

# Evidence-Based (Informed) Macro Practice: Process and Philosophy

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**ABSTRACT.** Evidence-informed practice and policy at the macro level offers great potential for honoring ethical guidelines to integrate practice and research, to involve clients as informed participants, to respond ethically to problems of scarce resources, to enhance social and economic justice, and to empower clients. The process and philosophy of evidence-informed practice and care as described in original sources suggest a decision-making process designed to help social workers to integrate ethical, evidentiary, and application concerns. As with all innovations, objections will and should be raised. There are many challenges and obstacles to integrating evidentiary, ethical, and application concerns in practice.

**KEYWORDS.** Evidence-based practice, macro practice, evidence-informed, philosophy

Social workers have long had an interest in helping clients to alter community conditions to improve their quality of life. There is an

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extensive literature concerning macro practice both in organizations and communities. Just as we can apply the process and philosophy of evidence-based practice (EBP) in relation to individuals and families, so too can we apply this in macro practice.

### ***WHAT IS EVIDENCE-BASED (INFORMED) PRACTICE AND CARE?***

Descriptions of evidence-based practice (EBP) differ greatly in their breadth and attention to ethical issues ranging from the broad, systemic philosophy and related evolving technology envisioned by its originators (e.g., Gray, 2001a; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000; Straus, Richardson, Glasziou, & Haynes, 2005) to narrow, fragmented views and total distortions. Views of evidence-based practice are promoted that ignore related ethical hallmarks, such as involving clients as informed participants. Given the many different views of evidence-based practice in the literature, it is important to review the vision of EBP as described by its creators. Otherwise, potential benefits to clients and professionals may be lost (Gambrill, 2006a). EBP involves the "conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual [clients]." It involves "the integration of best research evidence with clinical expertise and [client] values" (Sackett et al., 2000, p. 1). Recently, more attention has been given to the gap between client actions and their stated preferences because what clients do (e.g., carry out agreed-on tasks or not) so often differs from their stated preferences, and helper estimates of participation are as likely to be inaccurate as accurate (Haynes, Devereaux, & Guyatt, 2002).

It is assumed that professionals often need information to make important decisions, for example, concerning risk assessment or what services are most likely to help clients attain outcomes they value. Evidence-informed decision-making arose as an alternative to authority-based decision making in which criteria such as consensus, anecdotal experience, or tradition are relied on. It describes a philosophy and an evolving process designed to forward effective use of professional judgment in integrating information regarding each client's unique characteristics and circumstances, including their preferences, actions, and external research findings. "It is a guide for thinking about how decisions should be made" (Haynes et al., 2002, p. 2). "When evidence is not used during clinical practice, important failures in decision-making occur: (a) ineffective interventions are introduced;

(b) interventions that do more harm than good are introduced; (c) interventions that do more good than harm are not introduced; and (d) interventions that are ineffective or do more harm than good are not discontinued" (Gray, 2001a, p. 354). 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 unique characteristics and circumstances, with external research findings, client expectations and values, and their preferences and actions (Haynes et al., 2002; Sackett, Richardson, Rosenberg, & Haynes, 1997). 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).

EBP describes a process and a professional education format (problem-based learning) designed to help practitioners to link evidentiary, ethical, and application issues. Professional codes of ethics call for key characteristics of evidence-informed practice such as drawing on practice/policy-related research and involving clients as informed participants. 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. It is designed to break down the division between research, practice, and policy—highlighting the importance of honoring ethical obligations. Although misleading in the incorrect assumption that it means only that decisions are based on information regarding effectiveness, use of the term does call attention to the fact that available evidence may not be used or shared with clients. It is hoped that professionals who consider practice-related research findings regarding decisions and inform clients about them will provide more effective and ethical care than those relying on authority-based criteria such as anecdotal experience, tradition, or popularity. The following example illustrates reliance on authority-based criteria for selection of services:

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 this example, the authority of an author of an editorial is appealed to. Evidence-informed decision-making involves use of quite different criteria; a key one is information about the accuracy of claims. Are DARE programs effective? EBP draws on the results of systematic, rigorous, critical appraisals of research related to different kinds of practice questions such as, "Is this assessment measure valid?" and "Does this intervention do more good than harm?" For example, review groups in the Cochrane and Campbell Collaborations prepare comprehensive, rigorous reviews of research related to a practice or policy question.

### *Three Philosophies of Evidence-Informed Practice*

Evidence-informed 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 involve 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. A philosophy of technology concerns 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 emphasizes the importance of critically appraising research and developing a technology to help clinicians 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 offers practitioners and administrators a philosophy that is compatible with obligations described in professional codes of ethics and accreditation standards (e.g., for informed consent and to draw on practice and policy-related research findings), as well as an evolving technology for integrating evidentiary, ethical, and practical issues. Related literature highlights the interconnections among these concerns and suggests specific steps (a technology) to decrease gaps among them in all professional venues including practice and policy (e.g., drawing on related research), research (e.g., preparing systematic reviews and clearly describing limitations of studies), and professional education (e.g., exploring the value of problem-based learning in developing lifelong learners).

The uncertainty associated with decisions is acknowledged not hidden. Evidence-informed practice requires considering research findings related to important practice/policy decisions and sharing what is found (including nothing) with clients within a supportive dialogue. Transparency and honesty regarding the evidentiary status of services is a hallmark of this philosophy. For example, on the back cover of the seventh edition of *Clinical Evidence* (2002), the continually updated book distributed to physicians, it states that "it provides a concise account of the current state of knowledge, ignorance, and uncertainty about the prevention and treatment of a wide range of clinical conditions." In what books describing social work interventions do we find such a statement?

### *Steps in Evidence-Based Practice*

Steps in evidence-based practice include the following:

1. Converting information needs related to practice decisions into answerable questions;
2. Tracking down, with maximum efficiency, the best evidence with which to answer them;
3. Critically appraising that evidence for its validity (closeness to the truth), impact (size of the effect), and applicability (usefulness in practice);
4. Integrating this critical appraisal with our clinical expertise and with our client's unique characteristics and circumstances. 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 as well as other application concerns;
5. Evaluating our effectiveness and efficiency in carrying out steps 1–4 and seeking ways to improve them in the future (Sackett et al., 2000, pp. 3–4). (See also Straus et al., 2005).

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 (Gray, 2001a). Information literacy includes recognizing when information is needed, knowing how to get it, and developing and using lifelong learning skills. Different

questions require different kinds of research methods to critically appraise proposed assumptions (e.g., Gibbs, 2003; Greenhalgh, 2005; Guyatt & Rennie, 2002; Moore & McQuay, 2006; Sackett et al., 2000). These differences are reflected in the use of different "quality filters" to search for research findings related to a question. Thus, it is not true as some have claimed that only randomized controlled trials are considered of value. Several types of practice questions can guide the search for evidence including:

- *Effectiveness*: Do job training programs help clients get and maintain jobs?
- *Prevention*: Do Head Start programs prevent school dropout?
- *Screening (risk/prognosis)*: Does this measure accurately predict suicide attempts?
- *Description/Assessment*: Which kind of geographic mapping system is most accurate and most user-friendly?
- *Harm*: Will community screening programs for depression do more harm than good?
- *Cost*: How much does this community development program cost compared to another?
- *Practice guidelines*: Are these practice guidelines for community education programs regarding domestic violence valid and are they applicable to my client/agency/community?
- *Self-Development*: Am I asking any well-structured questions at all? Am I keeping up-to-date on research in my area of practice?

### *Different Styles of Evidence-Based Practice*

Sackett and his colleagues (2000) distinguish between three different styles of EBP, all of which require integrating evidence with the unique characteristics of a client's personal and environmental circumstances. All require step 4, as described in the prior list of steps in EBP, but they vary in how the other steps are carried out. In style 1, they suggest that for problems encountered on an everyday basis, you should invest the time and energy necessary to carry out both searching and critically appraising what is found. For style 2, in which problems are encountered less often, they suggest that you seek out critical appraisals already prepared by others who describe and use explicit criteria for deciding what research they select and how they decide whether it is valid. Here, step 3 can be omitted and step 2 is restricted to sources that have already undergone critical appraisal.

A third style of EBP 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 style “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). One clue they suggest to distinguish which style is being used, is uncritical documentation with a reluctance to describe what is in the documentation. Lack of time and resources may result in using style 2 with most problems.

### *Origins of EBP*

EBP in 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?” “Do some harm?” There were gaps among ethical, evidentiary, and application concerns. For example, there are gaps between obligations described in the Code of Ethics of the National Association of Social Workers (NASW) (1999) and everyday practice regarding informed consent, self-determination, empowerment, and the use of practice/policy related research. Literature in social work suggests that social workers do not draw on practice-related research findings to inform practice decisions (e.g., Rosen, Proctor, Morrow-Howell, & Staudt, 1995). Sheldon and Chilvers (2001) found that 18% of 2285 social workers surveyed had read nothing related to practice within the last six months.

Not keeping up with new research findings related to important practice and policy decisions renders knowledge increasingly out of date. As a result, decisions may be made that harm rather than help clients (Evans, Thornton, & Chalmers, 2006). 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. If some alternatives are effective in attaining outcomes clients value, and practice proceeds based on 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 we compare services offered by an agency, such as parent training pro-

grams, to what research suggests is effective and disseminate this information to all involved parties. Clients are typically not informed that recommended services are of unknown effectiveness or have been found to be ineffective or harmful. Yet, another originating factor for EBP was increased attention to whether practitioners were harming in the name of helping. The history of the helping professions shows that common practices thought to help people were found to harm them (e.g., see Sharpe & Faden, 1998; Valenstein, 1986).

Limitations in traditional methods of knowledge dissemination were another originating factor. There are gaps between obligations of researchers to report limitations of research, to prepare rigorous reviews, and to accurately describe well-argued alternative views and what we find in published literature. Poor quality research continues to appear in professional journals (Altman, 2002). Many reasons have been suggested for this including the special interests of those who fund research such as pharmaceutical companies (e.g., Angell, 2004; Moynihan & Cassels, 2005). Vested interest in maintaining funding or status and lack of critical appraisal skills may result in research projects that cannot test questions addressed, offering clients bogus services and forwarding human service propaganda (e.g., Jacobson, Foxx, & Mulick, 2005; Lilienfeld, Lynn, & Lohr, 2003). We often find little match between questions addressed and the use of methods that can critically test them together with hiding limitations and inflated claims of effectiveness (e.g. see Rubin & Parrish, 2007).

In discussing the origins of EBP, Gray (2001a) notes the increasing lack of confidence in data of potential use to practitioners, peer review, which he subtitled feet of clay, and flaws in books, editorials, and journal articles. Examples include submission bias, publication bias, methodological bias, abstract bias, and framing bias. Conclusions based on narrative reviews are often quite misleading. As Rosenthal (1994) suggests in his description of hyperclaiming (telling others that proposed research is likely to achieve goals that it will not) and causism (implying a causal relationship when none has been established), "Bad science makes for bad ethics" (p. 128). Chalmers (1990) argues that failure to accurately describe research methods used is a form of scientific misconduct.

"The Internet stimulated the development of a number of software tools which allowed international organizations such as the Cochrane Collaboration to function effectively" (Gray, 2001b, p. 25). The Cochrane and Campbell Collaborations were created to prepare, maintain, and disseminate high-quality research reviews related to specific practice/policy questions. Recognition of limitations in narrative reviews of research encouraged the development of the systematic

review for synthesizing research findings. Such reviews “state their objectives, ascertain as much of the available evidence as possible, use explicit quality criteria for inclusion or exclusion of studies found, use explicitly stated methods for combining data, produce reports which describe the processes of ascertainment, inclusion and exclusion, and combining data” (Gray, 2001b, p. 24). The Internet provides rapid access to practice and policy-related research via special websites as well as “Google” searches. Search methods using boolean terms (and/or) facilitate searches. The limitations of traditional forms of knowledge diffusion was a key reason for the decision to make the Cochrane database of systematic reviews electronic, with routine updating by review groups.

### ***IMPLICATIONS OF THE PHILOSOPHY OF EVIDENCE-BASED (INFORMED) PRACTICE AND CARE***

The philosophy and related technology of evidence-informed practice and care has implications for all individuals and institutions involved with helping clients, including professional educators, researchers, practitioners/policy makers, administrators, and those who provide funding (Gambrill, 2006a, 2006b). Interrelated implications include focusing on client concerns and hoped-for outcomes, increased transparency and attention to ethical obligations, consideration of populations as well as individuals in the distribution of scarce resources, a systemic focus attending to multiple factors that influence decisions, maximizing the flow of knowledge and minimizing the flow of ignorance and propaganda, exploring the effectiveness of new professional education formats in preparing helpers who are lifelong learners such as problem-based learning, and rigorous testing of claims and systematic reviews. 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,” which result in poor quality services for 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***

Indicators of the authority-based nature of social work include large gaps between what is said and what is done in relation to our code

of ethics and current practices and policies (e.g., 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). The key contribution of EBP is encouraging social work to move from an authority-based profession to one in which ethical obligations to clients and students are honored, including honest brokering of knowledge and ignorance. A preference for authoritarian beliefs and actions is by no means limited to clinicians. It flourishes among researchers and academicians as well. Examples include misrepresenting views, hiding limitations of research studies, ignoring counterevidence to preferred views.

### *Honor Ethical Obligations*

Evidence-informed practice has ethical implications for practitioners, policy makers, administrators, researchers, and educators. Hallmarks include focusing on client concerns and hoped-for outcomes, attending to individual differences in client characteristics and circumstances, considering client values and expectations, and involving clients as informed participants in decision-making (see prior list of steps in EBP). A concern for involving clients in making decisions that affect their lives highlights the importance of informed (in contrast to uninformed or misinformed) consent (e.g., see Edwards, Elwyn, & Mulley, 2002; Katz, 2002). EBP involves sharing responsibility for decision-making in a context of recognized uncertainty. Although professional codes of ethics call on practitioners to inform clients regarding risks and benefits of recommended services and alternatives, this is typically not done. Ignoring practice- and policy-related research findings and forwarding bogus claims of effectiveness violates our obligation to provide informed consent and may result in wasting money on ineffective services, harming clients in the name of helping them, and forgoing opportunities to attain hoped-for outcomes. A striking characteristic of EBP and related developments is the extent to which clients are involved in many different ways (e.g., see Entwistle, Renfrew, Yearley, Forrester, & Lamont, 1998). One is reflected in the attention given to individual differences in client characteristics and circumstances, including their values and preferences in making decisions (e.g., see earlier description of EBP). A second is helping clients to develop critical appraisal skills. A third way is encouraging client involvement in the design and critique of practice/policy-related research (e.g., Hanley, Truesdale, King, Elbourne, & Chalmers, 2001).

A fourth way is attending to outcomes that clients value, and a fifth is involving them as informed participants. A sixth way in which clients are involved is recognizing their unique knowledge in relation to application concerns. To what extent are clients involved in these ways at the community and organizational levels of practice?

### ***Make Practices, Policies, and Their Outcomes Transparent***

Evidence-informed practice encourages transparency of what is done to what effect in all venues, including practice and policy, research, administration, and professional education. Ignorance and uncertainty are recognized rather than hidden. Evidence-based practice emphasizes the importance of accurately describing the evidentiary status of assessment, intervention, and evaluation methods. There is candidness and clarity in place of secrecy and obscurity. These characteristics are at odds with authority-based practice (e.g., see Chalmers, 1983). Increased transparency will highlight gaps between resources needed to attain certain outcomes as suggested by related research and what is used. Hopefully, this will encourage advocacy on the part of clients and practitioners to acquire resources to offer services with a track record of success. This transparency will reveal gaps between the causes of problems (e.g., poverty) and the interventions used and promoted to solve these problems.

Transparency will reveal the extent to which ethical obligations are met such as involving clients as informed participants. It will highlight the uncertainty associated with decisions as well as opportunity costs of choices made; whenever we decide to provide one kind of service, there is less money for other services. It will reveal services that are ineffective, allowing a more judicious distribution of scarce resources (see Eddy, 1994a, 1994b). And, it will suggest impossible goals such as "ensuring" that children in protective care will not be harmed. Increased transparency encourages clarity, which should discourage propagandistic ploys that hide what is done to what effect. Increased transparency also has implications for the conduct, reporting, and dissemination of research findings. EBP calls for candid descriptions of limitations of research studies and use of research methods that critically test questions addressed. It calls for systematic rigorous research reviews rather than authoritarian ones (Oxman & Guyatt, 1993) to identify biases that intrude on the part of researchers when conducting and reporting research and when preparing research reviews (e.g., see MacCoun, 1998). A key contribution is discouraging inflated claims

of knowledge that mislead involved parties. Consider terms such as "well established" and "validated," which convey a certainty that is not possible. Bogus claims hinder exploration and may result in harmful practices and policies. Transparency requires accurate descriptions of well-argued alternative views and related evidence.

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

Evidence-based practice describes a process designed to encourage integration of ethical, evidentiary, and application concerns. It involves a systemic approach to improving quality of services, including (a) efforts to educate professionals who are lifelong learners, (b) efforts to encourage honesty (accurate reporting) on the part of researchers, (c) involving clients as informed participants in decisions made, (d) attending to management practices and policies that influence practice (e.g., evidence-based purchase of services), and (e) attending to application challenges including implications of scarce resources. The literature describes a wide variety of efforts to address application concerns, including hiring knowledge inspectors whose job it is to maximize knowledge flow (Gray, 1998). Other examples include:

- The development of strategies for efficiently tracking down and appraising evidence (for its validity and relevance).
- The creation of systematic reviews and concise summaries of the effects of health care (illustrated by the Cochrane and Campbell Collaboration databases).
- The creation of evidence-based journals of secondary publication.
- The creation of information systems for bringing the forgoing to us in seconds.
- The identification and application of effective strategies for life-long learning and for improving our clinical performance (Gray, 2001a; Straus, Richardson, Glasziou, & Haynes, 2005).

Quality of services is unlikely to improve in a fragmented approach, that is, without attending to all links in the system of service provision. EBP encourages the creation of tools and training programs designed to develop and encourage use of critical appraisal skills, such as the Critical Appraisal Skills Program.

### ***Maximize Knowledge Flow***

Evidence-informed practice and social care are designed to maximize knowledge flow. In a culture in which knowledge flow is free, claims are challenged and challenges are welcomed. Evidence-informed decision-making emphasizes the importance of integrating research and practice, and its advocates have actively pursued the development of a technology and political base to encourage this, for example, involving clients in the design and interpretation of research (Hanley et al., 2001). Gray (2001a) suggests that evidence-informed organizations should include systems that are capable of providing evidence and promoting its use including both explicit (created by researchers) and tacit (created by clinicians, clients, and managers knowledge). Clinicians, managers, and clients are involved as informed participants—there is no privileged knowledge in the sense of not sharing information about the evidentiary status of recommended methods. Benefits of a free, efficient knowledge market include:

1. Increased knowledge through critical testing of knowledge claims.
2. Increased staff morale because decisions will be more informed, and staff are rewarded for sharing knowledge and are free to discuss their concerns and learn from their colleagues and others throughout the world.
3. Increase in the ratio of informed to uninformed or misinformed decisions.
4. Recognition of uncertainty and ignorance; this is often swept under the rug; staff may be blamed for not acting on knowledge that in fact does not, or did not, exist.

Exploration of ways to diffuse and disseminate knowledge is key to maximizing knowledge flow, and the literature on EBP is rich in the variety of related efforts (e.g., Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Identifying errors and mistakes and related factors and using this information to minimize avoidable mistakes contribute to knowledge flow. We learn from our mistakes and we lose valuable learning opportunities by overlooking them. There is remarkably little study of errors, accidents, and mistakes in social work. Research regarding errors in medicine shows that systemic causes, such as quality of staff training and agency policy, contribute to mistakes and errors made by helpers (e.g., Reason, 2001). This

calls for a comprehensive approach to risk management (Gambrill & Shlonsky, 2001).

### **OBJECTIONS TO EVIDENCE-INFORMED PRACTICE**

Some objections to evidence-informed practice result from misunderstandings and misrepresentations of EBP such as claiming that only RCTs (randomized controlled trials) are of interest. Straus and McAlister (2000) suggest that some limitations of EBP are universal in helping efforts such as lack of scientific evidence related to decisions and challenges in applying research to the care of individuals. Barriers they suggest include the need to develop new skills (e.g., consider the predictive validity of risk assessment measures) and limited funds and resources (see also Gibbs & Gambrill, 2002; Oxman & Flottorp, 1998). Many challenges confront helpers who want to practice in an evidence-informed manner such as gaining access to research findings related to important questions and critically appraising this knowledge in a timely manner.

#### ***Controversies Regarding Evidence***

A key way in which views of evidence-informed practice differ is in the degree of rigor in evaluating knowledge claims. Both the origins of evidence-informed practice and objections to EBP reflect different views of "evidence." When do we have enough to recommend a practice method? Do criteria for "having enough" differ in relation to different kinds of decisions? Such differences are illustrated by the different conclusions concerning the effectiveness of multisystemic therapy (Henggeler, Schoenwald, Borduin, & Swenson, 2006; Littell, 2006). Is it valuable to prepare reviews that encompass all community interventions? Is it valuable to mislabel unsystematic reviews as systematic? For example, a review by Ohmer and Korr (2006) referred to as "a systematic review" (p. 132) does not provide any information about effect sizes. The authors state that rater reliability was calculated, but reliability data are not reported. Rigorous criteria for reviewing research described in widely available guidelines, such as the CONSORT statement (Altman et al., 2001) and the QUORUM statement (Moher et al., 1999) were not used.

Concern about inflated claims of effectiveness based on biased research studies was a key reason for the origin of evidence-based practice as discussed earlier. Inflated claims obscure uncertainties that may, if shared, influence client decisions. There are many kinds of evidence. Davies (2004) suggests that a broad view of evidence is needed to review policies about practices and interventions, 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 suggests that we should consider all of these factors in making decisions about whether or not to implement a policy. He describes six kinds of research related to evidence regarding the impact of policy on service outcomes: (a) implementation evidence, (b) descriptive analytical evidence, (c) attitudinal evidence, (d) statistical modeling, (e) economic/econometric evidence, and (f) ethical evidence.

### ***BARRIERS TO EVIDENCE-INFORMED PRACTICE***

There are formidable barriers to encouraging use of evidence-informed practices and policies. These include characteristics of the practice environment such as financial disincentives, organizational constraints, and client values and expectancies (Oxman & Flottorp, 1998). Some barriers may be so severe, such as organizational barriers, that Sackett and his colleagues (2000) refer to them as "Killer Bs." Prevailing opinion may be an obstacle—influence by standards of practice, opinion leaders, professional education, and advocacy (for example, by pharmaceutical companies). Yet a third source suggested by Oxman and Flottorp (1998), knowledge and attitudes, includes clinical uncertainty, feelings of incompetence regarding new practices, need to act, and information overload. Some people might be absorbed in their own lives and care little about clients. Another factor is inertia. Bringing information to the attention of staff about questionable services or services found to be effective but not used will require changes that may lead to stressful interpersonal exchanges that we would rather avoid. Environmental obstacles include vested interests in current arrangements and related contingencies, limited resources, and preferred ideologies. Staff may be afraid to question authorities who are not interested in developing an organizational culture that supports thoughtfulness.

### **ALTERNATIVES TO THE PROCESS AND PHILOSOPHY OF EVIDENCE-BASED (INFORMED) PRACTICE**

Given that evidence-informed practice as described here is not the norm today, it is clear that alternatives are popular such as relying on tradition. The most popular view of EBP is using evidence-based practices (e.g., practice guidelines, best practices, the EBPs approach) (see Norcross, Beutler, & Levant, 2006). This ignores the process of EBP as well as constraints, such as local resources and individual characteristics and circumstances of clients. Critiques of practice guidelines and treatment manuals note that a particular guideline might not match the needs of multi-problem clients. Yet another alternative is to make "cosmetic" changes, for example, simply re-label practice-as-usual as evidence-based. As more clearinghouses and organizations are developed with the title "Evidence-Based Practice and Policy," there are more opportunities to promote a narrow, top-down view of evidence-based practice and policy that is quite different than the systemic, participatory view described by its originators. For example, the recently established California Evidence-Based Clearinghouse for Child Welfare (Wilson & Alexandra, 2005) published a hierarchy of evidence that is likely to hide ineffective and harmful methods. Here, a group of researchers will decide what questions to address (Gambrill, 2006a). This is quite different than the participatory, democratic philosophy of evidence-informed practice described in original sources. It is the clients and the practitioners at the direct line level who know what questions arise most often and who are familiar with local obstacles. We will benefit from reading original rather than secondary sources describing evidence-based practice that often distort or hide the unique process and philosophy of evidence-informed practice and policy.

### **DIFFERENCES AND SIMILARITIES IN DIFFERENT LEVELS OF PRACTICE**

There are more diverse constituencies in macro practice—different parties whose interests must be considered. Many views of evidence will enter (see earlier discussion). The range of individuals involved is larger compared to micro practice and the scope of propaganda resources and methods greater. For example, at the top of an organization, administrators can make decisions whether to use funds to hire experts with the ability to "spin" its "best practices." I suggest,

however, that there are more similarities than differences in the different levels of practice. One similar concern is a failure to draw on available research findings. For example, I am consistently surprised by the ignoring of Steven Fawcett's work in the social work literature (e.g., see Fawcett et al., 1994). He is a community psychologist who has addressed many questions of direct concern to clients, such as reducing utility bills for poor people.

The process and philosophy of evidence-informed practice valuable at the direct practice level is also valuable for administrators (e.g., see Gray, 2001a) and those who provide services within communities. Here, too, we can learn to pose clear questions, search efficiently and effectively for related research findings, acquire critical appraisal skills that allow us to be informed regarding the evidentiary status of practices and policies, integrate relevant information, including client preferences and local resources, and arrive at an informed decision together with clients. We can implement practices and policies, evaluate what happens, and learn how to do better in the future. We can draw on systematic reviews such as those in the electronic databases of the Cochrane and Campbell Collaborations. Here, too, we can be guided by our code of ethics to help clients, avoid harm, involve clients as informed participants, enhance self-determination, and promote social and economic justice, including the equitable distribution of scarce resources (NASW, 1999). Client involvement, so integral to evidence-informed practice, is vital at all levels of practice to minimize professionals' self-interests that may harm clients and to meet informed consent obligations (e.g., see Carroll & Minkler, 2000; Edwards & Elwyn, 2001; Fawcett, 1991; Gambrill, 2008; Jacobs, 1992; Katz, 2002). Here, too, we can draw on ideas offered in other professions (e.g., Domenighetti, Grilli, & Liberati, 1998).

We can continue to advocate for needed services (Guyatt & Rennie, 2002) and critically appraise the excuses we offer for not examining the evidentiary status of practices and policies. We can examine barriers to the integration of practice and research such as time pressures and funding patterns (Greenhalgh et al., 2004; Oxman & Flottorp, 1998). We can examine the circumstances that may compromise ethical behavior such as conflicts between moral choices and our personal fate in an organization (Jackall, 1983). We can become informed about propaganda that may limit the quality of services (e.g., see Angell, 2004) as well as sources of bias in research (e.g., Chalmers, 2003; Evans et al., 2006; MacCoun, 1998; Schulz, Chalmers, Hayes, & Altman, 1995) and cognitive biases that influence decisions such as confirmation biases and hindsight bias (Gambrill, 2005).

## THE EVIDENCE-INFORMED ORGANIZATION

An evidence-informed organization is one in which staff at all levels "are able to find, appraise, and use knowledge from research as evidence" (Gray, 2001a, p. 249). The organization should help staff and their clients to deal "with inadequate information in ways that can help to identify really important uncertainties, uncertainties that are often reflected in dramatic variations in clinical practice and which cry out for coordinated efforts to improve knowledge" (Chalmers, 2004, p. 475).

### *Evidence-Informed Selection of Practices and Policies*

In an evidence-informed organization, practices and policies are selected based on their track record of success. Practices and policies that have been found to be ineffective or to harm clients are not used. In practice, services of unknown effectiveness may continue to be used for a variety of reasons, including provider and client preferences, and because they may be effective. (Often we do not know because the services have not been critically appraised in relation to their outcome.)

*Evidence-Informed Purchase of Services.* Evidence-informed purchasing refers to selection of services based on their evidentiary status; they have been critically appraised and found to maximize the likelihood of achieving hoped-for outcomes. Distribution of scarce resources is a key ethical concern. No matter what the system of social services, there will never be enough resources to satisfy everyone's wants or needs (Eddy, 1994a). Who will get what kind of services and when? *Prioritizing* can be defined as "deciding who goes first, or the relative proportion of resources allocated to a client, client group, population, or service" (Øvretveit, 1995, p. 104). For each service purchased, we should ask, "Is anything known about its effectiveness?" and "If so, what?" Do we know if a service: (a) does more good than harm, (b) does more harm than good, (c) is of unknown effect and not being investigated in a research setting or is being investigated in poor-quality research, and (d) is of unknown effect but being investigated in a high-quality research program? (Gray, 2001a).

Critical appraisal encourages questions such as: What evidence is there that an agency helps clients? Does the agency help clients like those I will send? Those who purchase services should have influence on the nature of services purchased. The following hierarchy can be

used by administrators in reviewing evidence and making decisions about implementing or purchasing services (Enkin, Keirse, Renfrew, & Neilson, 1995):

1. Beneficial forms of care. Effectiveness demonstrated by clear evidence from controlled trials (p. 391).
2. Forms of care likely to be beneficial. The evidence in favor of these forms of care is not as [firm] as for those in category 1 (p. 394).
3. Forms of care with a trade-off between beneficial and adverse effects. [Clients] should weigh these effects according to individual circumstances and priorities (p. 400).
4. Forms of care of unknown effectiveness. There are insufficient or inadequate quality data upon which to base a recommendation for practice (p. 402).
5. Forms of care unlikely to be beneficial. The evidence against these forms of care is not as [firm] as for those in category 6 (p. 406).
6. Forms of care likely to be ineffective or harmful. Ineffectiveness or harm demonstrated by clear evidence (p. 410).

"The aim is to allocate resources equitably, and in ways in which resources can do the most good for the least cost, and to ensure that providers do the same, where it is appropriate . . ." (Øvretveit, 1995, p. 121). Information about needs will always be partial and subject to dispute. Still, administrators should try to identify as accurately as possible the incidence and severity of need in setting priorities and purchasing services. Cost-effectiveness should be considered. Evidence concerning effectiveness alone does not imply that a practice or policy should be adopted; there are many other considerations such as client preferences and needs of different populations; adoption of an intervention depends on whether the benefit is sufficiently large relative to the risks and costs (Sheldon, Guyatt, & Haines, 1998). Effective coordination of services is vital when multiple services are required to attain hoped-for outcomes.

*Prioriphobia* is defined as "the inability to set and carry through priorities due to an awareness of the suffering which will be caused by denying care and a refusal to value one person's life or quality of life more highly than another" (Øvretveit, 1995, p. 105). Problems in not openly acknowledging restrictions imposed by service providers result in clients not being included in decision-making and criteria not being clearly described for distributing scarce resources. Thus, it

is important to carefully review agency-based "best practices" from both ethical and practical points of view. A candid recognition that resources are scarce and an open exploration of related implications (not all people will get what they want) requires consideration of populations as well as individuals. That is, administrators and policy makers should consider what populations they could provide what services to, with what likely effect, based on related external evidence, and what populations they now provide what kind of services to with what effect.

Øvretveit (1995) argues that if purchasers of services are not able to justify their decisions, then they are "acting unethically in directly or indirectly causing avoidable suffering" (p. 99). For each service provider, we should examine the gap between what is provided to the clients referred for services and what could be provided based on best current evidence. Clear contracts should be drawn up with agencies from which services are purchased describing the responsibilities of providers beyond merely reporting the numbers of clients receiving services.

### ***Evidence-Informed Management Skills***

Characteristics of an evidence-informed chief administrator suggested by Gray (2001a) include modeling the behaviors of searching for evidence, appraising evidence, storing important evidence in a way that allows easy retrieval, and using evidence to make decisions. An evidence-informed administrator encourages evidence-informed audit and purchasing and takes responsibility for providing the tools and training needed by staff to offer clients evidence-informed practices. It is the administrators' responsibility to cultivate a culture of thoughtfulness in which staff members are free to raise questions about current practices and policies and their outcomes that could provide vital information for enhancing service quality.

### ***Maximizing Knowledge Flow***

The evidence-informed organization is deeply involved with maximizing knowledge flow. Consider Gray's (1998) suggestion of hiring knowledge officers whose role is to encourage knowledge flow within the organization, from within to without, and from without the organization to within. Related questions include (Gray, 2001a):

- What evidence is needed?
- When is it needed and in what situations and in what form?
- How can we get it when we need it?
- How much time does it take to get it?

Gray (2001a) describes an evidence-informed, knowledge-rich learning organization as an open one in which: (a) the creation and use of knowledge is valued and the availability of knowledge is assured; (b) there is a commitment to knowledge management to ensure that systems and skills for finding, appraising, and using evidence are developed and supported; and (c) both tacit and explicit knowledge are readily available when and where needed (p. 248). He suggests that each organization have an evidence center such as a library in an agency which includes:

1. Access to the World-Wide Web;
2. Subscriptions to the most relevant sources of data such as ... [the Cochrane and Campbell Libraries];
3. A limited number of appropriate books and journals;
4. Arrangements in place for obtaining documents, or copies thereof, e.g., reprints of articles;
5. Personnel who can manage these resources and promote their use [such as librarians] (p. 253).

In order to maximize knowledge flow, innovative programs must be tested out. In an evidence-informed organization, questions such as the following are continually posed and answers pursued (Gray, 2001a):

- What was the strength of the evidence on which the decision to introduce resource management was based?
- How good is the evidence used to justify investment in this new information technology?

*Maximizing Opportunities to Learn From Clients.* Clients are actively involved in many ways in evidence-informed organizations. Their preferences and expectations are actively solicited and attended to in planning services. User-friendly complaint and compliment systems are in place and information collected is acted on (e.g., Coulter, 2002; Edwards & Elwyn, 2001).

### *Evidence-Informed Selection of Training Programs*

Administrators have a responsibility to arrange for training that maintains all staff at minimally acceptable competency levels in relation to practice knowledge and skills required to attain valued outcomes. Studies of the effectiveness of continuing education programs in medicine show that didactic sessions alone unlikely to change on-the-job behavior (O'Brien et al., 2001). Participant's ratings of a training program or testimonials may not be associated with on-the-job changes and are therefore not a sound guide to whether a program results in improved quality of services. Without providing effective training as needed in posing well-structured questions, searching efficiently and effectively for related research findings, critically appraising what is found, and using practice expertise to integrate information from diverse sources, including clients' values and expectations, an organization cannot be evidence-informed. In addition, staff will need skills not only in raising questions, but also responding to criticism (Gambrill, 2006b).

### *Creation of Self-Learning Organizations*

Learning organizations are characterized by ongoing improvement in the quality of decisions as well as the development of new knowledge, including new ways of using and managing knowledge developed by others. The notion of a learning organization suggests the active pursuit of the flow of knowledge and developing more knowledge, rather than a passive stance toward this which characterizes many social service organizations. Opportunities for corrective feedback that help staff to "educate their intuition" are provided in a learning organization (Hogarth, 2001). Knowledge can grow only in an open environment in which clients and staff are free to acknowledge errors and raise questions (express criticism) about current practices and policies and their outcomes.

Criticism provides information that may minimize avoidable mistakes. All professionals make mistakes. Many are unavoidable—they could not have been prevented by the most skilled of the skilled. Others are avoidable by better training, effective audit procedures, and appropriate incentive systems. Given that it may be possible to minimize some mistakes by identifying and planning how to decrease them, it is vital that administrators have in place a method to do so.

### ***Evidence-Based Audit***

Program implementation (service integrity) is important to review, especially if there is little progress or harmful effects are found. Possible reasons for failure include: (a) excessive staff discretion resulting in variations that decrease success; (b) minimal, watered-down programs (the dilution effect); (c) what works when used by well-trained, motivated staff does not when used by others; (d) what works for some clients does not work for others; and (e) clients refuse to participate. Services offered should be compared with those that research suggests are required in order to achieve hoped-for outcomes. Audit may be a valuable tool or a meaningless waste of time if it does nothing to improve services. Indeed, it may be a distraction (Power, 1997). It is thus vital that audit systems be designed to make sure they contribute to, rather than detract from, helping clients. And identification of poor performance or ethical misconduct is of little value unless effective remedies are in place.

### ***EVIDENCE-BASED (INFORMED) COMMUNITY PRACTICE***

Helping clients will often require working on multiple system levels, including the neighborhood and community. A *community* can be defined as that combination of social units and systems that perform the major social functions that meet residents' local needs. Important functions include support, social control, socialization, social participation, production, distribution, and consumption related to food, shelter, transportation, medical care, sanitation, and recreation. Varieties of community organization practice include community development, social planning, and social action (Rothman, 1968; Rothman, Erlich, & Tropman, 1995; Thyer, 2001). Community development stresses self-help and enhances community capacity via a range of participatory actions on the part of many individuals and groups. A social planning model emphasizes problem-solving regarding community concerns. Social action has the goal of shifting power relationships and resources.

As discussed in the earlier section on differences and similarities in different levels of practice, the process and philosophy of evidence-informed practice is applicable at the community and neighborhood level. This philosophy is compatible with the aims of community practice, such as involving residents as active, informed participants.

Here, too, we can emphasize the close connection between ethical and evidentiary issues, for example, by not wasting scarce resources on ineffective or harmful services and by accurately informing residents of the evidentiary status of recommended services—have they been found to do more good than harm? Political influences are rife on this larger level, and thus the need for critical appraisal skills all the greater in order to spot slogans and vague terms that promise much but deliver little.

Jacobs (1992) emphasizes the importance of being attentive to activities at all levels of the public-private sector that may affect a community in order to act proactively. Here, too, we must be skeptical of claims asserting causal relationships (Oakes, 2003), claims about the accuracy of assessment methods (e.g., geographical mapping systems), and claims of effectiveness (e.g., about health promotion, see Merzel & D’Afflitti, 2003). We can draw on what others have done to explore new evaluation methods (e.g., Watson et al., 2004) and to disseminate effective programs (e.g., see Dobrow, Goel, Lemieux-Charles, & Black, 2006; Grimshaw et al., 2004). We can learn to critically review the quality of research reviews. And there are promising methods that can be used at this level to educate residents concerning services via media outreach (e.g., television, radio, the Internet).

### CONCLUSION

Current practices and policies in the helping professions are characterized by gaps between obligations described in professional codes of ethics and accreditation standards and everyday practices and policies, and between responsibilities of researchers and scholars to be honest brokers of knowledge and ignorance and what we find in published literature, such as inflated claims, hiding limitations of research methods, and misrepresenting new ideas including the process and philosophy of evidence-informed practice. There are controversies regarding “evidence,” about what it is and when there is enough to make a claim of effectiveness. Variations in the implementation of practices and policies reveal that clients may be harmed rather than helped because of either neglect or ignorance of research findings. In addition, clients are typically not involved in life-affecting decisions as informed participants. Evidence-informed practice and care, as described in original sources, suggest a decision-making process designed to decrease these gaps—to integrate ethical, evidentiary, and application concerns. This is quite different than a narrow view of

EBP as using evidence-based practices or "best practices" (the EBPs approach). It is assumed that we and our clients often need information to make important decisions, for example, about how to decrease risk of child abuse or what method is most likely to help a client attain and keep a job.

Evidence-informed practice describes a philosophy and process designed to help practitioners become lifelong learners. It is a *process* in which the uncertainty in making decisions is highlighted, efforts to decrease it are made, and clients are involved as informed participants. It is as much about the ethics of and pressures on educators and researchers as it is about the ethics of and pressures on practitioners, including administrators. It calls for honest brokering of knowledge and ignorance, for example, clearly describing the criteria used to make practice and policy decisions. It encourages us to attend to ethical obligations (to draw on practice/policy-related literature, to involve clients and students as informed participants, to focus on helping clients attain outcomes they value), to be systemic (for example, to create a technology designed to decrease the division between research, ethics, and practice, including creating lifelong learners and self-learning evidence-informed agency cultures), and to be realistic (e.g., address application problems). Professional codes of ethics call for key characteristics of evidence-informed practice such as drawing on practice/policy-related research and involving clients as informed participants. The idea of integrating practice and research in professional contexts is not new, nor is attention to ethical issues as they relate to evidentiary ones. What is new about evidence-informed practice and care is the transparent, active focus on interlinking evidentiary, ethical, and application concerns in all professional venues (practice/policy, research, and professional education).

Evidence-informed practice at the macro level offers great potential for honoring ethical obligations to integrate practice and research, to involve clients as informed participants, to enhance social and economic justice, and to empower clients. Offering clients ineffective or harmful services does not empower clients. Indeed, it violates our ethical obligations to help clients. It is at the macro level that media outreach efforts are conducted. Agencies should provide access to user-friendly interactive computer programs in community centers and in agency waiting rooms that offer information concerning the evidentiary status of services provided and any alternatives that have been found to be more effective. Currently, there is a massive failure of good will to provide clients with information that would involve them as informed participants. Administrators should require staff to

complete an Evidence-Informed Client Choice Form describing the evidentiary status of each service recommended to clients and give a copy to clients (Entwistle, Sheldon, Sowden, & Watt, 1998). Has the service been critically tested and found to help clients? Are more effective alternatives available that are not offered to clients? What is the track record of success of the staff person in the agency to which a client is referred in using the services? Administrators should collect data describing gaps between services needed and services used. In addition, they should widely distribute "state-of-the-gap" reports to all involved parties, including clients, to advocate for needed resources to fund evidence-informed practices.

As with all innovations, objections will and should be raised. There are many challenges and obstacles to integrating evidentiary, ethical, and application concerns. Some objections arise because of lack of knowledge about the philosophy and process of evidence-informed practice. It is important to distinguish between objections based on misrepresentations and misunderstanding and those based on an accurate understanding. Otherwise, we may prematurely discard promising approaches and lose opportunities to address real challenges.

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