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Evidence-Based Practice and Policy

Choices Ahead

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Choices about how to view evidence-based practice (EBP) are being made by educators, practitioners, agency administrators, and staff in a variety of organizations designed to promote integration of research and practice such as clearinghouses on EBP. Choices range from narrow views of EBP such as use of empirically based guidelines and treatment manuals to the broad philosophy and evolving process of EBP, envisioned by its originators, that addresses evidentiary, ethical, and application issues in a transparent context. Current views of EBP and policy are reviewed, and choices that reflect the adopted vision and related indicators are described. Examples include who will select the questions on which research efforts are focused, what outcomes will be focused on, who will select them and on what basis, how transparent to be regarding the evidentiary status of services, how clients will be involved, and whether to implement needed organizational changes. A key choice is whether to place ethical issues front and center.

Keywords: *evidence-based practice; choices; ethics; transparency*

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Choices about how to view evidence-based practice (EBP) are being made not only by educators, practitioners, and agency administrators but also by staff in a wide variety of organizations designed to promote the integration of research and practice. There are many such organizations including the Millbank Memorial Fund, which recently published *Evidence-Based Mental Health Treatments and Services* (Lehman, Goldman, Dixon, & Churchill, 2004), the Urban Institute, and the Rand Corporation. Regional organizations include the Bay Area Social Services Consortium (BASSC) and the recently formed California Child Welfare Clearinghouse for Evidence-Based Practice. The latter "exists to promote a quality practices framework for California's child welfare service system to ensure that children are safe and stable in families that can nurture them and assure their well being" (California Child Welfare Clearinghouse for Evidence-Based Practice, 2005). Such an organization may influence how educators, administrators, clients, and practitioners view EBP. What view of EBP will staff in such organizations embrace? Will they define this narrowly as basing decisions on practice-related research or using practice guidelines? Will they use the name but not the substance—continue business as usual? These questions are of vital importance because these organizations have an impact on the decisions made by educators and agency administrators, which in turn influence the decisions of practitioners and clients. Indeed, the very purpose of some is to advise administrators what services should be used. Consider the following:

> The Clearinghouse will provide guidance on selected evidence-based practices to statewide agencies, counties, public and private organizations, and individuals in simple straightforward formats reducing the "consumers" need to conduct literature searches, review extensive literature, or understand and critique research methodology. The Clearinghouse, using both a state advisory committee and a national panel of scientific advisors, will identify areas of priority interest and establish a set of criteria to select highly relevant evidence based practices to be included in the Clearinghouse database for dissemination. (California Child Welfare Clearinghouse for Evidence-Based Practice, 2005, n.p.)

What criteria will be used to identify "highly relevant evidence based practices"? The report from the Milbank Memorial Fund (Lehman et al., 2004) lists multisystemic therapy (MST) as an EBP, as does the aforementioned clearinghouse. Is there evidence that it is effective? Choices made reflect different views of EBP and policy that have been evident in the professional literature for some time. Choices and indicators that can be used to reveal them are described in this article.

Different Views of EBP and Policy

Descriptions of EBP differ greatly in their breadth and attention to ethical, evidentiary, and application issues and their interrelationships ranging from the broad, systemic philosophy and related evolving process initiated by its originators (Sackett, Richardson, Rosenberg, & Haynes, 1997; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000) to narrow views (using empirically supported interventions that leave out the role of clinical expertise, attention to client values, and preferences and application problems) to total distortions of the original idea (redubbing authoritarian practices such as appeal to consensus as evidence based; Gambrill, 2003). In considering the different views and related choices, we should keep in mind ethical obligations described in professional codes of ethics: beneficence, avoiding harm, informed consent, and maximizing

autonomy and self-determination. I suggest that only by taking the broad systemic view can we honor these ethical obligations.

EBP as Described by Its Originators

The process and philosophy of EBP as described by its originators is a new educational and practice paradigm for closing the gaps between research and practice to maximize opportunities to help clients and avoid harm (Gray, 1997, 2001a, 2001b; Sackett et al., 1997, 2000). 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. It has not "been around for decades," as suggested in the *Guide for Child Welfare Administrators on Evidence-Based Practice* (Wilson & Alexandra, 2005, p. 5). Saying there is nothing new about a paradigm shift is one way to continue business as usual (e.g., authoritarian practices such as ignoring important uncertainties regarding decisions that must be made). Indeed, many related publications suggest that this systemic approach to integrating ethical, evidentiary, and application concerns that emphasize transparency regarding the uncertainties involved in helping clients may be rejected in favor of a view of EBP likely to promote continuation of the very style of decision making EBP was designed to avoid, such as failure to involve clients as informed participants, hiding flaws in practice and policy-related research, and promoting ineffective services.

Evidence-based decision making arose as an alternative to authority-based decision making in which decisions are based on criteria such as consensus, anecdotal experience, or tradition.

> EBP is "the integration of best research evidence with clinical expertise and [client] values." (Sackett et al., 2000, p. 1)

> "It is the conscientious, explicit, judicious use of current best evidence in making decisions about the care of individual [clients]." (Sackett et al., 1997, p. 2)

> Evidence-based health care refers to "use of the best current knowledge as a basis for decisions about groups of patients or populations." (Gray, 2001b, p. 20)

EBP is an evolving process. It describes a philosophy and process designed to forward effective use of professional judgment in integrating information regarding each client's unique characteristics, circumstances, preferences, and actions and external research findings (see Figure 1). "It is a guide for thinking about how decisions should be made" (Haynes, Devereaux, & Guyatt, 2002, p. 36). EBP describes a process and a new professional education format (problem-based learning) designed to help practitioners to link evidentiary, ethical, and application issues. Many components of EBP are designed to minimize biases such as jumping to conclusions, for example, by using quality filters when reviewing external research findings related to a question. 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 et al., 2002; see Figure 1). 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 risk and benefits of potential interventions and their personal values and expectations" (p. 1). Clinical expertise is drawn on to integrate information from various sources. As Archie Cochrane (1972) noted, "Outcome is not the whole story, the manner in which services are provided, including kindliness and ability to communicate," (p. 95)

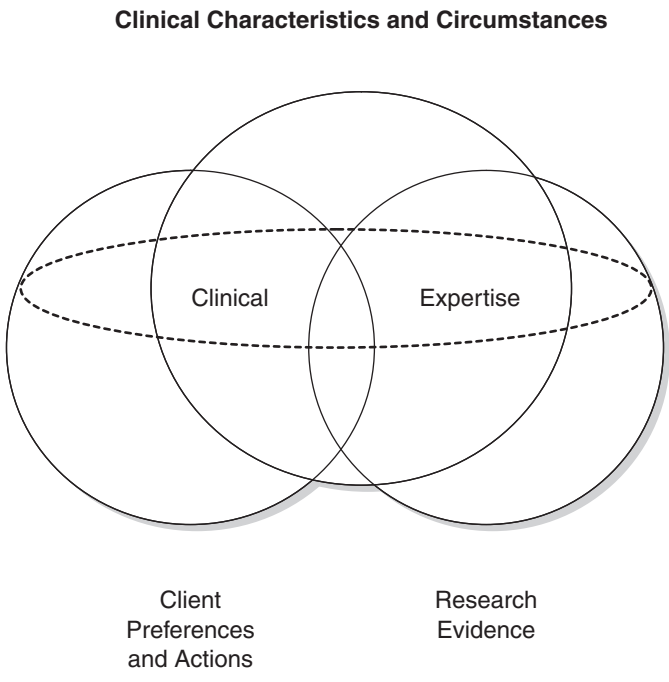

Figure 1 An Updated Model for Evidence-Based Decisions

SOURCE: Haynes, Devereaux, and Guyatt (2002).

matters also. Client values refers to "unique preferences, concerns and expectations each [client] brings to an . . . encounter and which must be integrated into . . . decisions if they are to serve the [client]" (Sackett et al., 2000, p. 1).

EBP as viewed by its originators is as much about the ethical obligations of educators and researchers to be honest brokers of knowledge and ignorance as it is about the obligations of practitioners and administrators to honor ethical obligations described in professional codes of ethics; for example, to integrate practice and research and honor informed-consent obligations. It is essentially a way to handle uncertainty in an honest and informed manner, sharing ignorance and knowledge. Transparency (honesty) regarding the evidentiary status of services is a hallmark of this philosophy. A quote that illustrates this appeared on the back of *Clinical Evidence* (7th edition, June issue, 2002): "The purpose of this book is to share knowledge, ignorance and uncertainty about each of the conditions described therein." (*Clinical Evidence* is continually updated and is distributed free of charge to all physicians throughout the U.K.) There is a willingness to say, "I don't know." The uncertainty associated with decisions is acknowledged, not hidden. EBP requires considering research findings related to important practice or policy decisions and sharing what is found (including nothing) with clients. Critical thinking values are integral to this systemic views of EBP:

> *Courage:* Critically appraise claims regardless of negative reactions.
>
> *Curiosity:* An interest in deep understanding and learning.
>
> *Intellectual empathy:* Accurately understanding and presenting the views of others.

Humility: Awareness of the limits of knowledge including our own; lack of arrogance (e.g., promoting bogus claims of effectiveness).

Integrity: Honoring the same standards of evidence to which we hold others.

Persistence: Willingness to struggle with confusion and unsettled questions (Paul, 1993).

In addition to a philosophy of practice and policy emphasizing attention to ethical issues and the vital importance of addressing application problems, a unique process that includes the following five steps is suggested:

1. Converting information needs related to practice decisions into well-structured answerable 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. Applying the results of this appraisal to practice and policy decisions. 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 and other application concerns.
5. Evaluating our effectiveness and efficiency in carrying out Steps 1 to 4 and seeking ways to improve them in the future (Sackett et al., 2000, pp. 3–4).

Although the steps in this list may seem simple, they are challenging to learn and require access to related tools such as relevant databases. To practice an evidence-informed approach, practitioners need skills in evidence management—searching, appraisal, and storage (Gray, 2001a)—and need to have or develop the motivation to use them. Posing well-structured, answerable questions in relation to information needs can be difficult, and there are many obstacles to the entire process. In their qualitative research, Ely and his colleagues (2002) identified 56 different obstacles to EBP. There are huge application problems, and wrestling with these is a key characteristic of EBP. There are many kinds of questions:

Effectiveness: In elderly clients who are depressed, what method is most effective in reducing depression?

Prevention: For poor, inner-city children, are Headstart programs effective in decreasing school dropout?

Risk prognosis: In children who are abused, are actuarial or consensual risk assessment measures most predictive of future abuse?

Description or assessment: In families in which there is parent-child conflict, is self-report or observation most accurate in describing interaction patterns?

Other kinds of questions concern harm, cost, and self-development. Different questions require different kinds of research methods to critically appraise proposed assumptions. These differences are reflected in the use of different "quality filters" to search for and appraise related research (Gibbs, 2003; Sackett et al., 2000). Covell, Uman, & Manning (1985) found that two questions arose for three patients physicians saw. Most questions remain unanswered. We do not know how many questions arise in the course of work by social workers or how many of these remain unanswered.

The attention of EBP to application problems has yielded an array of innovative technology. Consider the evidence cart by Sackett and Straus (1998) in which a laptop containing access to important databases was put on a cart and wheeled into a hospital ward. The authors determined the extent to which it was used by physicians to answer questions related to their information needs. The role of knowledge managers has been emphasized

by Gray (e.g., Gray, 1998). Their role is to maximize knowledge flow within the agency, from outside to within and from inside to without. Workers could contact this knowledge manager with questions. There is also a rich literature on decision aids, many of which are computer based, that can maximize informed choice on the part of clients while giving clients maximal choice concerning what information they would like to have (O'Conner et al., 2002).

EBP offers practitioners and administrators a philosophy that is compatible with obligations described in professional codes of ethics and accreditation policies and standards (e.g., for informed consent and to draw on practice and policy-related research findings) and an evolving technology for integrating evidentiary, ethical, and practical issues. Related literature highlights the interconnections among these three 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 key implications of this view of EBP are the following: (a) Move away from authority-based decision making in which appeals are made to tradition, consensus, popularity, and status; (b) honor ethical obligations to clients such as informed consent; (c) make practices and policies and their outcomes transparent; (d) attend to application problems, that is, encourage a systemic approach to improving services; and (e) maximize knowledge flow—encourage honest brokering of knowledge and share ignorance and uncertainty as well as knowledge. This new and evolving paradigm is systemic; for example, it has implications for educators and researchers and for administrators, line staff, and clients.

The Origins of EBP

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 or policy, and research) is fairly recent, facilitated by the Internet revolution. As mentioned earlier, it has not been around for decades. It is designed to break down the division among research, practice, and policy—highlighting the importance of honoring ethical obligations. Some sources (e.g., Wilson & Alexandra, 2005) cite the origin of EBP as the Institute of Medicine (2001). This is not the origin of EBP. EBP was developed by key individuals such as Sackett and his colleagues and others. A key reason for the creation of EBP was the discovery of gaps showing that professionals were not acting systematically or promptly on research findings. There were wide variations in practices (Wennberg, 2002). There was a failure to start services that work and to stop services that did not work or harmed clients (Gray, 2001a, 2001b). Economic concerns were another factor. Inventions in technology were key in the origins of EBP such as the Web revolution that allows quick access to databases. The development of the systematic review was another key innovation. Yet another origin was increased recognition of the flawed nature of traditional means of knowledge dissemination such as texts, editorials, and peer review. Gray (2001b) describes peer review as having "feet of clay" (p. 22). Also, there was increased recognition of harming in the name of helping. Gray (2001b) also notes the appeal of EBP both to clinicians and to clients. The origins of EBP suggest reasons why a narrow view of EBP may be taken (e.g., continuing to ignore limitations of practice-related research and practice, simply redubbing business as usual as evidence-based when it has none of the characteristics of the process and philosophy of EBP and policy as described by its originators).

Other Views of EBP

The most popular view is defining EBP as considering practice-related research in

making decisions including using practice guidelines. For example, Rosen and Proctor (2002) state that "we use evidence-based practice here primarily to denote that practitioners will select interventions on the basis of their empirically demonstrated links to the desired outcomes" (p. 743). They define practice guidelines as "a set of systematically compiled and organized knowledge statements that are designed to enable practitioners to find, select, and use the interventions that are most effective and appropriate" (p. 1). Making decisions about individual clients is much more complex. There are many other considerations such as the need to consider the unique circumstances and characteristics of each client as suggested by the spirited critiques of practice guidelines and manualized treatments (e.g., Norcross, Beutler, & Levant, 2005). Practice guidelines are but one component of EBP, as can be seen by a review of topics in Sackett et al.'s (2000) book *Evidence-Based Medicine*; they are discussed in 1 of 9 chapters (other chapters focus on diagnosis and screening, prognosis, therapy, harm, teaching methods, and evaluation; see also later critique of imposing use of a guideline on line staff). Yet another view is that EBP consists of requiring practitioners to use empirically based treatments (Reid, 2001, p. 278; Reid, 2002). This view also omits attention to client values and their individual circumstances and resource constraints. The broad view of EBP involves searching for research related to important decisions and sharing what is found, including nothing, with clients. It involves a search not only for knowledge but also for ignorance. Such a search is required to involve clients as informed participants whether this concerns a screening test for depression or an intervention for depression (for descriptions of misrepresentations of EBP, see Gibbs & Gambrill, 2002; Straus & McAlister, 2000).

Many descriptions of EBP in the social work literature could be termed business as usual; for example, continuation of unrigorous research reviews regarding practice claims, inflated claims of effectiveness, lack of attention to ethical concerns such as involving clients as informed participants, and neglect of application barriers. A common reaction is simply relabeling the old as the new (as EBP), using the term *evidence-based* without the substance, for example, including uncritical reviews in sources labeled evidence-based). Consider the *Social Workers' Desk Reference* edited by Roberts and Greene (2002). We find descriptions of services as evidence based (e.g., Test, 2002), with no mention of critical reviews arguing otherwise (e.g., Gomory, 1999). In a book titled *Evidence-Based Practices for Social Workers* (O'Hare, 2005), there is no mention of the concerning results of key rigorous appraisals of family preservation (see Lindsey, Martin, & Doh, 2002; Schuerman, Rzepnicki, & Littell, 1994). In many sources, we find no description of the unique process of EBP. Most descriptions downplay or ignore the role of flaws in published research in the development of EBP and related enterprises such as the Cochrane and Campbell collaborations.

Choices

The key choice is how to view EBP—whether to draw on the broad philosophy and evolving process of EBP as described by its originators as a way to handle the uncertainty in making decisions in an informed, honest manner (sharing ignorance and knowledge) or to use one of the other approaches described earlier. The choice made has implications not only for clients, practitioners, and administrators but also for researchers and educators. I suggest that it will affect all of the following choices.

How Systemic to Be

The philosophy and process of EBP as described by its originators is a systemic approach in which the behaviors and products of researchers and educators and those of clients, practitioners, and administrators are of concern. Only via a

systemic approach, including attention to application barriers in agencies, may a shift be made away from authoritarian practices. One missing link could pull down other advances. For example, poor quality professional education could compromise success by failing to help students acquire valuable skills. The wide variety of decisions related to how systemic an approach to take are reflected in the sections that follow. Related indicators include all those suggested under choices discussed.

Who Will Select the Practice and Policy Questions on Which Research Efforts Are Focused and on What Basis?

Will these questions be selected by some elite, such as a state or national board? Will administrators select them, or will clients and line staff select them? One of the characteristics of the philosophy and process of EBP as described by its originators is the importance of gathering questions from what the British call the "coal face"—line staff and clients. It is at this point that information needs regarding decisions that must be made occur. Outcomes valued by clients suggest questions to pose. To date, in the Bay Area of California, questions pursued have been posed by county social service directors. For example, Bay Area Social Services Consortium (BASSC) includes directors of county welfare agencies. Each agency pays annual dues each year to belong to this group. Reviews prepared by BASSC staff (mostly master's and doctoral degree students) focus on questions suggested by county administrators (BASSC, 2005). In the *Guide For Child Welfare Administrators On Evidence-Based Practice* (Wilson & Alexandra, 2005), it is recommended that staff in the new clearinghouse, with input from a national advisory board, select the questions to be addressed. Is it not the clients and line staff who know what questions arise most often in everyday practice? Indicators of choices here include gathering questions from line staff and clients and the percentage of research efforts focused on questions that line staff and clients identify as occurring most often (see Table 1).

What Outcomes Will Be Focused on, Who Will Select Them, and on What Basis?

What outcomes will be used as indicators of success? Who will choose them? Will clients be involved in their selection? Will line staff and administrators be involved? Or will they be determined by a governmental committee? Do indicators used (e.g., a decrease in children returning to foster care) actually indicate success? Are children really better off? These questions call for careful attention to validity and reliability of measures. Performance indicators decided on by governmental groups may not be valid. Indeed, they may have unintended negative effects if implemented. The question is what measures best reflect hoped-for performance and outcomes related to the mission and goals of a program? Indicators of choice include selection of outcomes that accurately reflect success in attaining hoped-for outcomes (they are valid) and involvement of clients in identifying outcomes.

What Kinds of Evidence Will Be Used to Select Services, and How Will These Be Weighed?

There are many kinds of evidence. 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 suggests that we should consider all of these factors in making decisions about whether or not to implement a policy and describes six kinds of research related to evidence of policy impact: (a) implementation, (b) descriptive analytical, (c) attitudinal, (d) statistical modeling, (e) economic or

econometric, and (f) ethical. Criteria relevant for appraising policy options suggested by Macintyre, Chalmers, Horton, and Smith (2001) include:

- support by systematic, empirical evidence,
- support by cogent argument,
- scale of likely health benefit,
- likelihood that the policy would bring benefits other than health benefits,
- possibility that the policy might do harm,
- ease of implementation, and
- cost of implementation.

Currently, services are usually selected based on criteria such as consensus, popularity, or what is available. EBP and policy emphasize consideration of the evidentiary status of services. Certainly other criteria and forms of evidence such as legal issues must be considered as suggested above. Yet, just as certainly, evidentiary criteria are vital to consider. Without doing so, services of unknown effectiveness will continue to be used, and perhaps service shown to be harmful as well and effective services may lie unused. Consider the continued use of programs critically tested and found to be harmful (Petrosino, Turpin-Petrosino, & Bheuler, 2003). Related indicators here include use of evidentiary status as a key criteria in selecting services.

Who Will Make Final Decisions at the Coal Face?

History suggests that organizations tend to become bureaucratic and authori - tarian and take a top-down, non-participatory approach. Will decisions made by a clearinghouse regarding the evidentiary status of services be imposed on staff? Is it unnecessary for staff to learn how to critically appraise research related to questions that arise including research reviews? Is such an approach likely to forward integration of ethical, evidentiary, and application issues? EBP requires consideration of other sources of information such as the unique circumstances and characteristics of clients as well as research findings. This provides other vital evidence. Indeed, such concerns are raised by critics of practice guidelines. Making decisions at the coal face requires an understanding of the differences between findings regarding a particular population and a particular client. Research regarding a population may not apply to a client. For example, many clients have multiple concerns. How can one guideline be used? (See related discussion in Norcross et al., 2005.) As Gray (2001b) notes, "The leading figures of EBP were able to demonstrate how individuals did not always fit neatly into guidelines" (p. 26). Individual characteristics and circumstances of clients and unique knowledge on the part of service providers (regarding local resources and constraints) are needed. Indicators of choices here include the following: (a) Staff are given the flexibility they need to make optimal decisions in integrating external research findings with vital information regarding clients and resources; and (b) Data are collected regarding discrepancies between population data and individual clients.

What Style of EBP Will Be Used?

There are different styles of EBP (Sackett et al., 1997). For example, steps 2 and 3 of the process (see prior discussion) could be left to a knowledge manager employed by an agency (Gray, 1998). In the United Kingdom, physicians can telephone a source with a question, and within 4 hours someone will get back to the caller with an answer. We could create such a program for social workers, psychologists, and psychiatrists. Special training, repeated guided practice, and related tools and resources are needed to carry out the steps of EBP on the job, in

Table 1 Indicators of the Choice of a Systemic View of Evidence-Based Practice (EBP)

Researchers

Focus on questions that arise most often at the coal face.

Use rigorous tests of questions; for example, use guidelines described in the CONSORT statement. Prepare systematic reviews.

Clearly describe methodological limitations and conceptual controversies.

Clearly and accurately describe well-argued, alternative views.

Seek client input regarding valued outcomes (e.g., quality of life).

Avoid inflated claims of knowledge (methods used do not warrant them).

Practitioners

Pose well-structured answerable questions related to information needs.

Critically appraise different kinds of practice-related research.

Search effectively and efficiently for research findings related to important questions.

Decrease common errors in integrating data. Purchase services from agencies that offer practices shown to help clients.

Do not purchase services from agencies that provide ineffective or harmful programs.

Involve clients as informed participants.

Report errors made and suggest causes.

Form journal clubs to select and answer questions that arise.

Raise questions about agency practices and policies.

Be involved as informed participants; be accurately informed regarding the evidentiary status of services used.

Accurately evaluate the effects of their services.

Consider values and preferences in selecting assessment, intervention, and evaluation methods.

Supervisors

Model EBP skills.

Provide timely corrective feedback to staff.

Advocate on behalf of staff to administrators for resources needed for EBP.

Administrators

Provide needed training for staff on key EBP skills.

Provide tools required for EBP.

Arrange and maintain incentive systems that promote EBP.

Model critical appraisal (e.g., avoid propaganda strategies and welcome questions from staff). Arrange a user-friendly way to gather errors and information about related causes and design ways to minimize avoidable errors.

Arrange a user-friendly complaint and compliment system for clients and use collected data to improve services.

Arrange an environment that provides corrective feedback allowing staff to learn how to improve services.

Professional Educators

Accurately describe biases and knowledge limitations.

Clearly describe negative findings and conceptual controversies regarding preferred views.

Clearly describe well-argued alternative views and related positive effects.

Use formats shown to be effective in helping students acquire EBP knowledge and skills.

Provide critical feedback in a supportive environment that allows students to "educate their intuition" (Hogarth, 2001).

Clients

Offer feedback regarding services.

Get access to clear, accurate descriptions of services offered and alternatives including their risks and benefits in readily available brochures and/or user-friendly computer programs.

Receive on-going feedback based on specific, relevant progress indicators.

real time. Guyatt and Rennie (2002) recommend the highest possible skill levels:

> Only if you develop advanced skills at 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)

They also suggest that such skills will allow professionals to be effective leaders in introducing EBP into their agencies. Examples of skills include the following:

1. To define and identify the sources of evidence appropriate to a decision that must be made.
2. To carry out a search . . . without the help of a librarian and find at least 60% of the reviews or research studies that would have been found by the librarian.
3. To construct simple search strategies . . . using Boolean operators (*and* and *or*) . . . and to be able to do this for a variety of practice-related questions in relation to different service characteristics, including effectiveness, safety, acceptability, cost-effectiveness, quality, and appropriateness.
4. To download the [results] of a search into reference management software (Gray, 2001a, p. 329).

Sackett and his colleagues (2000) distinguish between three different styles of EBP, all of which require steps 1 and 3, but vary in how steps 2 and 4 are carried out. They suggest that for problems encountered on an everyday basis, practitioners should invest the time and energy needed to carry out both searching and critical appraisal of reports found. For level 2 (problems encountered less often), they suggest that professionals 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 restricted to sources that have already undergone critical appraisal. A third style applies to a problem encountered very infrequently in which helpers "blindly seek, accept, and apply the recommendations we receive from authorities" (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). 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 may result in using style 2 with most problems.

Practitioners do not have time to track down and critically appraise research related to all questions that arise. However, does this mean that they should not acquire critical appraisal skills? Should not students in bachelor's and master's degree programs acquire such skills? Indeed, is this not mandated by the Council on Social Work Education (2002) accreditation guidelines? Such skills are needed to integrate practice and research as required by the National Association of Social Workers' (1999) *Code of Ethics*. Critical thinking skills are vital to appraise the validity of assessment measures. They are needed to learn from experience (to "educate our intuition"; Hogarth, 2001) and to integrate diverse sources of information. King (1981) suggests that "for Flexner, as for us today, 'severely critically handling of experience' was an important part of scientific method, applicable to clinical practice as well as to research investigation" (pp. 303–304). He suggests that

> the [helper] who is not critical corresponds to the empiric. He does not consider alternatives, does not discriminate among their features, and does not attend to any detailed congruence with the pattern. He acts reflexively instead of reflectively. (p. 304)

He suggests that one of the characteristics that distinguishes good helpers from bad ones is that good ones "always held as an ideal the critical

evaluation of the data" (p. 300). Involving all staff as critical users of practice-related research is more likely to increase their participation in needed change and to yield valuable ideas for improving the quality of services. Indicators of choice here include (a) a style of EBP being used by staff that maximizes quality of services including attention to ethical obligations such as informed consent; and (b) staff that are skilled in carrying out the steps involved in EBP.

How Transparent to Be Regarding the Evidentiary Status of Services

A key characteristic of EBP is a call for transparency; being honest about the evidentiary status of assessment, intervention, and evaluation methods. For example, is there evidence that genograms do more good than harm? Is there evidence that actuarial methods are superior to consensus-based methods in predicting future maltreatment of children? Has MST been clearly demonstrated to be effective? Is there evidence that following the advice of preventive medicine will do more good than harm (Sackett, 2002)? EBP calls for candid descriptions of limitations of research studies and use of research methods that critically test questions addressed. Contrary to the claim that EBP seeks for and assumes that certainty about knowledge is possible, EBP highlights the uncertainty involved in making decisions and related potential sources of bias and attempts to give helpers and clients the knowledge and skills to handle this honestly and constructively (e.g., Chalmers, 2003). Attention and resources have been devoted to helping both clients and professionals acquire critical appraisal skills they can use as quality filters to review research findings related to practice questions (e.g., the Critical Appraisal Skills Program, CASP, of the Institute of Health Sciences; Gibbs, 2003; Gray, 2001a, 2001b; Greenhalgh, 2001; Sackett et al., 2000). Transparency and rigor are intimately related. That is, rigorous tests of a claim are more likely to reveal (to make transparent) the evidentiary status of a claim. Currently, the professional literature is awash with a lack of transparency. Consider some of the following characteristics found in a critical appraisal of content in a random selection of pages in the flagship journal *Social Work* (Gambrill & Penick, 2005): use of vague words such as *most*, claims of an association between two variables with no information regarding what it is or how it was determined, and inflated claims of effectiveness (the research method used does not warrant the claims made).

Without transparency and rigor, clients cannot be involved as informed participants; they will be uninformed or misinformed about the evidentiary status of recommended services and alternatives. Consider hiding the risks of assessment measures and diagnostic tests such as mammograms to encourage clients to take a test. A review of Web sites showed that professional advocacy groups and governmental organizations did not provide information concerning harms of mammographic screening (overdiagnosis and overtreatment). Web sites of consumer organizations provided the most balanced and comprehensive information (Jørgensen & Gøtzsche, 2004). Is it ethical to deceive clients to encourage them to undergo a test that a professional thinks is required? Is this not a form of paternalism? Indicators of choices here include the following: (a) All involved parties are accurately informed concerning the evidentiary status of services offered and of alternatives and their risks and benefits; and (b) Researchers and authors clearly describe the quality of documentation for claims including methodological limitations. They describe methodological and conceptual controversies in an area and accurately describe well-argued alternative views.

How and in What Ways to Involve Clients

A striking characteristic of EBP and related developments is the extent to which

clients are involved in many different ways (e.g., Broclain, Hill, Oliver, & Wensing, 2002; Edwards & Elwyn, 2001; Entwistle, Renfrew, Yearley, Forrester, & Lamont, 1998). One is reflected in the attention given to individual differences in making decisions. For example, Sackett and his coauthors (1997) emphasized the importance of comparing the values and preferences of clients with recommended services and their likely consequences (p. 170). Haynes and his colleagues (2002) emphasized that "'personalizing' the evidence to fit a specific [client's] circumstances is a key area for development in evidence-based medicine" (p. 4). A second is helping clients to develop critical appraisal skills (e.g., CASP). A third is encouraging client involvement in the design and critique of practice and policy related research (e.g., Hanley, Truesdale, King, Elbourne, & Chalmers, 2001). As Chalmers (1995) suggests, "lay people can draw on kinds of knowledge and perspectives that differ from those of professional researchers" (p. 1318). A fourth is attending to outcomes clients value.

A fifth is involving clients as informed participants who share in making decisions (O'Conner et al., 2002). In their description of "evidence-informed patient choice," Entwistle and her colleagues (1998) suggest use of a form requiring professionals to inform clients about the evidentiary status of recommended services including the possibility that a method has never been rigorously tested in relation to hoped-for outcomes and that other methods have been so tested and found to be effective. This form also requires descriptions of the track record of success in using the method successfully with people such as the client in both the agency to which the client is referred and the staff member in the agency whom the client will see. The term *evidence-based patient choice* emphasizes the importance of involving clients as autonomous participants who themselves carry out the required integration of information from diverse sources in making decisions (e.g., Edwards & Elwyn, 2001).

A sixth way in which clients are involved is recognizing their unique knowledge in relation to application concerns. In their discussion of practice guidelines, Sackett and his colleagues (2000) highlight the importance of considering two distinct components of practice guidelines: (a) their evidentiary status and (b) application concerns. They emphasize that those who are the experts in deciding whether a guideline is applicable to a given client, practice, agency or community "are the clients and providers at the sharp edge of implementing the application component" (p. 181), not the researchers and academics who critically appraised research findings. The differing expertise needed to prepare reviews regarding the evidentiary status of a guideline and to identify implementation potential highlights the inappropriateness of researchers telling practitioners and clients what guidelines to use. Detailed information about unique personal characteristics and local circumstances must be considered. Indicators of choices here include the following: (a) Clients are accurately informed of the evidentiary status of recommended services and of alternatives; (b) Client characteristics are considered in applying external research findings including their values and preferences; and (c) Clients' views are sought by researchers regarding valued outcomes.

How Rigorous to Be in Reviewing the Evidentiary Status of Services

A key way in which views of EBP differ is in the degree of rigor in evaluating knowledge claims (e.g., see Schulz, Chalmers, Hayes, & Altman, 1995). Both the origins of EBP and objections to EBP reflect different views of evidence.

When do we have enough evidence to recommend a practice method? Decisions that arise here include whether to use a hierarchy of evidence, and if so, what kind, where on a hierarchy to proclaim a practice as evidence based, how rigorous

and exhaustive to be in preparing reviews, and how honest to be in describing what we have and have not done (e.g., Chambless & Ollendick, 2001; Norcross et al., 2005). Experts in a content area prepare more biased reviews compared to those who, although knowledgeable concerning critical appraisal of research, are not in this area (Oxman & Guyatt, 1993). Do criteria for having enough evidence differ in relation to different kinds of decisions or different involved parties, for example, ourselves compared to our clients? Concerns about inflated claims of effectiveness based on biased research studies was a key reason for the origin of EBP and health care as discussed earlier. Inflated claims obscure uncertainties that may, if shared, influence client decisions. Different opinions about how much we know reflect use of different criteria. This is a concern in the medical field. Consider the statement of Richard Smith (2003), past editor of the *British Medical Journal*, that hardly anything is known in medicine compared to the statement by Gray (2001a) that more than 60% of methods used in medicine and psychiatry are evidence based. Who is correct? What would we find if we examined the references to psychiatry cited by Gray? How should these differences be handled?

Given the history of the helping professions (e.g., bogus claims of effectiveness and harming in the name of helping), is not the ethical road to make measured rather than inflated claims and to clearly describe related research, including its flaws, so that we are not misled and in turn mislead clients? Consider the book *What Works in Child Welfare* (Kluger, Alexander, & Curtis, 2002). [The editors] say they originally had a question mark after the title: "We decided to eliminate the question mark from the title because, despite its limitations, this book is a celebration of what works in child welfare" (p. xix). The authors do not clearly describe where they searched, how they searched, or what criteria were used to critically appraise different kinds of research reports. We are given no information at many points as to the length of the follow-up. Contrast such a grandiose title with the statement on the back of *Clinical Evidence*, described earlier. Consider also the inflated claims made in *Evidence-Based Practice Manual* (Roberts & Yeager, 2005) described by Carlsteadt (2005). Do uncritical reviews of the literature contribute to helping clients and involving clients as informed participants?

Hierarchies of evidence. Many different hierarchies of evidence have been suggested (e.g., http://www.infopoems.com/levels.html). Some describe services in terms of their evidentiary status. For example the hierarchy used in the classic book *A Guide to Effective Care in Pregnancy and Childbirth*, by Enkin, Keirse, Renfrew, and Neilson (1995), ranges from beneficial forms of care that have been shown via rigorous tests to be effective, through services which are of unknown effectiveness, to services that have been critically tested and shown to harm clients. Gray (2001a) suggests the following hierarchy:

1. Intervention programs that have been critically tested and found to help clients.
2. Intervention programs that have not been critically tested and are not in a good experimental trial.
3. Intervention programs that have been critically tested and shown to harm clients.
4. Intervention programs of unknown effectiveness that are in a rigorous experimental trial.

Compare these with the hierarchy used in the *Guide for Child Welfare Administrators on Evidence-Based Practice* (Wilson & Alexandra, 2005):

1. Well-supported, proven efficacious practice.
2. Supported and probably efficacious practice.
3. Supported and acceptable practice.
4. Promising and acceptable practice.
5. Innovative or novel practice.
6. Experimental or concerning practice.

It would be hard to create a hierarchy more likely to hide ineffective or harmful practices. Concerns regarding this hierarchy include justificatory language that encourages confirmation biases and wishful thinking such as use of the word *proven* and repeated use of terms such as *support* and *efficacious*. The word *harm* is not mentioned at all. And, this hierarchy hides the fact that most services are of unknown effectiveness. In addition, vague terms such as *probable* are used. In Appendix A, we find that *clinical-anecdotal literature* and *generally accepted in clinical practice* are included as indicators of Level 1 evidence. This hierarchy does not bode well for a clearinghouse created to critically appraise the status of assessment, intervention, and evaluation methods.

Some hierarchies describe the kinds of tests used that differ in the rigor with which they test a question or assumption:

- *N* of 1 randomized controlled trial
- Systematic review of randomized trials
- Single randomized trial
- Systematic review of observation studies addressing [client] important outcomes
- Single observational study addressing [client] important outcomes
- Physiologic studies (e.g., blood pressure, etc.)
- Unsystematic clinical observations (Guyatt & Rennie, 2002, p. 7).

Such hierarchies are available for different kinds of questions (e.g., Guyatt & Rennie, 2002). Reliance on rankings is not a good idea, as Glasziou, Vanderbroucke, and Chalmers (2004) point out, for example because different numbers in different systems mean different things. They suggest that for important recommendations, it may be preferable to give a brief summary of key evidence together with a concise appraisal of why certain quality dimensions are important.

Another term used is *best evidence*; if there are no RCTs regarding an effectiveness question, then we may consult a hierarchy of evidence and move down the list. This is what we must do in the everyday world because most practices and policies used in fields such as psychology and social work have not been critically tested. Thus, instead of well-designed RCTs regarding an intervention, we may have to rely on findings from a pre-post test. As this example illustrates, the term *best evidence* could refer to a variety of different kinds of tests that differ greatly in their ability to critically test claims. Some guidelines claim that if there are two well-designed RCTs that show a positive outcome, this represents a well-established claim. Within a more skeptical approach to knowledge, we would say that a claim has been critically tested in two well-controlled RCTs and has passed both tests. This keeps uncertainty in view.

What kinds of reviews to prepare. There are many kinds of reviews that differ in their goal. A goal may be to combine a large, varied literature into a unifying model (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; see also Greenhalgh et al., 2005). Another goal is to critically appraise the evidentiary status of an intervention as in a systematic review. Thus, goals provide direction to procedures likely to maximize success. Systematic reviews differ greatly from incomplete, nonrigorous, nontransparent reviews (Higgins & Green, 2005). Compare reviews

in *The Journal of Evidence-Based Practice* with Cochrane and Campbell reviews. In a systematic review, there is a search for all literature related to a question in all languages, in both published and unpublished sources, including hand searches of journals. The search process, including the databases reviewed, is clearly described. Authors describe where they searched and how they searched. Rigorous criteria are used to appraise what is found, and they are clearly described (see Cochrane and Campbell reviews and their protocols). The conclusions of systematic reviews—those that use well-defined search and retrieval procedures, explicit inclusion and exclusion criteria, and both quantitative and qualitative methods of research synthesis—differ from those of unsystematic reviews; unsystematic reviews report more positive findings. Traditional reviews do not control for as many biases and thus overestimate positive effects of services. They are misleading in their conclusions. Compare, for example, claims of effectiveness made by the developers of MST (Henggeler & Lee, 2003) and conclusions of Littell's (2005) review of reviews. Littell noted that there are more than 90 licensed MST programs in more than 30 states in the United States. Millions of dollars of research money has been given to related research, and the developers gain $400 for each youth enrolled in a program via their nonprofit company. This program has been cited as an effective, evidence-based treatment model by the U.S. National Institute of Drug Abuse (1999), National Institute on Mental Health (2003), Surgeon's General Office (U.S. Public Health Service, 2000), Center for Substance-Abuse Prevention (2000), and the Annie E. Casey Foundation (2000; see Littell, 2005, for relevant references). Thomlison (2003) states that "of particular note is the fact that MST is at Level 1 effectiveness with eight randomized, controlled trials" (p. 547). Level 1 effectiveness refers to "well-supported, efficacious treatment with positive evidence from more than two randomized clinical trials" (p. 544). Persons (2005) describes MST as an "evidence-based protocol" (p. 114) in her presidential address to the Association for Advancement of Behavior Therapy.

Based on a critical appraisal of reviews of MST, Littell (2005) concludes that such programs have few if any significant effects on measured outcomes compared with usual services or alternative treatments (see also Henggeler, Schoenwald, Borduin, & Swenson's, 2006, response to Littell and Littell's response to Henggeler). Littell conducted a review of reviews following the guidelines developed by the Campbell and Cochrane collaborations: "Of 27 published reviews of reviews of research on effects of MST, only 7 had explicit inclusion/exclusion criteria, 5 used systematic searches of electronic databases, 8 included unpublished studies, and 6 included meta-analysis" (p. 449). Few reviews noted attrition rates, whether outcome measures were blind or included an intent to treat analysis. Using procedures developed by the Cochrane and Campbell collaborations, Littell identified eight studies that met inclusion criteria. Concerns identified in these studies were (a) inconsistent reports on the number of cases randomly assigned, (b) unyoked designs, (c) unstandardized observation periods within studies, (d) unclear randomization procedures, and (e) subjective definitions of treatment completion. Only one study met the criterion of a full intent-to-treat analysis with a well-defined follow-up. This rigorous appraisal highlights that what is proclaimed as effective or very effective, not only in the professional literature but by organizations that have the responsibility of accurately informing professionals and the public, may be in question. This review, and many other sources, show that unsystematic reviews come to different conclusions than do systematic reviews; the former report more positive effects. MST is listed as an effective therapy by the national advisory board to the newly created clearinghouse and is described as an evidence-based program

by the Milbank Foundation. Which view will we accept and utilize?

At a recent leadership conference in California (July 2005), three structured reviews were presented by representatives of BASSC (2005). Such reviews were described as very similar to systematic reviews when indeed they are less exhaustive, rigorous, and transparent. There were no hand searches of journals, and criteria used to review research are not clearly described and do not appear to be rigorous. The invention of the systematic review is one of the truly great steps forward in helping practitioners gain rapid access to high-quality reviews related to specific practice questions. Do we really want to obscure differences in the rigor of reviews? Does obscuring the evidentiary status of practices and policies do more good than harm? And if so, for which involved parties? What functions does hiding the evidentiary status of services forward? Indicators of choices here include the following: (a) Research methods used are clearly described in studies of concern including their methodological and conceptual limitations; (b) Claims made match rigor of tests of assumptions; and (c) Systematic reviews are prepared.

Whether to Avoid Propaganda Strategies and Blow the Whistle on Harm, Pseudoscience, Quackery, and Fraud

During the past few years, growing attention has been given to fads, harming in the name of helping, and related fraudulent claims and pseudoscience in the helping professions (e.g., Angell, 2004; Jacobson, Foxx, & Mulick, 2005; Lilienfeld, Lynn, & Lohr, 2003; McCord, 2003; Wright & Cummings, 2005). Such efforts are clearly compatible with the call for honest brokering of knowledge and ignorance in the philosophy of EBP. Will new organizations dubbed evidence based make use of methods criticized in such sources or roundly reject them? Consider what appeared in the *Guide for Child Welfare Administrators on Evidence-Based Practice*: "The practice of child welfare has long been based on a strong professional literature" (Wilson & Alexandra, 2005, p. 5). This is highly misleading if by *strong* we mean based on high-quality research and quality of services offered.

Research suggests an absence of quality (DePanfilis & Girvin, 2005). Court challenges to child welfare practice illustrate lack of quality (Eamon & Kopels, 2004). Bogus claims are not benign. They have resulted in harming in the name of helping and interfere with further exploration. They mislead rather than inform. They stifle inquiry into needed areas. Indicators of choices here include: (a) Absence of propaganda tactics such as hiding negative findings related to favored views and inflated claims of effectiveness, (b) Accurate description of the evidentiary status of claims including complete disclosure of methodological and conceptual limitations of preferred views and negative findings, and (c) A culture that rewards staff and clients for raising questions about practices and policies.

Whether to Implement Needed Organizational Changes

A key choice is whether to implement needed organizational changes. Gray (2001a) characterizes the evidence-based organization as having "an obsession with finding, appraising, and using research-based knowledge as evidence in decision making" (p. 250). In an evidence-informed organization, questions such as the following are continually posed, and answers pursued: "(1) What was the strength of the evidence on which the decision to introduce resource management was based? (2) How good is the evidence used to justify investment in this new [procedure]?" (p. 252). What criteria should be used to select innovations? How should they be introduced? Agencies should help practitioners 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). Activities of an evidence-based chief administrator suggested by Gray (2001a) include modeling, searching for evidence, appraising evidence, storing important evidence in a way that allows easy retrieval, and using evidence to make decisions. Such an administrator encourages evidence-informed audit and purchasing and takes responsibility for providing tools and training needed by staff to offer clients evidence-informed services. He or she should also help those accountable to the chief administrator to acquire and use evidence-informed management skills such as arranging for feedback that contributes to learning how to improve the quality of decisions. Administrators have a responsibility to create a work environment in which behaviors that contribute to positive outcomes for clients are maximized and behaviors that diminish such outcomes are minimized.

Will services purchased be evidence informed? State agencies such as departments of children and family services contract out services to other agencies. What criteria are used to decide what services to purchase? Evidence-based purchasing refers to purchasing of services on the basis of their evidentiary status—they have been found via critical appraisal to maximize the likelihood of achieving hoped-for outcomes. Currently, evidentiary grounds are typically not used to purchase services from agencies. A review of parenting programs offered to child welfare clients in one urban locale showed that parents are given a list of programs and asked to select one (Gambrill & Goldman, 2005). Often these are selected based on merely practical grounds such as transportation and availability, and clients are not informed about the evidentiary status of different programs. This goes directly counter to ethical obligations to involve clients as informed participants and maximize self-determination. And it wastes money on services likely to be ineffective (see also Barth et al., 2005). For each service purchased, we should ask: Is anything known about its effectiveness? If so, what? Do we know if a service (a) does more good than harm, (b) does more harm than good, or (c) is of unknown effect? Costs should also be considered. Ørvretveit (1995) argues that if purchasers are not able to justify their decisions, then they are "acting unethically in directly or indirectly causing avoidable suffering" (p. 99).

Will needed training and resources be provided? A key decision is whether to provide the training and resources needed for staff to carry out evidence-informed practice such as access to relevant databases and a knowledge manager. As mentioned earlier, there are different styles of EBP. A related decision is whether to take advantage of technological innovations. Use of hand-held computers on the job to guide decisions may be of value in decreasing errors and common biases (e.g., by providing reminders to check certain things). Computer-based decision aids may be used to prompt valuable behaviors, to critique a decision (e.g., purchasing services from an agency that does not use evidence-informed practices), to make a differential diagnosis, to match a client's unique circumstances and characteristics with a certain service program, to suggest unconsidered options, and to interpret different assessment pictures (Guyatt & Rennie, 2002). Knowledge and skills needed to integrate practice and research and effective self-development skills for continued learning should be acquired during professional education programs including familiarity with common pitfalls in reasoning and strategies designed to avoid them such as "fast and frugal heuristics" (e.g., Gambrill, 2006; Gigerenzer, 2002). The very notion of a professional implies use of judicious discretion. Such discretion cannot be judicious unless professionals have acquired a minimum level of effective

decision-making skills including critical appraisal skills. Whatever is not provided during professional education programs must be provided on the job if we are to meet our ethical obligations. Without providing effective training in EBP skills as needed, for example, in posing well-structured answerable questions, an organization cannot be evidence based. Programs offered should reflect formats and content likely to promote achievement of hoped-for outcomes and be tailored as necessary to the unique current repertoires of each staff member. Traditional continuing education programs do little to change on-the-job behavior (Thomson O'Brien et al., 2003). Such disappointing findings was one of the reasons for creating EBP and exploring problem-based learning, to encourage lifelong learning in which professionals acquire and use practice-related research on the job. A number of articles in the social work literature decry the deprofessionalization of social workers (e.g., declassification), hiring those without a master's degree in social work to offer services. Is not the idea that social workers do not have to know how to critically appraise the quality of research a dumbing down, a deprofessionalization?

Will arrangement be made to learn from errors? As Hogarth (2001) notes, many work environments are "wicked"; they do not provide corrective feedback that allows us to learn from our mistakes. Woods and Cook (1999) point out that "factors that reduce error tolerance or block error detection and recovery degrade system performance" (p. 144). The notion of a learning organization suggests an active pursuit of the flow of knowledge including errors and their causes rather than a passive stance that characterizes many (most?) social service organizations. In *Expert Group on Learning from Adverse Events in the NHS* (2000), it was estimated that as many as 850,000 serious adverse health care events might occur in the National Health Service hospital sector each year at a cost of more than £2 billion. Half of these events are considered to be preventable. This report concluded

> that the NHS is a "passive" rather than an "active" learning organization, which has a culture of blame and of the superficial analysis of adverse events, and therefore misses many of the learning points that could have been used to improve both safety and performance, and thereby quality of care. (Gray, 2001a, p. 245)

There is extensive research regarding error and failure—how it occurs, when it occurs, why it occurs, and what could be done about it in the areas of health, aviation, nuclear energy, and environmental concerns. Related research shows that errors typically involve systemic causes, including poor training programs (Reason, 1997, 2001). There is little of this kind of research in social work, psychiatry, and psychology (for exceptions, see DePanfilis & Girvin, 2005; Munro, 1996). Options here include designing user-friendly audit systems that permit error detection and provide opportunities for corrective feedback and user-friendly complaint retrieval systems.

Will arrangements be made to learn from clients? Clients are actively involved in many ways in EBP as discussed earlier. Their preferences and expectations are actively solicited and attended to in planning services. Literature in the area of applied behavior analysis offers guidelines here (e.g., Schwartz & Baer, 1991). User-friendly client feedback systems should be in place and information collected and utilized (see also Coulter, 2002; Edwards & Elwyn, 2001).

Indicators of choices made regarding organizational factors include the following:

- Questions that arise in everyday practice are collected from line staff and clients, and high frequency ones guide research efforts on the part of

interested organizations or individuals, for example systematic reviews and new studies.

- A knowledge manager is available (Gray, 1998).
- Staff have access to relevant databases.
- A user-friendly system is in place for identifying errors and related causes so avoidable ones can be minimized and staff made aware that errors are typically systemic in cause.
- Services purchased have been critically tested and found to help clients and avoid harm.
- Facilitating incentive systems are in place; for example, staff are rewarded for blowing the whistle on harmful and ineffective practices and for suggesting specific related changes.
- Administrators and supervisors model critical appraisal of claims; they raise questions regarding current practices and policies and welcome such questions from others. They avoid styles of discussion that hinder critical appraisal of different views.

Whether to Place Ethical Issues Front and Center

Choices made will in large part reflect beliefs about the ethical obligations of professionals to their clients. Ethical and evidentiary concerns are closely intertwined. The philosophy of EBP emphasizes the close links between evidentiary and ethical issues. Consider informed consent. Clients cannot take part in making decisions as informed participants if they have not been accurately appraised about the evidentiary status of recommended procedures and alternatives. Satisfying this obligation requires social workers to be accurately informed. How can social workers know that they are accurately informed if they do not know how to critically appraise the evidentiary status of claims? Social work makes much of the concept of empowerment. Here too there is a close connection between ethical and evidentiary issues. I am not empowered if I depend on doing what someone else tells me I must do and have no understanding of the basis for this requirement. Also, if I do not understand it, I am less likely to buy into it and less likely to seek and share ways to improve services.

Censoring lack of evidence for services used, wanting professionals such as physicians and dentists who we consult in our personal lives to base decisions on rigorous criteria when we do not do so for our clients, hiding methodological limitations, and presenting sloppy reviews of the literature as evidence based all fail to honor ethical obligations described in professional codes of ethics. Gray (2001a) suggests that

> when evidence is not used during clinical practice, important failures in clinical decision making occur: ineffective interventions are introduced; interventions that do more harm than good are introduced; interventions that do more good than harm are not introduced; and interventions that are ineffective or do more harm than good are not discontinued. (p. 354)

We must make a decision regarding the status of professional codes of ethics. Are these merely for window dressing, to impress interested parties that our intentions are good and therefore our outcomes are good, to convince others that we are doing the right thing? Or are these codes really meaningful? Is it ethical to agree to abide by the guidelines described in professional codes of ethics, for example, to draw on practice-related research and then simply not do so? (For a list of 20 excuses not to act ethically, see Pope & Vasquez, 1998.) Indicators of choices made here include the following: (a) Clients are involved as informed participants; (b) Services recommended have been critically tested and found to

help clients attain outcomes they value; and (c) Ineffective and harmful services are not used.

Obstacles

There are many obstacles to enhancing integration of evidentiary, ethical, and application concerns as noted in related literature (Ely et al., 2002; Greenhalgh et al., 2004; Oxman, Thomson, Davis, & Haynes 1995). Some obstacles are practical, some ideological, some philosophical, and many ethical. Addressing application obstacles, referred to in their most intense form as "killer B's" (barriers) by Sackett et al. (2000), for example organizational barriers, is a key concern in EBP. Helping clients involves decision making in the real world. It involves naturalistic decision making in which problems are ill structured and occur in uncertain and changing environments. Goals are often ill defined and competing and they change. Time pressures, high stakes, and multiple players complicate the picture, as may lack of feedback regarding decisions and challenges in learning from mistakes (e.g., Wu, Folkman, McPhee, & Lo, 2003; Zambok & Klein, 1997). These characteristics illustrate that imposing practice guidelines is ill advised, not only from a psychological point of view but also from political, clinical, and implementation perspectives (e.g., Beutler, 2000). External research findings are one ingredient of EBP. Individual characteristics of practitioners, including relationship skills, also influence outcome (e.g., Wampold, 2005).

A Preference for Authority-Based Practices and Policies

Perhaps of all the obstacles, a preference for authority-based practices and policies is the most challenging. Related indicators include a reluctance to be transparent, inflated claims of effectiveness, and use of the term *evidence based* to refer to business as usual such as incomplete, unrigorous research reviews (see also Table 2). Arrogance (and, I would argue, a disregard for clients' welfare) is reflected in the prevalence of pseudoscience, fads, and

Table 2 Evidence-Based in Substance or Name Only?

Evidence-Based In Substance	*Evidence-Based In Name Only*
Questions researchers focus on come from clients or direct line staff.	Questions focused on are selected by researchers or administrators.
The evidentiary status of services or programs is clearly described.	The evidentiary status of service programs is hidden or misrepresented.
Rigorous criteria are used to evaluate the evidentiary status of services.	Nonrigorous criteria are used to evaluate services.
Direct line staff and supervisors are provided the training and tools needed for evidence-informed decisions.	Neither line staff nor supervisors have skills or resources required to make evidence-informed decisions.
Evidentiary status is a key factor in purchasing services.	Services are purchased based on availability and popularity.
Clients are fully informed regarding the risks and benefits of recommended services and of alternatives.	Clients are involved as uninformed or misinformed participants.
Training programs offered use formats that maximize learning and focus on information needs and skills directly related to decisions made by line staff.	Training programs are selected based on entertainment value and popularity.

related propaganda tactics in the professional literature and underestimating our vulnerability to their influence. The philosophy and process of EBP as described by its originators is a deeply participatory, antiauthoritarian paradigm that encourages all involved parties to question claims about what we know. It pits Socratic questioning against those who prefer not to be questioned and who resort to a time-tested array of strategies to deflect questions. These include attitudes such as we are doing it for you, we know better, we have more experience, and this is too difficult for you to learn. Where is there a more intense clash than between those who think they have a right not to be questioned and those who question? Consider the fate of Socrates. Many prefer ideological grounds for selecting practices and policies; they are compatible with preferred views of how things should be with little concern for discovering how they indeed are. In his discussion of the irrelevance of evidence in the development of school-based drug prevention policy, Gorman (1998) suggests that ineffective

> programs thrive not because research demonstrates their efficacy and superiority over competing approaches, but because the principles upon which they are based are compatible with the prevailing wisdom that exists among policy makers and politicians. And, judging from recent government publications and the viciousness with which critics are attacked, the uncritical acceptance of school-based social skills training seems likely to continue into the near future. (p. 141)

The origins of EBP include concerns about harmful practices being continued (e.g., Chalmers, 1983). The philosophy of EBP calls for a candid recognition of the uncertainty surrounding decisions that affect clients' lives. This uncertainty is highlighted in research on judgment, decision making, and problem solving including research on clinical decision making. Biases intrude both on the part of researchers (MacCoun, 1998) and at the practitioner level when making decisions (e.g., Gambrill, 2006). Simplifying strategies based on availability (e.g., preferred practice theory) and representativeness (e.g., stereotypes) may interfere with integration of clinical expertise, external evidence, and client values and expectations. Many biases that affect the decisions professionals make occur outside of their awareness (Gilovich, Griffin, & Kahneman, 2002) including influence by advertisements and gifts from drug companies (see Wofford & Ohl, 2005). Asking questions about effectiveness raises the sensitive issue of competence, a touchy subject vital to the essence of being a professional. "To act morally in health care is to know and understand what one is doing. Competence is not a sufficient condition, but it is a necessary condition for doing morally good acts" (Bandman, 2003, p. 177). Arrogance is reflected in an unwillingness to candidly examine competence.

Appeal to Questionable Excuses

Many reasons for not using evidence-informed practices and policies reflect the paradigm shift involved and related new resources needed such as access to relevant databases. Even here, we have a choice to accept our circumstances or to work together with others to acquire needed resources. Indeed, our ethical obligations require us to do so if limitations harm clients' welfare. What about the excuse that critical appraisal and search skills are too hard for staff to learn? We should first keep in mind that Council on Social Work Education accreditation guidelines call for learning such skills in bachelor's of social work and master's of social work programs. And, learning key questions to raise regarding different kinds of research including research reviews is easy,

especially with the help of user-friendly books such as *How to Read a Paper* (Greenhalgh, 2001). Data showing that 92% of social workers sampled wanted their physicians to rely on the results of RCTs when making intervention recommendations for a serious health problem of concern to them but relied on less rigorous criteria when making decisions about clients suggest that social workers understand the purpose of RCTs, that is, to control for biases (Gambrill & Gibbs, 2002). Now, in this age of the Internet and user-friendly sources that can help us learn how to critically appraise claims, we have at our disposal tools to discover the evidentiary status of claims. Len Gibbs teaches the steps of EBP to undergraduate students. For example, questions regarding research reviews include

1. Is the question addressed clear and relevant?
2. Do the authors clearly describe how they searched, where they searched, and what criteria they used to appraise studies?
3. Was a thorough search conducted using relevant databases?
4. Did the search cover unpublished as well as published work?
5. Were rigorous criteria used to review research?

Questions regarding effectiveness include

- Was the sample size adequate?
- Was there a comparison group?
- Were participants randomly distributed to different groups?
- Were ratings of outcomes blind?
- Was there a follow-up period? If so, how long?
- Was there intention to treat analysis?

Practitioners can take advantage of high-quality reviews such as those in the Cochrane and Campbell collaboration databases. They can use flowcharts to clearly describe the source of samples in complex RCTs (see Altman et al., 2001).

Yet another questionable excuse is, "We researchers and academics do not have time to prepare systematic reviews." Are not such excuses questionable, particularly when offered by staff in organizations and academics whose job is to critically appraise claims, to be honest brokers of knowledge? Some master's degree students in the evidence-based social work program at Oxford complete Cochrane reviews in one year. True, many systematic reviews will take longer to complete and require considerable resources, but others will not. Another questionable excuse is that unsystematic reviews are just as good as systematic ones. As discussed earlier, the former overestimate positive effects and thus are misleading. Flaws in the professional literature such as bogus claims of effectiveness based on incomplete, unrigorous reviews were key origins of EBP. Another excuse is that we do not need a systemic approach to improving service quality. Given that one link may bring down all the rest, it is likely that we do need a systemic approach and should identify components, implement them, and evaluate the results.

Self-Deception

Self-deception is a key obstacle, closely related to questionable excuses that lessen quality of services. The prevalence of flawed self-assessments is striking (Dunning, Heath, & Suls, 2004). Baron (2000) suggests that the essence of self-deception is that we do not know we are deceived. Thus, we may accept poor quality services and even offer them because we have fooled ourselves that these are effective. This may occur as a result of continually seeing misery in the

face of a helplessness to relieve it. There is a rich literature we can draw on to reveal self-deceptions that do not match our values, for example, to offer high-quality services (e.g., Bandura, 1999).

Other Obstacles

Another obstacle is a justificatory approach to knowledge in which we search for data to confirm our views and ignore counter evidence and well-argued alternative views. This encourages confirmation biases and wishful thinking that may lead us astray. And there is a symbiotic relationship between clients' wishes for help and professionals' desire to help. Last, it takes courage to confront those who promote ineffective or harmful services from which they receive financial benefit.

In Summary

Each agency, county, and state, including the state of California in which a new clearinghouse on EBP has been established, has a choice concerning what vision of EBP to adopt. Will the broad philosophy and process of EBP as described by its originators be adopted with its implications for all involved parties including researchers, educators, administrators, supervisors, practitioners, clients, and staff in related organizations? A variety of indicators can be used to identify choices as described in this article. Choices will influence opportunities to honor ethical obligations, to help clients, to avoid harm, to involve clients as informed participants, and to maximize self-determination and autonomy. A perusal of related written material, including that from involved organizations, suggests that a narrow view of EBP will be embraced. This is a view that is antithetical to the process and philosophy of EBP as described by its originators and to ethical obligations described in professional codes of ethics (e.g., for informed consent) and incompatible with addressing application problems and with the tentative nature of knowledge and how it advances. Paternalism is usually discussed in the helping professions as being imposed by helpers on clients, doing things for the clients' good that clients may not choose if fully informed. Paternalism is also robust on the part of administrators and researchers if we base our conclusions on descriptions of EBP that promote a top-down approach. Paternalism, from whatever source, is counter to the philosophy of EBP and social work's emphasis on participatory decision making characterized by honest brokering of knowledge and ignorance. The top-down approach ignores vital knowledge on the part of line staff and clients, for example, regarding local resources.

There is no doubt that there are many challenges to implementing EBP and policy, especially a preference for authority-based practice and related economic incentives, the "trust me" approach. Our options are limited by current circumstances that differ in their malleability. There is also no doubt that there are many exciting advances especially in options for integrating research and practice at the line staff level and honoring ethical obligations to clients. As suggested here, there are many indicators that an agency, county, or state can use to review their choices in terms of the vision of evidence-based policy and practice they implement. We can look and see how EBP is described and implemented. We can look and see whether the term EBP is used as a rubber stamp for business as usual. We can look and see whether the evidentiary status of services clients receive has improved and whether clients are involved as informed participants. We can see if there has been "a marked reduction in the use of ineffective remedies and of effective remedies used inefficiently" (Cochrane, 1972, p. 84). We can examine the extent to which services reflect a democratic, collaborative effort of all involved parties in the challenging task of improving

services and making them more just and equitable.

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Critical Thinking Questions

Reading 1

1. Briefly describe the five steps of the evidence-based practice (EBP) process.
2. Distinguish between top-down and bottom-up efforts to track down relevant information.
3. Why is it incorrect to state that EBP tells practitioners what interventions

to use, based on the research evidence?

4. What is a more accurate statement, related to question 3 (above)?

5. Locate and read one of the systematic reviews dealing with substance abuse, to be found on the websites of either the Cochrane or Campbell Collaborations. Discuss what you found and your reactions to the comprehensiveness and transparency of this review.

Reading 2

1. Come up with one example each of the following kinds of questions: Effectiveness, Prevention, Risk Prognosis, Description or Assessment.
2. How is the ethic of 'transparency' woven into EBP?
3. How are clients involved in EBP?
4. What organizational factors can be put into place to promote EBP?
5. How can self-deception be an obstacle to EBP?