harm and accurately informing clients concerning the evidentiary status of methods recommended and alternatives. Implications for evaluation include using methods that accurately reflect degree of change and keeping track of progress on an ongoing basis. A striking characteristic of EBP and related developments is the extent to which clients are involved in many different ways. One is in the attention given to individual differences in client characteristics, circumstances, actions, values, and preferences in making decisions (e.g., see earlier description of EBP). The client-focused nature of evidence-informed decision making requires helpers to attend to client interests: What are *their* desired outcomes? What information would *they* like? What are *their* preferences regarding practices and policies? Considerable attention has been devoted to the creation of decision aids (O’Conner et al., 2009). A second way clients are involved is helping them to develop critical appraisal skills. A third is involving clients in the design and critique of practice- and policy-related research (e.g., Hanley, Truesdale, King, Elbourne, & Chalmers, 2001). A fourth is attending to outcomes that clients value and a fifth is involving them as informed participants. A sixth is recognizing their unique knowledge in relation to application concerns. Decisions concerning the distribution of scarce resources is also a key ethical concern in the helping professions; this requires consideration of populations as well as individuals (Gray, 2001a). Decisions concerning populations may pose hardships for individual clients.

Making Practices, Policies, and Their Outcomes Transparent

Evidence-informed practice encourages transparency of what is done to what effect in all venues of interest, including practice and policy, research, and professional education. It is a democratic endeavor in which clients are apprised of the evidentiary status of services (e.g., the likelihood that they will do more good than harm). There is candidness and clarity in

place of secrecy and obscurity (Chalmers, 2003). These characteristics are at odds with authority-based practice. For example, is there evidence for the following claims:

- Psychological debriefing prevents posttraumatic stress syndrome.
- Eyewitness testimony can be trusted.
- Genograms contribute to accurate assessment.
- Screening programs for depression do more good than harm.

Transparency calls for blowing the whistle on pseudoscience, fraud, quackery, and professional propaganda. It will highlight gaps between resources needed to attain hoped-for outcomes as suggested by related research and what is used and thus may (and should) encourage advocacy on the part of clients and professionals for more effective services. It will reveal services that are ineffective, allowing a more judicious distribution of scarce resources (see Eddy, 1994a, 1994b). It will highlight gaps between contributions to client problems (e.g., lack of health care and high-quality educational opportunities) and interventions used and promoted. Identification of gaps will suggest ways to rearrange resources. Transparency will reveal the extent to which different kinds of ethical obligations are met, such as involving clients as informed participants. It will reveal impossible tasks; consider the unrealistic expectation to “ensure” that no child in protective care be harmed. This cannot be done. Transparency encourages clear language that should discourage propagandistic ploys that hide what is done to what effect. There is no longer a need to veil the lack of evidentiary status for practices and policies, or the lack of focus on client outcomes and failure to consider client preferences.

Increased transparency also has implications for the conduct, reporting, and dissemination of research findings. It requires accurate description of well-argued alternative views and related evidence and encourages rigorous testing of claims. Biases intrude both on the part of researchers when conducting and reporting research and when preparing research reviews (e.g., see Jadad & Enkin, 2008; MacCoun, 1998) as well as on the part of practitioners when making decisions. EBP calls for candid descriptions of limitations of research studies and use of methods that critically test questions addressed; it calls for systematic reviews (see Cochrane and Campbell Collaborations protocols). A key contribution of EBP is discouraging inflated claims of knowledge that mislead involved parties and hinder the development of knowledge. Consider terms such as *well established* and *validated*, which convey a certainty that is not possible. Bogus claims based on uncritical appraisals of related research hinder exploration and may result in harmful practices and policies.

Encourage a Systemic Approach for Integrating Practical, Ethical, and Evidentiary Issues

Evidence-informed practice describes a process designed to encourage integration of ethical, evidentiary, and application concerns. It advocates

a systemic approach to improving the quality of services: (a) educating professionals who are lifelong learners, (b) involving clients as informed participants, (c) attending to management practices and policies that influence practice (i.e., evidence-based purchase of services), (d) considering the implications of scarce resources, and (e) attending to application challenges. Quality of services is unlikely to improve without attending to *all* links in the system of service provision. Gray (2001a, p. 354) suggests that performance (P) is directly related to an individual's motivation (M) and competence and inversely related to the barriers (B) that individual has to overcome: $P = (M \times C)/B$. Related literature describes a wide variety of efforts to address application concerns including the creation of tools and training programs designed to develop and encourage use of critical appraisal skills.

Maximize Knowledge Flow

EBP and social care are designed to maximize knowledge flow. Exploring ways to diffuse and disseminate knowledge encourages knowledge flow and related literature is rich in the variety of efforts described. In a culture in which knowledge flow is free, critical appraisal flourishes and questions are welcomed. Evidence-informed decision making emphasizes the importance of involving all interested parties, including clients, and its advocates have actively pursued the development of a technology and political base to encourage this. (See <http://www.cochraneconsumers.org>). Gray (2001a) notes that evidence-based organizations should include systems that are capable of providing evidence and promoting the use of evidence, including both explicit (created by researchers) and tacit (created by clinicians, clients, and managers). Clinicians and clients are involved as informed participants—there is no privileged knowledge in the sense of not sharing information about the evidentiary status of practices and policies. Such sharing poses a threat to those who forward bogus claims and carry out pseudo inquiry, perhaps to retain funding and maintain status. Benefits of a free, efficient, knowledge market include:

- Critical appraisal of knowledge claims.
- Honoring informed consent obligations.
- Increased staff morale because decisions will be more informed and staff are rewarded for sharing knowledge and are free to discuss problems, including errors, and learn from colleagues and others throughout the world.
- Increase in the ratio of informed to uninformed or misinformed decisions.
- Recognizing uncertainty. This is often swept under the rug, resulting in blaming staff for not acting on knowledge that does not (or did not) exist.

- Reducing bogus claims of knowledge that may result in harm to clients among all parties including researchers. We often find little match between questions addressed and use of methods that can critically test them together with hiding limitations and inflated claims of effectiveness regarding what has been found.
- Lack of censorship of well-argued alternative views and counterevidence regarding popular views.

Identifying errors, mistakes, and related factors and using this information to minimize avoidable mistakes contributes to knowledge flow. Thus, we have an obligation to recognize and learn from our mistakes (Popper, 1992; 1994). We learn from our mistakes, and we lose valuable learning opportunities by overlooking opportunities to “educate our intuition” (Hogarth, 2001). Research regarding errors shows that systemic causes, including quality of staff training and agency policies, contribute to mistakes and errors (Munro, 2010; Reason, 1997). Accountable complaint systems are another way to maximize knowledge flow. Evidence-informed agencies encourage knowledge flow by using services likely to maximize the likelihood of attaining outcomes that clients value and not using services of unknown effectiveness or those found to do more harm than good.

Educational Implications

The importance of developing professionals who are lifelong learners is highlighted by research that shows that the typical professional education program produces graduates who do not keep up with the literature, which results in knowledge rapidly becoming out of date, with all the implications of this for clients (Sackett et al., 2000). Traditional forms of continuing education are not effective (Forsetlund et al., 2009). A unique form of problem-based learning (PBL) was developed at the McMaster University Faculty of Health Sciences in Canada. This involves a totally different form of professional education in which students are placed in small groups of five or seven, together with a tutor who is trained in group process as well as in skills involved in evidence-informed practice, such as posing well-structured questions and searching effectively and efficiently for related literature. This kind of problem-based learning in medicine has spread throughout the world. It provides repeated opportunities for corrective feedback that is so vital for learning.

A problem focus grounds content squarely on practice concerns, highlights key decisions and related questions and options, and links curriculum areas in a manner required when making decisions “on the job,” including research and practice, policy and practice, and knowledge about human behavior and the environment. It emphasizes the unstructured and uncertain nature of problem solving and provides repeated opportunities to help students learn how to handle this. Focusing on problems of concern

to clients and/or significant others in no way implies that client strengths are overlooked. It would be a poor problem solver indeed who did not take advantage of available resources. Another implication is describing methodological and conceptual controversies, including problem framing, so that social workers are informed and thus can accurately inform clients as required by our code of ethics. Consider for example the continuing medicalization of problems-in-living (Conrad, 2007; Kirk, 2005; Rapley, Moncrieff, & Dillon, 2011). Such medicalized problem framing may not be emphasized in professional education, as suggested by a review of course outlines in social work courses on psychopathology (Lacasse & Gomory, 2003).

Controversies

Both the origins of EPB and objections to it reflect different views of “evidence.” There are many kinds of evidence. Differences of opinion regarding what evidence is can be seen in the professional literature as well as in the media. When do we have enough to recommend a practice or policy? Do criteria for “having enough” differ in relation to different kinds of decisions. Davies (2004) suggests that a broad view of evidence is needed to review policies including (a) experience and expertise, (b) judgment, (c) resources, (d) values, (e) habits and traditions, (f) lobbyists and pressure groups, and (g) pragmatics and contingencies. He argues that we should consider all of these factors in making decisions about whether or not to implement a policy. Davies identifies six kinds of research related to evidence of policy impact: (1) implementation, (2) descriptive analytical, (3) attitudinal, (4) statistical modeling, (5) economic/econometric, and (6) ethical. Key controversies include the degree of rigor that should be used to evaluate knowledge claims and the extent to which clients should be involved as informed participants. For example, multisystemic family therapy (MST) is widely described as effective and as an “evidence-based practice.” Based on a critical appraisal of reviews of MST using Cochrane Collaboration guidelines, Littell and her colleagues (2005) concluded that such programs are neither more nor less effective than are other programs. This review, as well as many others, show that haphazard reviews came to different conclusions than do systematic reviews. Concerns about inflated claims was a key reason for the origin of EBP and health care. Inflated claims obscure uncertainties that, if shared, may influence client decisions.

Different opinions about how much “we know” reflects use of different criteria. The Taskforce on Psychological Intervention Guidelines (1995) of the American Psychological Association suggested that two well-designed RCTs showing positive outcomes represent an “empirically validated treatment.” A more measured statement would be to say that a claim has been critically tested in two high-quality randomized controlled trials and has passed both tests; this keeps uncertainty in view. Professionals rely on weaker criteria when evaluating the evidentiary status of

claims that affect their clients than they rely on when evaluating claims that affect their personal well-being (see Gambrill & Gibbs, 2002).

Obstacles

Many challenges confront helpers who want to make evidence-informed decisions such as gaining access to research findings related to important questions and critically appraising this knowledge in a timely manner (e.g., see Bogenschneider & Corbett, 2010). Straus and McAlister (2000) note that some limitations of EBP are universal in helping efforts such as challenges in applying evidence to the care of individuals. Barriers they suggest include the need to develop new skills and limited funds and resources (see also Gibbs & Gambrill, 2002). Obstacles lie at many levels, including the very culture in which we live—in which it is common to find exaggerated reports of risks and remedies—making it a challenge to separate the wheat from the chaff regarding claims of what “we know” and what “we do not know.” Poor-quality research continues to appear in professional journals. There are many reasons for this, including the special interests of players in the biomedical industrial complex, such as pharmaceutical companies (Gambrill, 2012b). Dysfunctional organizational cultures and climates in which errors are hidden and staff are punished for blowing the whistle on inadequate or harmful practices and policies is an obstacle.

Personal characteristics such as arrogance and flawed self-assessments may compromise decisions (Dunning, Heath, & Suls, 2004). Biases such as wishful thinking and searching only for data that support a favored position (confirmation bias) compromise the quality of decisions (Gambrill, 2012b; Nickerson, 1998). A reluctance to acknowledge uncertainty and controversy compromises fulfillment of ethical obligations to accurately inform clients. Consider critiques of practice guidelines and controversies regarding the role of common factors (see Norcross, Beutler, & Levant, 2006; Wampold, 2006; 2010). Challenges include gaining timely access to research findings related to important practice and policy questions and critically appraising this knowledge (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Lack of transparency regarding limitations of research remains widespread, as does the publication of incomplete, uncritical reviews that provide an overly rosy picture of alleged effectiveness of practice methods. Inflated claims are more the rule than the exception in the helping professions, misleading clients and others. Money may not be available for computers allowing rapid access to needed databases or for knowledge resource personnel who can help staff locate valuable research related to information needs in a timely manner. Skills are needed in evidence management, searching, appraisal, and storage (Gray, 2001a).

Special training, repeated guided practice, and related tools and resources are needed to carry out the steps of EBP in real time. Even then, many obstacles remain, such as authoritarian agency cultures. Although the steps involved in EBP may sound simple and straightforward, they are

often difficult and sometimes impossible to carry out successfully in the real world. A lack of assessment knowledge and skills may contribute to posing misleading questions and overlooking important individual differences in a client's circumstances or characteristics. For example, posing an effectiveness question before discovering factors that contribute to depression (such as "In adults who are depressed, is cognitive-behavioral therapy, compared to medication, more effective in decreasing depression?") may overlook the fact that, for this client, recent losses in social support are uppermost, which suggests a different question, such as "In adults who are depressed because of a recent loss in social support, is a support group or individual counseling more effective in decreasing depression?" Developing technologies to address application problems has been a key contribution of evidence-informed practice; it is an ongoing challenge. Still today, as years ago, there are "no magic bullets" (Oxman, Thomson, Davis, & Haynes, 1995).

Conclusion

Views of EBP differ in their breadth and attention to application and ethical issues ranging from the broad, systemic philosophy and related evolving technology envisioned by its originators to narrow views (use of practice guidelines) and total distortions. It is important to distinguish between objections based on inaccurate views of EBP and those based on an accurate understanding. Otherwise, we may prematurely discard promising approaches and lose opportunities to address real challenges. So far, distortions of EBP, propagandistic use of the term (the label without the substance), and the "EBPs approach" have won the day. Clearinghouses and texts using the term *evidence-based* abound. But are these "evidence-based"? Are practices and policies described in such sources "best"? Critical appraisal of content promoted in such sources often show that what is proclaimed as best may not be (e.g., Gorman & Huber, 2009; Littell, 2008).

Readers may not be informed about successful practices and policies and related theoretical approaches (e.g., see Angell, 2004). Consider misrepresentation and ignoring of applied behavior analysis and its application to areas of direct concern to social workers including mental health, (mis)use of alcohol and drugs, and child welfare (Thyer, 2005). Consider also ignoring of successful policies. For example, in A. Abbott's *Alcohol, Tobacco and Other Drugs: Challenging Myths, Assessing Theories, Individualizing Interventions* (second edition), a recent book published by the National Association of Social Workers (2010), there is no mention of the successful policy of decriminalization of all drugs in Portugal in 2001 (Greenwald, 2009; Hughes & Stevens, 2010). Nor is there any mention of this policy in the fourth edition of *Chemical Dependency: A Systematic Approach* by McNeece and DiNitto (2012). Why is this? Ignoring successful policies contributes to the continuation of the unsuccessful and harmful "war on drugs"

promoted by the federal government in the United States—one that has been, and continues to be, especially harmful to minorities (e.g., Alexander, 2010; Wacquant, 2009). By ignoring successful policies in social work, academics become complicit in maintaining harmful policies.

The practice and philosophy of EPB as described by its originators offers practitioners and administrators a philosophy that is compatible with obligations described in professional codes of ethics and educational accreditation policies and standards (e.g., aligned with informed consent and drawing on practice- and policy-related research findings) as well as an evolving technology for integrating evidentiary, ethical, and practical issues. Key steps in EBP increase the likelihood that involved parties will be accurately informed about the uncertainties associated with decisions. Perhaps the greatest challenge is a willingness to acknowledge gaps in our current knowledge regarding decisions and what may be “out there.” A willingness to say “I don’t know” and a commitment to clients to discover what is out there (including nothing) are vital. So, too, is a willingness and the courage to advocate for effective services—a willingness to “stand up for others.” In the everyday world, “best practice” may have to be based on shaky evidentiary grounds. Evidence-informed practice and policy encourages professionals to be honest about these grounds so that clients are involved as informed participants in decisions made. Will social workers be “conscientious, explicit and judicious” in their “use of current best evidence in making decisions about the care of individual [clients]” (Sackett et al., 1997, p. 2)? To what extent will content in the chapters in this volume facilitate such characteristics?

Key Terms

Evidence	Haphazard research	Science
Knowledge	review	Systematic research
Evidence-based	Methodological	review
practice	filters	
Evidence-based health	Quackery	
care		

Review Questions for Critical Thinking

1. Should we offer clients services we ourselves would like to receive?
2. Can we trust the “experts” to accurately inform us regarding the evidentiary status of claims of “what works”?
3. Are clients being harmed in the name of helping?
4. Do good intentions protect clients from harm?

Online Resources

DUETS: <http://www.library.nhs.uk/duets>

Database of uncertainties about the effects of intervention.

Campbell Database of reviews: <http://www.campbellcollaboration.org>

Coalition for Evidence-Based Policy: <http://www.coalition4evidence.org>

Cochrane Database of reviews: <http://www.cochrane.org>

Evidence-based behavioral practice (EBBP): <http://www.ebbp.org>

Patient decision aids: <http://decisionaid.ohri.ca>

Social Care Institute for Excellence (SCIE): <http://scie.org.uk>

Provides reports regarding best practices in social care.

TRIP Database: <http://www.tripdatabase.com>

Searches more than 75 sites of high quality medical information.

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