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The Four Cornerstones of Evidence-Based Practice in Social Work

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The purpose of this article is to place evidence-based practice within its wider scholarly contexts and draw lessons from the experiences of other professions that are engaged in implementing it. The analysis is based primarily on evidence-based medicine, the parent discipline of evidence-based practice, but the author also draws on evidence-based nursing and evidence-based social work in the United Kingdom. It was found that the experiences of other practice professions have a great deal to offer social work practice. Similar to medicine, nursing, and our British colleagues, U.S. social work practice will benefit from increased research activity, more widespread availability of reviews of research, on-line resources, and many more training opportunities. Similar to nursing administrators, social work administrators have the responsibility to allow social work practitioners the time and training to become familiar with research relevant to their practice.

Keywords: *evidence-based practice; evidence-based medicine; philosophies of science*

Evidence-based practice (EBP) is having a major impact in medicine, nursing, and other health care professions, both in the United States and internationally (Ciliska, DiCenso, & Cullum, 1999; Drake, 2003; Ferguson, 2003; Gambrill, 1999, 2001; Gray, 2002; Nathan & Gorman, 2002; Sheldon, 2001; Webb, 2001). Within social work, EBP is influential in some English-speaking countries, such as England and Australia. In the United States, EBP in social work is in its early stages. Some recent publications describe its possibilities (Gambrill, 1999, 2001), advocate for standards (Rosen & Proctor, 2002), and suggest cautions (Witkin & Harrison, 2001). Though helpful, these articles do not place EBP within its contexts. In addition, these authors do not draw lessons from the experiences of other professions with EBP. The purpose of this article is to present such an analysis and learn from the experiences of others. I based my analysis primarily on evidence-based medicine (EBM), the parent discipline of EBP, but I also draw on evidence-based nursing and evidence-based social work in the United Kingdom.

From my analysis and reflections on the nature of social work practice, I conclude that EBP in social work rests on four cornerstones: (1) research and theory; (2) practice wisdom, or what we and other professionals have

learned from our clients, which also includes professional values; (3) the person of the practitioner, or our personal assumptions, values, biases, and world views; and (4) what clients bring to practice situations. In addition, based on my readings on the philosophy of science, I view evidence from any source as provisional, meaning understandings are open to modification as new evidence unfolds (Popper, 1969; Shaw & Shaw, 1997). Finally, I show that falsification—that is, a willingness to seek information that challenges our own understandings and an openness to contradictory evidence—is central to EBP in social work. Processes of falsification lead to inclusiveness and are a check on bias and blind spots, which is one of the main purposes of a scientific approach and a goal of EBP (Sheldon, 2001).

EBM

EBP originated within the medical school of McMaster University, Toronto, in the early 1990s (Evidence-Based Medicine Working Group [EBMWG], 1992). By definition, EBM involves the conscientious, explicit, and judicious application of best research evidence to a range of domains: clinical examinations, diagnostic tests, prognostic markers, and the safety and efficacy of interventions whose purposes may be therapeutic, rehabilitative, or preventative, with therapeutic interventions understandably getting most of the attention.

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Besides best research evidence, EBM has two other elements: clinical expertise and patient values (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000; Straus & McAlister, 2000). Currently, EBM focuses primarily on locating and evaluating research evidence. In efforts to foster the application of best evidence to medical practice, medical groups have developed journals and online resources that provide practice guidelines, reviews of research, and bibliographies (Bigby, 1998; Guyatt et al., 2000; McAlister, Straus, Guyatt, & Haynes, 2000; Sackett et al., 2000; Slawson, Shaughnessy, & Barry, 2001). Centers for EBM in a range of specialties exist throughout the world, most of which have Web sites. The EBMWG Web site (www.cebm.utoronto.ca) continually updates EBM (Sackett et al., 2000).

EBM is laid out in a neat and orderly way, with a painstakingly described set of five steps that compose its practice, a list of questions to answer when following each of these steps, flow charts, a classification of evidence in terms of its relevance and value, and careful descriptions of blind, randomized clinical trials (RCTs) as the gold standard for deciding the efficacy of interventions (Guyatt et al., 2000; Sackett et al., 2000; Straus & Sackett, 1998). RCTs are called experimental designs in the social sciences.

EBM relies heavily on quantitative indicators, such as confidence intervals, effect size, experimental event rate, control over event rate, and number needed to be treated to prevent one event. Guyatt et al. (2000) for the EBMWG recommended the quantification of both evidence and values, stating this is "the most rigorous approach to making recommendations" (p. 1839). Evidence about diagnosis, prognosis, or harm can arise from other forms of research besides RCTs, including case studies and qualitative research (Berg, 2000; Glasziou, 1998; Godlee, 1998; Straus & McAlister, 2000). Evidence about the efficacy of interventions whose face validity is self-evident and whose withholding poses ethical issues do not require RCTs (Ellis, Mulligan, Rowe, & Sackett, 1995). Face validity means expert practitioners conclude that the intervention works and meets ethical standards.

EBM requires giving up procedures and tests when evidence suggests that new approaches are safer, more efficacious, and accurate. For example, the cause of stomach ulcers was once thought to be stress or spicy foods, whereas today there is strong evidence that bacteria are the causative agents (Forman et al., 2001). As a result, treatment for stomach ulcers has changed.

Research-based evidence informs but does not replace clinical expertise, which is the basis of judgments as to how research findings are used with individual clients

(Guyatt et al., 2000; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Clinical expertise is the knowledge physicians have accumulated through their medical practice in identification of patient's state of health, in diagnosis, and in the assessment of individual risk factors and potential benefits of possible interventions.

In addition to clinical expertise, the application of research evidence to individuals requires knowledge of patients' values (Guyatt et al., 2000). Patients' values include the expectations, concerns, and preferences that patients bring with them. In using the term *patient values*, EBM has joined itself to person-centered medicine (PCM), where the term *patient values* is a core concept (Singer & Todkill, 2000). PCM is based on humanistic perspectives related to the work of Balint (1964), Rogers (1951), and nursing theorists Neuman and Young (1972), among others. A key aspect of PCM is the understanding and accommodation of patient values in clinical practice and the need for practitioners to be aware of their own values (Singer & Todkill, 2000).

Challenges Confronting EBM

As this discussion suggests, contemporary EBM is a rational-technical model that also recognizes humanistic issues related to practice. Though clinical expertise and patient values are elements, the handbook on the practice of EBM (Sackett et al., 2000) and many other writings specific to EBM (cf., Browman, 2001; Friedland, 1998; Geyman, Deyo, & Ramsey, 2000; Guyatt et al., 2000) focus attention on locating, evaluating, and applying research to clinical problems, with special emphasis on therapeutic interventions.

Members of the EBMWG acknowledge that EBM has limitations (Guyatt et al., 2000; Sackett et al., 2000; Straus & McAlister, 2000). Limitations include not only underconceptualizations of patients' values and of physicians' clinical expertise, but also of how the personal perspectives of physicians affect clinical practice. The challenges that physicians confront in locating and using research evidence also limit the effectiveness of efforts to make medicine more evidence-based, meaning based on research. Finally, the effectiveness of EBM is difficult to document, though the importance of applying research evidence to practice is widely acknowledged as self-evident.

Underconceptualization of patients' values. At present, the EBMWG has expended little effort toward delineating the implications of what it means to incorporate

patients' values. For example, Sackett et al. (2000) interrupted their step-by-step description of EBM by briefly discussing the importance of patients' experiences of medical treatment. They pointed to the capacities of qualitative research to shed light on "patients' feelings, ideas and wider experience rather than measuring objective outcomes" (p. 21). Nurse-researchers, they said, have taken the lead in bringing qualitative understandings into the health sciences. For the originators of EBM, the integration of findings from qualitative research "is one of the major challenges in EBM" (p. 21). Evidence of an underutilization of qualitative research is shown in a comparison of two journals that publish summaries of articles published in leading journals, *Evidence-Based Nursing* and *Evidence-Based Medicine*. The nursing journal has a section on qualitative research and the medical journal does not.

Many groups and individuals, beyond those who are members of the EBMWG, are moving toward enlarging understandings of patients' values. As stated earlier, by using the term *patient values*, the EBMWG has joined EBM to PCM, which involves careful exploration of patients' experiences with illness. This includes impact on daily personal and family functioning and on families' and patients' expectations about what ought to be done medically. The goal is to find common ground with patients and respond to patients' unique concerns (Singer & Todkill, 2000; Stewart et al., 2000).

Being patient-centered is a core value for many physicians, and it contrasts with medicine that is illness centered or doctor-centered. The pragmatic and humanistic bases of patient-centered care is summed up in Hart's (1995) statement that health is the product of health care, and patients are one of the producers, not simply customers. Some physicians are advocating more sensitivity to patients' religious and cultural values, expectations, and preferences; an example is the work of Ellberby, McKenzie, McKay, Gariépy, and Kaufert (2000) on aboriginal cultures in Canada.

The person of the physician. Epstein (1999) responded to gaps in the conceptualization of EBM by proposing the concept of mindfulness as a bridge between PCM and EBM. Mindfulness directs attention to both practitioners' and patients' values and beliefs. It posits that physicians must be aware of their own cultural and religious values if they are to be responsive to patients. Thus, Epstein focused primarily on the person of the physician and on mindful practice. Mindful practitioners seek self-knowledge because, without it, physicians cannot practice

"core values in medicine, such as empathy, compassion, and altruism" (Epstein, 1999, p. 836).

Mindful practice also draws on many sources of information. Its goals are "compassionate informed action in the world," the use of a "wide array of data," "correct decisions," understanding the patient, and the relief of suffering (Epstein, 1999, p. 838). Besides the person of the physician, mindful practice encompasses patients as persons with whom physicians form relationships. Values in mindful practice include both "ethical self-awareness" that shape medical encounters and "technical self-awareness," which leads to "self-correction" during the course of doing medicine (p. 836). Mindful practitioners also recognize the uncertainty and ambiguity inherent in clinical practice and research evidence. Problem-solving and the capacity to challenge one's own assumptions and prejudices characterize mindful practice.

Epstein (1999) noted that clinical expertise is often based on tacit knowledge, where clinical actions and decision making stems from unarticulated premises and understandings. Mindful practice will help make the implicit more explicit, and, as is widely recognized, tacit knowledge is characteristic of practice. Ideas related to tacit knowledge in professions is quite different from a rational, quantified model represented by EBM. Practice can be messy, subjective, and ambiguous (Parton, 2000). Still, relevant research evidence is of obvious importance, as is widely acknowledged among commentators on EBM.

Epstein (1999) has a lot of company in his quest to highlight the importance of the person of the physician. Sweeney, MacAuley, and Gray (1998) coined the term "personal significance," referring to the meanings doctors and patients bring to bear in making decisions about courses of actions. In their analysis, doctors' logical thinking, intuition, personal background, and personal experience influence clinical decision making. As doctors gain in experience, the processes that organize their practice become more a matter of "script recognition" and "historical pattern analysis" rather than primarily rational and analytic (p. 135).

Another example is documented in the pages of MSJAMA, the online student publication of the American Medical Association. The poetry page is a regular feature. One of the poems in the January 2000 issue is a meditation of an African American medical student on the ebony-skinned cadaver she was about to dissect (Whyte, 2000). This same issue has essays entitled "Pain, Suffering and Meaning" (Magid, 2000b), "Developing Tolerance for Ambiguity" (Magid, 2000a), "Narrative

and Illness" (Yom, 2000), and "The Sick Role in Literature and Society" (Christopoulos, 2000).

The nature of evidence and the nature of practice. Notable is Epstein's (1999) perspectives on the nature of evidence. He stated that the "knowledge, skills, values, and experience" that "seasoned practitioners" bring to bear on clinical decision making is "a different kind of evidence" (Epstein, 1999, p. 834). In this framework, clinical judgment becomes an interpretive process that is both science and art, the art related to processes of bringing together these many kinds of evidence to make decisions. Others, too, acknowledge medical practice as an art, as when Guyatt et al. (2000) stated that clinical decisions "involve an implicit consideration of the relevant evidence, an intuitive integration of the evidence, and a weighing of the likely benefits and harms" (p. 1836). Godlee (1998) cited Claszou's case study as an example of the art of using research evidence in particular cases, in this instance, to solve the mystery of a nonsmoking woman's 20-year cough.

Epstein's (1999) views of what constitutes evidence differ markedly from definitions in EBM, which in most cases implies that the term applies only to research evidence. The EBMWG and other proponents have no formal definition of evidence (Upshur, 2001). When the term is defined in medicine, its scope varies from narrow to broad. Miettinen (1998) defined evidence as "the published report of a single piece of original research" (p. 215). Evidence in this sense is that which is produced by a scientific study. On the other hand, Goodman and Royall (1998) offered a broader definition: "evidence is the basis on which we derive inferences" (p. 1568). This view is close to dictionary definitions: "1. The data on which a judgment can be based or proof established. 2. That which serves to indicate" (*American Heritage Dictionary*, 1976, p. 249).

Some have found that medical practice can accommodate both the systematic, mathematical, and precise understandings of what EBM considers scientific evidence, as well as the more interpretive, ambiguous, personalized evidence that arises in patient-physician interactions. For example, Upshur (2001) noted, "evidence in health is neither exclusively abstract, mathematical, and general nor narrative and particular, but is a mediation and interaction of both types of knowledge" (p. 11). Smith (2001) integrated patient-centered interviewing with evidence-based approaches. Depending on the medical situation, one type of knowledge may carry more weight than another. In general, however, some medical practitioners believe both types of knowledge can work together to

provide competent medical care, a view that Upshur, Smith, and Epstein (1999) represent.

Underconceptualization of personal bias in clinical decision making. For Epstein (1999), mindful critical reflection can help identify and manage personal bias. Such a stance includes developing capacities for challenging assumptions and preferred ways of viewing the self, others, and the world. Other physicians, such as Green (2001), also recognize a variety of types of bias, such as "optimistic bias," or the belief that our interventions are more effective than actuality—also known as seeing what is not there—and "advocacy bias," which is the desire of researchers to see positive results (p. 471). Guyatt et al. (2000), as part of the EBMWG, on the other hand, stated that the systematic following of the steps of EBM can protect against bias. They appear to overlook the possibility that personal perspectives shape interpretations of even the most rigorous research and the most painstakingly followed procedures, as Green suggested.

Limitations of research evidence. The EBMWG and the wider practice and academic communities recognize the limitations of research evidence, while, at the same time, they stress the obvious value of using evidence when it is available. Research evidence can be inconclusive, contradictory, controversial, nonexistent, and difficult to apply to individual cases (Godlee, 1998; McAlister et al., 2000; Sackett et al., 2000; Strauss & McAlister, 2000). Controversies about the efficacy of treatment are common. An example is the questioning of the evidence supporting mammography (Woolf, 2000). The unsettled nature of research evidence, as Sackett et al. (2000) noted, is not specific to EBM but is universal to applied and basic science.

When research evidence is unavailable or inconclusive, physicians are operating in a grey zone that requires the use of "clinical experience and reasoning (based on principles derived from basic scientific research)" (Strauss & McAlister, 2000, p. 838), though they did not specify what these principles might be. Such situations generate "a supremely pragmatic agenda for applied health research" (Sackett et al., 2000, p. 8), which puts a positive perspective on a lack of research evidence, a serious issue.

Some physicians are concerned about the emphasis in EBM on medical outcomes for individuals, without also taking into account social and economic conditions such as poverty and its consequences (MacLeod, Gill, & Smith, 1999). These conditions lead to more illness and premature death among the poor than among the better off.

Medical research that takes social conditions into account may provide the kinds of evidence that will improve health care among the poor.

Who funds medical research also generates wide discussion. For example, Dieppe, Chard, Tallon, and Egger (1999) noted that pharmaceutical companies have undue influence not only on what medical conditions and interventions are researched but also on how likely the research is to be published. Dieppe et al. suggested that doctors consult with patients to decide which interventions are to be researched and then look for means of funding such research.

Not using research when it is available. Searching for best evidence can be time-consuming, even when physicians have training in locating, evaluating, and applying research evidence (McAlister et al., 2000; Yew, 2001). Proponents recognize this challenge and have developed many online resources, as noted earlier, including the Cochrane Database of Systematic Reviews, Medline, and Best Evidence. Yet doctors sometimes do not use easily accessed evidence (Estabrooks, 2001). Many factors appear to affect take-up of new therapies, including both patients' and physicians' perceptions that some medications are harmful, even when research evidence shows they are not, physicians' lack of direct exposure to the efficacy of new treatments, and lack of promotion from pharmaceutical companies because the treatments generate little revenue (Greenhalgh, 2001).

Quality of databases and practice guidelines. In addition, online and journal resources have generated concerns in terms of quality, possible bias, and implications for workload. Eisenberg (2000), a general practitioner, found that new practice guidelines for the prevention of coronary disease lowered the threshold for who is considered at risk and, thus, increased many times over the number of office visits that the new guidelines required, while having little, if any, identifiable impact on patients' health. Drummond (2001) said these guidelines do not take into account considerations related to race and ethnicity. Still, others worry about the quality of the information in some of the databases (Lyons & Khot, 2000). The EBMWG both acknowledges and responds to concerns (Strauss & McAlister, 2000). For example, the proponents of EBM recognized the difficulty of applying research evidence to individual patient situations. The editors of the *British Medical Journal* commissioned case studies to show how the steps of EBM can be applied to clinical practice (Godlee, 1998).

Efficacy of interventions and cost. EBM may raise the cost of care (Sackett et al., 1996) because of its emphasis on efficacy. The most efficacious treatments may be expensive. When costs of patients' care comes from government sources or insurance companies, where funds are finite, this raises ethical issues. If a great deal of money is expended for a relatively small number of patients, questions arise as to how to provide for the large number of other patients, whose care also is financed from limited resources (Maynard, 1997). Conversely, if patients do not receive care because of the expense, this is an ethical issue as well.

Effectiveness of EBM. Ironically, there may be no way of applying the gold standard of randomized clinical trials to evaluate the effectiveness of EBM. Such an experiment would involve random assignment into treatment and control groups. The treatment group would receive interventions based on research evidence, and the control group would not. Instead, the control group would receive interventions based on clinical expertise. Such a study would be unethical. It would also have severe issues with construct validity of both the treatment and control variables (Cook & Campbell, 1979). Regarding treatment variables, it would be impossible to isolate the effects of research-based evidence from other possible causes, such as clinical expertise and patients' values and expectations.

For the control variables, clinical expertise is an amalgam of what practitioners have learned from their clinical experience, what they already know from research and theories, and their own personal values and perspectives. These confounding influences could not be disentangled. The effectiveness issue may have to be decided on the basis of logic. Few would argue that practitioners should not use research evidence when it is available.

There are indicators that the teaching of EBM is having positive influences, though evaluations, arguably, are in early stages. For example, evidence-based teaching methods in postgraduate medical education improves performance more than traditional didactic methods (Sackett et al., 2000). Yew (2001), on the other hand, found in a small 3-year follow-up study that most graduates of a residency program did not use the skills of EBM that the program emphasized. The pressures of time, money, and family responsibilities were issues, as well as finding internet resources unhelpful. Colleagues were the usual sources of information because this was quick and easy.

In addition, the Centre for Evidence-Based Child Health, which has an extensive training program for pro-

professionals already in practice, has yet to evaluate the effectiveness of their programs beyond a postprogram evaluation. Finally, a study in a general hospital with university affiliations found that most clinical interventions are based on best research evidence (Ellis et al., 1995), whereas others wonder whether EBM is of value to academics, but practicing clinicians do not widely accept it because of its emphasis on the written word and, consequently, the time it takes to "forage through a jungle of information" (Slawson et al., 2001, p. 2100).

Summary

Proponents have devoted considerable expertise and energy to EBM. They advocate for the application of research evidence to practice, while upholding the centrality of clinical expertise and patient values. They have developed several types of resources that make evidence available to clinical practitioners, and they respond to criticism in constructive ways. Who funds research and what interest such funders have in the results are serious ethical issues that merit much reflection and discussion in social work.

Some physicians, who often are not strongly associated with the development of EBM, are helping to delineate underdeveloped elements of EBM, such as the implications of and meanings assigned to clinical expertise, patient values, and the perspectives that physicians bring to their practice.

EBM is a work in progress, with proponents open to suggestions for improving its usefulness and efficacy. Its practice is not fixed but is evolving as physicians and other health care professionals gain experience in following its procedures (Browman, 2001; Straus & McAlister, 2000). There are many questions, including issues related to quality of research evidence, on how to foster the use of evidence when it is available, and on how to allocate limited resources. Nowhere within medicine are there calls not to use research in practice. How to use research evidence and what types of research that are available are at issue.

Evidence-Based Nursing

The experiences of nurses with EBP are similar to those of doctors, in terms of both optimism and cautions (Hunt, 2001; Santy, 2000). Nursing is a profession of caring and emphasizes relationships and humanistic values (orientations it shares with social work). In general, evidence-based nursing follows the procedures of EBM (DiCenso, Cullum, Ciliska, & Marks, 2000; Hamer &

Collinson, 1999). Similar to doctors, nurses have centers for EBP throughout the world (Ciliska et al., 1999). The application of research findings to nursing practice is of unquestioned importance. Some have pointed out that besides the obvious ethical obligation to use the best available information, nursing as a profession will gain both in influence and credibility if its practices are shown to be grounded in research (Rafael, 2000). Nurses, however, appear to be more forthright about issues related to RCTs, more openly critical of some of the assumptions of EBM that many call positivistic, and more willing to insist that management provide both time and resources for nurses to pursue best evidence.

Many nurses are thinking about the implications of nursing's holistic philosophy for EBP. This holistic philosophy provided the context for other nurses to state that much of EBP is based on positivistic assumptions that is concerned with "what can be measured, touched, and enumerated" (Hamer, 1999, p. 12). Hamer worried about the potential for these assumptions to overlook experiences, feelings, and attitudes. She concluded that discussions and debates about EBP need to acknowledge that the dominance of any one perspective could lead to the exclusion of other perspectives that are actually integral to patient care. In light of these holistic perspectives, in addition, Rafael (2000) questioned whether the effectiveness of evidence-based nursing can ever be measured because nursing effectiveness cannot be isolated from "the therapeutic and caring relationship that is foundational to nursing practice" (p. 6). Santy (2000) pointed out that nurses require training in how to evaluate the usefulness and applicability of research evidence to individual patients.

The editors of the journal *Evidence-Based Nursing* are trying to be responsive to nursing's holistic philosophy. They include systematic reviews of research, results of RCTs, and qualitative research as standard features of the journal. They also stated that the best research designs are those that fit research questions (DiCenso, Cullum, & Ciliska, 1998).

Some nurses have pointed out that EBP is a form of research utilization, a concern in nursing for more than 30 years (DiCenso et al., 1998; Hunt, 2001). As such, the barriers to EBP are enduring. Nursing management has major roles to play in lowering these barriers. These solutions to barriers include developing research that is accessible and meaningful to nurse practitioners, providing training for nurses in the interpretation and application of research, and providing nurses with the time and resources to search out best research evidence (DiCenso et al., 1998; Hunt, 2001).

Evidence-Based Social Work in the United Kingdom

Evidence-based social work is far more established in the United Kingdom than in the United States. Not only are there extended discussions of the implications and meanings of EBP (Parton, 2000; Sheldon, 2001; Sheldon & Macdonald, 1999; Sheppard, Newstead, DiCaccavo, & Ryan, 2000; Webb, 2001), but the government has funded a Centre on Evidence-Based Social Services that has sponsored several studies with promise of relevance to practice. According to the center's Web site (<http://www.ex.ac.uk/cebss>), these studies include the evaluation of the effectiveness of foster parent training for reducing disruptions, a review of French, German, and Italian social work literature, and an evaluation of a family conferencing project.

Many of the issues that interest English social workers are similar to those in medicine and nursing. For example, there is recognition of the idea that choices of research methods depend on what researchers want to know and that experimental designs (or RCTs), when feasible and well conducted, do provide the most valid tests of the effectiveness of interventions. Other forms of research are needed for other areas of social work practice, such as the use of qualitative research for understanding clients' situations (Sheldon & Macdonald, 1999). Sheldon and Macdonald label debates on the merits of qualitative and quantitative research as false. As in medicine and nursing, English social workers, such as Sheppard et al. (2000) are suggesting ways to create practice that acknowledges the importance of research evidence, even when such evidence has large gaps and is patchy.

English social workers appear to have overlooked the idea that EBP is composed of more than the application of research evidence to practice. As both the nurses and doctors have pointed out, the elements of EBP include clinical expertise, clients' perspectives, and the personal perspectives that practitioners bring to situations, as discussed earlier. Despite this, the thinking of English social workers contributes to a social-work specific form of EBP.

DISCUSSION

This overview of EBM, evidence-based nursing, and evidence-based social work in the United Kingdom gives U.S. social workers a great deal to consider. Certainly, no responsible social worker would state that we should not use relevant research in our practice. When relevant

research is available, professional and personal ethics require that we use it. For some conditions, there is clear and convincing evidence that particular interventions are effective (Nathan & Gorman, 2002). These interventions tend to be those with a biological substrate, such as mental disorders, and are amenable to cognitive-behavioral therapy in combination with medication.

Yet in work with clients, social workers need to know far more than what is available in research reports. Therefore, in addition to relevant research, we have to depend on values as represented in the National Association of Social Workers Code of Ethics, theories, assumptions, nonexperimental research, professional experience, and personal experience, all of which is tailored to individual client systems. Competent practitioners, therefore, draw on a wide array of sources. They fit what they know to client situations, and they change their assumptions and approaches in response to clients' responses to their efforts.

Evidence is a term that has multiple meanings. In EBM, evidence appears to be research evidence. On the other hand, practitioners may see information that they gain from interactions with clients as evidence as well. For example, one of my former students used research evidence to hypothesize that her young client must be suffering because he had experienced so many foster care placements. When she asked him how he felt about being in foster care, he jumped out of his chair, yelled at her for prying, and left the room, slamming the door behind him. She took this as evidence that indeed foster care placements are an issue for this young person but that she needs to rethink her approach. Therefore, evidence derived from sources external to individual clients, as well as evidence that emerges from interactions with clients, are relevant to social work practice. In every case, no matter what, competent practitioners consider all sources of evidence and then continually test and modify their assumptions and actions in light of client responses.

EBP has much in common with issues of research utilization. Social work has contended with the challenges of research diffusion and utilization for many years (Hertie & Martin, 2000). Diffusion and utilization connect to basic orientations to practice. Is social work best viewed as a positivistic endeavor? Are clients responsive to prescriptive practice and expert systems? Few social workers advocate the mindless application of prescriptions to individual clients. Few social workers state that we should not be reflective on our practice and on how our personal views affect how we do our practice. Respect for client preferences, wants, and cultures appears to be close

to universal. No social worker states that we should not use research when it is available. No one can put up a respectable argument that we should fly by the seat of our pants and use untested assumptions on clients.

We do not have research for all of the issues that any one client wants to deal with or is forced to deal with in nonvoluntary situations. Social workers draw on multiple sources. Based on my understanding of EBM, nursing, British social work, and U.S. social work, I suggest that there are four cornerstones of EBP in social work: (1) what we know from research and theory; (2) what we and other professionals have learned from our clients, or practice wisdom, which also includes professional values; (3) what we, as social workers, have learned from personal experience; and (4) what clients bring to practice situations. All four come into play and mutually affect each other as we go about our daily work with clients. In sum, EBP promotes a high degree of practitioner reflection and mindfulness.

Because social workers bring the first three elements into practice situations before they ever meet a new client, they must be on guard not to impose these ideas on clients but be ready, willing, and even eager for clients to falsify their ideas and assumptions. Falsification involves the development of hypotheses about situations and refutation and reformulation of these hypotheses by what occurs in the situations. It makes sense for social workers to have hypotheses about prospective clients based on what they have learned from other practitioners, what they know from research and theory, what they have read in case records, and what they know in general about clients in similar situations. In addition, acknowledgement of how personal values and viewpoints influence practice is a hallmark of ethical practice. To connect with clients, however, social workers hold these hypotheses lightly, seeking to examine their fit and then modify them or even discard them when working with clients. Discarding leads to the formulation of new hypotheses, which then are tested in interaction with clients.

Effective practitioners base their work on conceptual frameworks drawn from the best available research and theory and from practice experience—their own and what they can learn from colleagues. In addition, they reflect on their personal ideologies, values, and assumptions and how they influence what we see and expect to see, how we think, and how we respond to others. Often, our values, beliefs, and assumptions derive not only from our interpretations of our interpersonal relationships but also from what we absorb from popular culture, such as television, movies, and print media, and from poetry, drama, novels, art, and music. Our cultural heritage also affects our sense

of self and how we view the world, though we may not be aware of these influences.

The experiences of other practice professions have a great deal to offer social work practice. Like medicine, nursing, and our British colleagues, U.S. social work practice will benefit from increased research activity, more widespread availability of reviews of research, on-line resources, and many more training opportunities. Like nursing administrators, social work administrators have the responsibility to allow social worker practitioners to have the time to become familiar with research relevant to their practice. Funders have a great influence on whether this is possible. Unfortunately, with the massive cutbacks in social services, social workers will be at the mercy of contradictory pressures. On one hand, social workers are enjoined to do EBP, and, on the other, they do not have the time and resources to deepen their understanding of research relevant to their practice.

When social workers are steeped in relevant research, we then have to hold this knowledge lightly and be willing to modify our knowledge in response to clients. If we do this, then we will base practice on evidence from two directions—from what clients communicate to us in subtle and forthright ways and from what we know from multiple other sources.

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