

Teaching Evidence-Based Practice: Toward a New Paradigm for Social Work Education

Matthew O. Howard

Curtis J. McMillen

David E. Pollio

Washington University

The scientific literature relevant to social work practice has grown expansively in recent years. Corollary developments, including the widespread availability of electronic bibliographic databases, improved indexing services, and increased acceptance of systematic reviews and evidence-based practice guidelines, have made research findings increasingly accessible to practitioners. For the first time in the history of the profession, social work educators are confronted with the challenges posed, and opportunities afforded, by this accumulating body of practice-relevant scientific information. Evidence-based practice is a new paradigm that promotes more effective social interventions by encouraging the conscientious, judicious, and explicit use of the best available scientific evidence in professional decision making. Pedagogically, evidence-based practice involves teaching students the values and skills they need to identify, critically appraise, and apply practice-relevant scientific evidence over the course of their professional careers. This article describes the potential benefits of evidence-based social work professional education and ongoing efforts of the George Warren Brown School of Social Work at Washington University to implement curriculum-wide changes supportive of evidence-based professional practice education.

Keywords: *evidence-based practice; empirically-based practice; professional education; pedagogy; social work education*

The last generation of the 20th century—the “information age”—witnessed an unprecedented expansion of the research base and technologies supporting social service interventions (Howard, Bricout, Edmond, Elze, & Jenson, in press; Howard & Jenson, 1999a, 1999b, in press; Howard & Lambert, 1996; Proctor & Rosen, 2000; Rosen, Proctor, Morrow-Howell, & Staudt,

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1995). Significant bodies of practice-relevant research have accumulated in several practice domains, and the rate of knowledge accumulation continues to increase exponentially. For the first time in the profession's history, social work educators must address the many complexities and unique opportunities afforded by these promising developments.

At present, social workers rely primarily on the advice of their colleagues and supervisors, personal experiences, relevant theory, and authoritative texts for practice direction. For the most part, these information sources have served the profession well over the past century. However, a greater role for scientific evidence in practice decision making would undoubtedly increase the effectiveness and enhance the credibility of the profession (Counoyer & Powers, in press). Thus, we believe that a new pedagogy for social work practice education is needed; one that fully anticipates and capitalizes on the dramatic accumulation of practice-relevant research findings that will occur in the approaching years.

Evidence-based practice will also better enable practitioners to meet their ethical obligation to "fully utilize evaluation and research evidence in their professional practice" (National Association of Social Workers, 1996, p. 12) and is consistent with the notion that schools of social work should teach students skills in "applying appropriate research-based knowledge and technological advances" (Council on Social Work Education, 1992). Furthermore, as Counoyer and Powers (in press) aptly noted, evidence-based practice is responsive to many of the external pressures to which social work practitioners are increasingly subjected, including the proliferation of managed care entities encouraging the use of scientifically tested interventions, movement toward contingency-funding schemes that emphasize demonstrable outcomes, and "the emergence of state laws and court decisions that hold practitioners legally accountable for their professional decisions."

In the absence of evidence-based practice education, the evidence-practice divide continues to widen across the profession. In consequence, social work practice remains susceptible to fads, fashions, and associated therapeutic misadventures, as recent increases in malpractice litigation amply document (Counoyer & Powers, in press; Reamer, 1995). In many areas, micro-, mezzo-, and macro-practice interventions of dubious efficacy are widely applied, even when well-tested alternative interventions are

Nancy Vosler, and James Herbert Williams for their contribution to the ideas expressed in this article. Please send requests for reprints to Matthew O. Howard, Ph.D., George Warren Brown School of Social Work, Washington University, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130-4899; phone: (314) 935-4957; fax: (314) 863-2080; e-mail: howard@gwbmail.wustl.edu.

available (e.g., Hester & Miller, 1995; Thyer, 2001; Walker & Howard, 1996; Walker, Howard, Walker, Lambert, & Suchinsky, 1995).

Social work shares much in common with other helping professions insofar as the current relation, or lack thereof, of scientific evidence to professional education and practice is concerned (Howard & Jenson, in press). Professional psychological training remains a desultory enterprise, wherein student practitioners are more likely to be taught scientifically unsupported interventions, rather than empirically tested ones (Barlow, Levitt, & Bufka, 1999; Persons, 1995). Physicians, too, have generally relied more on “intuition, unsystematic clinical experience, and pathophysiologic rationale [i.e., theory] as sufficient grounds for clinical decision-making” (Evidence-Based Medicine Working Group, 1992, p. 2420) than on scientific findings.

To date, graduate social work education has not systematically produced lifelong learners who appreciate the central and enduring importance of scientific findings to their practice endeavors and who possess the skills necessary to identify, evaluate, and apply research findings over the course of their professional careers (Mullen & Bacon, in press). This observation should be read neither as an indictment of schools of social work nor of the practitioners they have prepared. It is only very recently that a sufficiently large body of relevant empirical findings has accrued meriting critical examination by practitioners. Moreover, practitioners have rightly castigated their researcher colleagues for their insensitivity to practitioners’ information needs and the time and other constraints under which they operate. However, given the recent growth of research relevant to social work practice and the abundance of findings that will be available to guide practice in the future, the present time may well represent a propitious moment to move past the unproductive antipathies that have historically characterized practitioner-researcher dialogue in this area. A new approach acknowledging the importance of practice wisdom and scientific findings—evidence-based practice—may well promote more effective social work practice and enhance the credibility of the profession.

In light of these considerations, the faculty of the George Warren Brown School of Social Work at Washington University formally adopted a new pedagogical paradigm—evidence-based practice—to guide its educational efforts with student practitioners. The resolution called for instructors of all practice methods courses to teach students about the interventions that have best survived rigorous empirical testing in their respective practice areas. Furthermore, the faculty agreed that students should be routinely informed as to the amount, type, and quality of the evidence supporting major theories, policies, and interventions in specific fields of practice. To this end,

instructors were encouraged to identify and examine available systematic reviews, policy evaluations, and practice guidelines in the practice areas for which they were responsible. Curriculum modifications were instituted such that formal instruction in the methods critical to evidence-based practice was integrated throughout the foundation- and concentration-level course work. Plans were set to review the curriculum during the following spring to ensure that the challenging new mandates were appropriately integrated throughout the pertinent course offerings.

As the first school of social work to adopt evidence-based practice as a guiding pedagogical principle, we anticipate many challenges. However, the potential benefits to our students, their clients, and to the profession are substantial. This report defines evidence-based practice, discusses evidence-based practice as it has emerged in social work, describes the adoption and implementation of evidence-based practice at the George Warren Brown School of Social Work and considers the potential limitations and future possibilities for evidence-based practice in social work.

WHAT IS EVIDENCE-BASED PRACTICE?

A useful description of evidence-based practice was proffered by Cournoyer and Powers (in press), who suggested that

evidence-based practice . . . dictates that professional judgments and behavior should be guided by two distinct but interdependent principles. First, whenever possible, practice should be grounded on prior findings that demonstrate empirically that certain actions performed with a particular type of client or client system are likely to produce predictable, beneficial, and effective results. . . . Secondly, every client system, over time, should be individually evaluated to determine the extent to which the predicted results have been attained as a direct consequence of the practitioner's actions.

The body of findings that provides the groundwork for evidence-based practice is derived from investigations that test fully explicit and potentially falsifiable hypothesized relationships between variables, while attempting to control for numerous potential sources of bias and confounding influences. Such studies also are potentially replicable because their methods are explicit (Thyer, 2001). To be regarded as evidence based, "knowledge must withstand the test of possible refutation by virtue of being subjected to scrutiny in the form of some rigorous reality check" (Cournoyer & Powers, in press). Given this definition, it is clear that well-conducted qualitative and quantitative

studies can provide important information to practitioners, although the validity and utility of a given study's findings clearly varies as a function of many facets of study design and conduct (Howard & Jenson, 1999b).

A necessary, but not sufficient, condition for evidence-based practice is that practitioners appreciate the key role that scientific findings should play in guiding the selection and application of practice interventions and the importance of remaining current with an ever-growing scientific database. In addition, evidence-based practice, as we conceive of it, incorporates earlier mandates of the empirical practice movement within social work that held that practitioners should possess a broad awareness of scientifically tested and demonstratively effective policies and practices in their respective practice areas and the general skills needed to deliver and evaluate their own interventions (Howard & Lambert, 1996). Evidence-based practice further requires that social workers be able to identify their information needs or "knowledge gaps" as they arise in dynamic practice interactions and that they possess the skills needed to locate, critically evaluate, and apply scientific evidence consistent with their professional judgment as to its validity and pertinence to the practice situation of concern.

Evidence-based practice, in this latter sense, was originally promulgated as a practice and training philosophy emphasizing "the conscientious and judicious use of current best evidence" in decision making about the care of individual clients (Sackett, Richardson, Rosenberg, & Haynes, 1997, p. 2). However, we believe that the evidence-based practice paradigm is fully applicable to macro-practice contexts as well. Proponents of evidence-based practice believe that findings from the most relevant scientific studies currently available should figure prominently in the practice decisions of social workers working with systems of all sizes. Heffner (1998) maintained that conscientious use of evidence entails consistently applying the evidence to the care of all clients for whom it is pertinent. Judicious use of evidence involves balancing an assessment of the individual client's unique characteristics, personal preferences, and life circumstances against relevant primary research findings or practice guideline recommendations for client care. In mezzo- and macro-practice situations, evidence-based practice involves the systematic identification and application of relevant scientific data and empirically tested interventions to those situations in which such application is judged to be appropriate by a practitioner who is familiar with the unique facets of the practice issue at hand.

Evidence-based practice is consistent with previous efforts to develop effective and replicable professional interventions with systems of all sizes. Rosen (1993) contended that practitioners should be explicit about the outcomes they hope to achieve, the rationale they use to select interventions, and

the professional knowledge they use to make practice decisions. In this sense, Rosen (1993, p. 86) observed, "systematic planned practice . . . is the antithesis of working intuitively, because intuitive considerations are implicit; they cannot be reviewed, planned, criticized, or imparted to others, nor can they be systematically reviewed." Evidence-based practice is consistent with systematic planned practice and similar theories of practice in that it makes the evidentiary foundations of practice decisions fully transparent and establishes scientific evidence as "the proper criteria for establishing the validity of professional knowledge and of practice effectiveness" (Rosen, 1993, p. 85). Historically, practitioners have relied primarily on their more experienced colleagues, supervisors, personal experiences, and practice textbooks for professional guidance—information sources that too often provide inaccurate and even harmful practice guidance (Reilly, Hart, & Evans, 1998). Advocates of evidence-based practice explicitly reject the long-standing assumption that theory, unsystematic practice experiences, traditional training, content expertise, or common sense alone or in toto provide sufficient guidance for effective professional practice. Thus, evidence-based practice represents a paradigmatic break with the authority-based and idiosyncratic practice methods that have historically characterized social service micro-, mezzo-, and macro-practice interventions (Gambrell, 1997, 1999, in press).

Social workers operating from an evidence-based perspective must integrate relevant scientific information with informed professional judgment and the personal preferences of service consumers if they hope to practice effectively and ethically. Although quantitative approaches to the assessment of clients' preferences are currently rather crude, practitioners should be able to discuss with consumers the full range of services available to them vis-à-vis their aspirations and their empirically established risks and benefits. Effective use of the scientific literature in evidence-based practice requires that social workers also be knowledgeable about secondary sources of evidence-based practice recommendations, including practice guidelines, systematic reviews, literature digests, and "manualized" interventive approaches. It is important that student and professional practitioners be able to identify their information needs as they arise, translate them into potentially answerable questions, locate and acquire the best available evidence with which to answer them, critically evaluate the quality and applicability of the evidence located, use the evidence obtained in their practice activities, and evaluate the process to determine if their information needs have been fulfilled and the service consumers' outcomes optimized (Sackett et al., 1997).

Thus, social work education supporting evidence-based practice should foster greater appreciation for the role scientific findings can play in enhancing professional practice; provide the general knowledge and skills needed to

select, evaluate, and apply the best supported interventions; and help student practitioners learn to successfully cope with the many information needs that will arise throughout their practice careers as they confront diverse practice problems on a regular basis.

TOWARD EVIDENCE-BASED PRACTICE IN SOCIAL WORK

A number of different movements have emerged over the past 40 years in an effort to promote empirical social work practice. Systematic program evaluation methods were developed in reaction to early reviews that questioned the efficacy of social casework interventions (Fischer, 1976). Advocates of research-and-development programs (Rothman & Thomas, 1994) and single-case research (Bloom, Fischer, & Orme, 1995) also sought, albeit by different methods, to create stronger connections between social work research and practice. These developments, unfortunately, have effected remarkably little change in actual practitioner conduct (Howard & Lambert, 1996). However, there are several reasons why evidence-based practice may succeed in promoting empirical practice in social work where previous efforts have foundered.

First, the number of well-controlled intervention evaluations published by social work researchers appears to be growing rapidly. Reid and Fortune (in press) identified approximately 100 fully randomized or quasi-experimental studies published by social workers between 1990 and 2000. Three areas of significant research activity with immediate implications for social work practice were identified: chemical dependency, mental health, and adolescent problem behavior. Other studies suggest that social work researchers increasingly recognize the importance of randomized controlled trials and other rigorous designs for intervention research (Fraser, in press). The rapid growth of the Society for Social Work and Research to more than 900 members also portends positive developments in terms of the expansion of social work practice research (Williams, in press).

Second, the number of intervention and other evaluations conducted in related disciplines and professions has grown exponentially in recent years, many of which are indisputably germane to professional social work practice. For example, approximately 300 controlled evaluations of more than 40 alcohol dependence treatments have been published (most of them relatively recently), few of which were conducted by social workers (Howard & Jenson, 2001). Abundant research findings relating to all aspects of substance abuse have also made it possible to publish practice guidelines for

chemical dependency treatment that have offered social workers and other practitioners user-friendly, research-based recommendations for opiate, cocaine, alcohol, and other substance abuse treatment (Walker & Howard, 1996; Walker et al., 1995).

Finally, social work students have never before been systematically exposed to recently developed methods for identifying, critically appraising, and integrating relevant research findings into their practice activities on a real-time basis. As they begin to experience the tangible fruits of their practice-driven literature explorations—reduced uncertainty, improved interventive efficacy and efficiency, and greater familiarity with the methods of evidence-based practice—some practitioners will become ardent supporters of evidence-based practice approaches. Although the dearth of relevant research findings in some practice areas and logistical limitations will limit the applicability of real-time evidence-based practice in the near term, it is an approach that will serve practitioners well as the scientific database subserving social work practice becomes ever larger and increasingly rigorous.

SHIFTING PARADIGMS: ADOPTING EVIDENCE-BASED PRACTICE

The adoption of evidence-based practice as a guiding pedagogical principle at the George Warren Brown School of Social Work had its beginnings in a series of informal faculty and staff discussions that transpired in relation to the Council on Social Work Education's reaccreditation self-study process. Formal discussions commenced in our Curriculum Committee as we debated the strengths and shortcomings of our former program's problem-solving approach to social work practice education. Energetic debate among committee members soon revealed a number of potentially meritorious approaches to professional practice education. However, as we fully considered the knowledge and skills that we hoped to impart to our students, we agreed that one of the core values shared by our faculty is a belief in the fundamental importance of empirical research to effective practice. Yet, like many other schools of social work nationwide, we recognized that our systemwide efforts were insufficient to ensure that our students were taught the specific skills necessary to identify, access, critically appraise, and apply the scientific literature to their practice efforts. In addition, we decided that student practitioners should be presented with informative synopses of the practice-relevant scientific evidence in each of the different practice areas to which they are exposed prior to their graduation. These discussions occurred at the same time that several of our faculty members were planning a

conference on practice guidelines in social work and reviewing the evidence for interventions in social work and cognate disciplines (Proctor & Rosen, 2000). A final impetus to our decision to explicitly embrace evidence-based practice was provided by social work's recent efforts to improve its research capacity and infrastructure by increasing partnerships with the National Institutes of Health and other major research funders.

Thus, our aim to more fully prepare students for evidence-based practice, the inexorable movement toward greater research capacity and production in the profession, and our collective desire to actively institute this new consensus were all factors in the Curriculum Committee's recommendation to the faculty that our curriculum be explicitly grounded in the best available scientific evidence. The full-time faculty subsequently approved the Curriculum Committee's proposal, although concerns were raised about potentially adverse effects on our relationships with members of the local practice community and with our adjunct instructors. Once articulated and adopted, we then had to determine how evidence-based practice should be implemented throughout our curriculum.

IMPLEMENTING AN EVIDENCE-BASED PRACTICE CURRICULUM

To adequately prepare our MSW graduates for evidence-based practice, we agreed that they should be able to (a) understand and value the evidence-based perspective; (b) select empirically tested interventions or practice methods supported by the best available scientific evidence; (c) appreciate the degree to which leading social work theories and policies are research based; (d) effectively deliver micro-, mezzo-, and macro-practice interventions with the strongest empirical support in their fields of practice; (e) adapt the recommendations of practice guidelines, treatment manuals, and systematic reviews for use with specific client populations and in diverse agency settings; (f) evaluate the effectiveness of their own practice efforts; and (g) identify their information needs as they arise in varied practice settings, define searchable questions with which to query relevant scientific databases, and locate, critically appraise, and apply interventions based on the evidence they judge valid and pertinent. With these objectives in mind, we proceeded to modify our curriculum accordingly, incorporating new course content and field activities consistent with the curriculum goals elucidated above.

Teaching the value of evidence-based practice. If students are to embrace evidence-based practice, we believed that they first would need to appreciate

the relevance of scientific findings to professional practice. Ideally, this component of evidence-based practice education should begin in the foundation-level practice methods course work as part of the introduction to the value base and ethical standards of professional social work practice. As part of this module, we will emphasize

1. the value of evidence-based practice to social work consumers,
2. the ethical responsibility that professional social workers have to use interventions that effectively address service consumers' concerns and to avoid those that are ineffective or potentially harmful, and
3. the dangers of practicing from alternative perspectives.

We believe that service consumers should expect to receive services that have been scientifically evaluated with people like them and that the empirically established risks and benefits of alternative service interventions should always be explained to consumers who are considering various service alternatives. The history of professional practice is replete with iatrogenic mishaps and policy blunders attributable to excessive practitioner reliance on theory, unsystematic personal experience, and other nonempirical methods of selecting or delivering social service interventions. Students will be introduced to a range of poorly justified micro-, mezzo-, and macro-practice interventions that have been widely used with social work service consumers and will be informed about currently rising rates of malpractice actions against social workers and how they can use evidence to select interventions that reduce their risk of malpractice liability for improper treatment.

Teaching students how to choose evidence-based interventions. Foundation course work consistent with evidence-based practice should also teach students how to assess the degree to which an intervention has been empirically tested and found promising. We chose to include most of this content in the foundation evaluation course.

One important issue is the standard that an intervention should meet before it is appropriately applied in practice. The American Psychological Association (APA, 1995) recently developed criteria for the identification of "well-established" or "probably efficacious" interventions. Simple standards, however, lead to simplistic decisions about whether an intervention is potentially useful in a given practice context. A social worker could examine a list, see that a particular intervention is regarded as effective, and decide to use that practice approach with all his or her clients. On average, this social worker might deliver more effective services than a social worker who regularly fails to consult such a list, but we believe that social workers who make practice decisions in consultation with their clients can do better.

The APA designations mentioned above do not account for the wide variety of research tasks that contribute to the development of an intervention's evidence base. We believe that schools of social work should systematically teach their students about the many different kinds of studies that are used to evaluate the effectiveness of an intervention.

Among the first questions students should be taught to ask in this assessment process is "Can this direct practice or policy intervention be replicated?" Even an apparently effective intervention must be sufficiently well specified so that it can be reproduced by different practitioners operating in different settings. Evidence that is developed in relation to poorly specified interventions tells practitioners little that is useful. Rosen, Proctor, and Staudt (1999) reviewed 300 outcome studies published in social work journals and found that fewer than half of the interventions were described well enough to permit their faithful implementation. Thus, students should be taught methods they can use to identify replicable interventions. Students also should be introduced to a range of "manualized" interventions and be familiar with the steps taken to develop them so that they can learn to estimate the degree to which interventions and intervention decision points need to be specified to be fully replicable. The many other study types students should become familiar with are listed in Table 1. We have asked our library staff to acquire and archive treatment manuals and practice guidelines pertinent to social work practice education.

Once students are familiar with the strengths and limitations of the different kinds of studies, they can then use the existing primary literature to help them determine the degree of evidence in support of a specific intervention. Useful validity screens have been developed for each study type to enable practitioners to quickly assess the validity and utility of individual studies they encounter in the literature (Miser, 2000). No one social work intervention works best for every service consumer in all settings and at all levels. Clearly, social workers need to be able to locate and evaluate relevant scientific evidence in response to issues that arise over the course of their practice careers. Specific searching methods are discussed below, but suffice it to say here that students must be prepared in their foundation course work to identify the diverse forms of published scientific studies, the questions they purport to answer, and their strengths and limitations with regard to internal and external validity. Students taking specialized practice courses also should routinely be introduced to the systematic reviews, practice guidelines, and research and practice journals in that practice area including such information as the primary focus, types of articles published, and possible biases of the journals so identified.

TABLE 1: Types of Studies Relevant to Evidence-Based Practice Education

<i>Type</i>	<i>Question(s) Addressed</i>	<i>Strengths and Limitations</i>
Efficacy	Does the intervention work?	Randomized, quasi-experimental, or other controlled research designs conducted with homogeneous study samples in highly controlled settings enable strong inferences to be drawn vis-à-vis intervention effectiveness. However, the introduction of these artificialities can limit the generalizability of findings.
Effectiveness	Does the treatment work under natural conditions?	Studies conducted in real-world settings with diverse client groups and providers and a broad range of outcomes can yield critically important data regarding an intervention's potential usefulness. However, unless effect sizes are substantial, effectiveness studies might fail to identify intervention-related effects.
Sensitivity studies	Do service outcomes associated with an intervention differ across consumer subpopulations?	Sensitivity studies aid in identifying the range of populations for whom an intervention has demonstrated effectiveness. Such studies are often difficult to conduct with hidden or disenfranchised subpopulations or in areas with limited access to the subpopulations of interest.
Specification	Does intervention X work for group Y when they are in setting Z? What "dose" of an intervention is necessary to achieve a specific level of desired result?	Specification studies provide highly useful information and practice direction to social workers who routinely work with diverse clients in highly varied practice contexts. However, their complex designs often make them difficult to implement and the findings can be difficult to interpret.

(continued)

TABLE 1 (continued)

<i>Type</i>	<i>Question(s) Addressed</i>	<i>Strengths and Limitations</i>
Costing	How much does it cost to deliver an intervention per unit of service?	Provide an objective measure of the financial costs of an intervention and its constituent components. However, much contention surrounds the definition and measurement of cost in specific practice areas.
Cost-benefit studies	Do the dollar benefits exceed the dollar costs of an intervention?	Can provide support for the use of social interventions, but judgments as to how costs and benefits should be defined and measured are often controversial.
Cost-effectiveness	How do two or more interventions compare with regard to their cost and outcome ratios?	Can greatly aid in determining which of two or more social interventions provide more "bang for the buck" but are subject to the same criticisms as cost-benefit analyses.
Dissemination	How willing are practitioners to use an intervention, and how acceptable do they find it? What factors facilitate or hinder widespread application of an intervention?	Can aid in assessing the likely impact of promising interventions and in promoting greater use of effective interventions. Relatively few of these studies have been conducted.

Teaching students about evidence-based theory and policy. Students encounter a bewildering array of competing theories over the course of their social work careers. Evidence-based professional training requires that we inform students about the nature and extent of the empirical support relevant to the theories they will encounter in their professional lives. Students need to know which theories yield propositions that are amenable to testing and falsification and the degree to which the evidence obtained is consistent with predictions derived from the theory. Theories that are founded on solid scientific findings should be distinguished from those that have not been evaluated or that are empirically unsupported.

Evidence-based practice also has implications for how social policy is taught. Students need to know the degree to which existing policies were developed to meet empirically documented needs and the extent to which competing social policies have achieved their desired outcomes and the mechanisms by which they have exerted their effects.

Teaching evidence-based interventions. Social workers in many practice areas are exposed to a plethora of professional interventions, many which are unsupported by related empirical evaluations. Evidence-based practice encourages practitioners to winnow these competing alternatives down to a set of interventions that have been tested and found promising. Social work professionals teaching evidence-based practice should ensure that students are aware of the interventions with the strongest scientific support in the areas for which they are being prepared. Much of this instruction should occur in concentration-level practice methods courses. Instructors of these courses will need to identify practice approaches that have survived rigorous empirical testing and those approaches that should be avoided. Several organizations have recently undertaken the task of identifying interventions with the most empirical support in given areas of practice. The APA created task forces that identified the most effective interventions for adults with mental health problems (DeRubeis & Crits-Christoph, 1998), children and adolescents with inter- and intrapersonal dysfunction (Kazdin & Weisz, 1998), families and couples experiencing conflict (Baucom, Shoham, Mueser, Daiuto, & Stickle, 1998), and clients with health-related problems (Compas, Haaga, Keefe, Leitenberg, & Williams, 1998). Several recently published books and articles also present evidence-based interventions for a variety of specific populations and problem areas (cf., British Medical Journal Publishing Company, 1999; Corcoran, 2000; Davies, Nutley, & Smith, 2000; Foa, Keane, & Friedman, 2000; Hester & Miller, 1995; Nathan, Gorman, & Salkind, 1999; Roth & Fonagy, 1998; Seligman, 1998) including macro-practice concerns (Burns & Hoagwood, 2002; Thyer, 2001). These publications may serve as

good starting points for social workers in some practice areas who are interested in empirically tested interventions.

At our school, instructors can teach interventions without compelling empirical support as long as (a) there is sufficient justification for teaching the intervention and (b) the existing scientific support for the target intervention and alternative approaches is carefully examined in class and in course readings. Practice interventions with strong theoretical justification and demonstrated efficacy in the treatment of problems similar to those under consideration would be acceptable for practice instruction. It is not our intention to rid the classroom of practice wisdom. Nor do we wish to reduce the obvious benefits conferred to students who interact with experienced social workers in the field. Rather, as previously noted, evidence-based practice requires the adroit application of practice experience in conjunction with demonstrably effective practice interventions—neither one alone is sufficient. However, given the extraordinary variety of interventions currently available to practitioners, we believe that we are ethically obliged to teach those that have best survived rigorous empirical testing.

Schools of social work developing evidence-based practice curricula will need to carefully consider service issues relating to field education. Field education, of course, plays a crucial role in helping social work students learn to apply practice knowledge in actual practice settings. As a school, one question we are currently struggling with is how best to interact with agencies that do not promote evidence-based practice. A companion concern involves how to interact most productively with agencies that allow their employees to use scientifically discredited practice approaches. At our school, we decided that students should be responsible, at a minimum, for evaluating the evidence base of the interventions used most frequently at their field placements. We have incorporated this expectation as a foundation-level educational outcome. We continue to debate whether it is reasonable to expect every student to engage in evidence-based practice in his or her concentration field placements. Ideally, we would like our students to gain field experience with the evidence-based interventions they are taught in their concentration practice methods courses and with the specific techniques of evidence-based practice described below. Thus, as a school we continue to consider how best to actively encourage our field sites to move toward evidence-based practice.

Schools of social work have typically, and justifiably, regarded their field instructors as practice experts. To move away from that assumption might compromise relationships with agencies that are valued by the school and its students. At this early point in our efforts to implement these sweeping curriculum changes, we have decided to address these questions through our community advising bodies—the Practicum Advisory Board, Dean's

Advisory Board, and Concentration Advisory Boards—to seek additional input from the community before we proceed. Several faculty members also have suggested that our school provide institutional support for agencies interested in evidence-based practice including access to libraries of practice guidelines and treatment manuals, computerized bibliographic databases, and article acquisition services.

Adapting evidence-based interventions. We believe that we must not only teach our students evidence-based interventions but also address the many factors that can facilitate or hinder their implementation. Given the current state of our professional knowledge, social workers will not consistently find interventions that have been empirically tested with exactly the same populations or problems that practitioners encounter in real-world settings. Rather than continuously developing new interventions for each new practice setting or population, we believe that social workers should first consider adapting existing interventions with strong empirical support for use at their agencies. Decisions as to how best to adapt promising interventions for specific new applications should be made with due deliberation. To that end, students in concentration-level practice methods courses will be provided with opportunities in class and as part of their course assignments to adapt existing practice guidelines and treatment manuals for use with specific populations and agencies and under specific agency constraints. As part of this exercise, students will consider and address potential barriers to treatment fidelity and agency responses that might encourage fidelity.

Evaluating practice. Most schools of social work already teach their students how to evaluate their own practice, as this currently is a Council on Social Work Education requirement. We found no need to alter our existing content addressing evaluation.

Teaching students the skills to use evidence-based methods on a real-time basis over the course of their practice careers. Social workers frequently encounter practice problems that test the limits of their professional preparation. Even well-trained practitioners operating in relatively confined practice areas often find that their knowledge and skills are no longer state-of-the-art within a few years of graduation. Given the increasingly rapid rate of knowledge accumulation in social work and related fields, the diversity of social problems that practitioners regularly confront, and the emergence of new practice issues and methods on an ongoing basis, student practitioners should be provided with the skills they need to remain current with the best available practice methods. Consistent with recent formulations of evidence-based

practice, we decided that students graduating from our school should be able to define their information needs as they arise throughout their practice careers, and identify, appraise, and apply relevant research findings to their practice efforts (Cournoyer & Powers, in press; Geyman, Deyo, & Ramsey, 2000; Gray, 1997; Sackett et al., 1997). Each of these respective skills is briefly discussed in the following paragraphs.

Defining practice questions. Practitioners working with individual clients and larger systems commonly confront circumstances that raise challenging questions about appropriate professional intervention. Most practice questions arise in association with the core concerns of professional practice: problem etiology (what are the distal and proximal causes of the practice problem), assessment (what modes of assessment are available and how comprehensive, reliable, valid, sensitive, specific, and costly are they), prevention (how effectively and by which means can the conditions that give rise to the practice problem be modified), and amelioration (which policy or practice intervention most effectively addresses the problem and is most cost-effective).

A recent class session led by one of the authors exemplified the kinds of questions that are often raised by students in relation to a relatively standard practice situation. A videotaped, semistructured interview of a middle-age man revealed long-standing alcohol dependence of early onset in conjunction with a history of episodic violence and symptoms suggestive of major depression. Although many of the students obviously found the taped interview stimulating, the questions they raised with regard to the case were non-specific; a few wanted to know how one “works” with clients “like that,” whereas others had somewhat more specific queries (e.g., What “role” should antidepressant medication play in the treatment of depressed alcoholics?). The imprecise and poorly operationalized nature of the students’ questions did not lend themselves well to specific, evidence-based responses from their instructor. Nor would such vague inquiries serve student or professional practitioners well if they turned to the scientific literature for answers. Students in the class were then helped to build practice questions regarding the case that included detailed descriptions of the population to which the client belonged (i.e., depressed male alcoholics with a history of depression and violence), a specific description of the particular practice issue for which information was being sought (e.g., assessment, treatment), the professional intervention(s) under consideration, and the outcome(s) of interest. Using this approach, students were able to construct relatively precise questions addressing issues related to assessment, prognosis, and treatment that lent

themselves well to computerized bibliographic literature searching of relevant scientific databases.

With a modicum of effort, students can be taught to build practice questions that are specific, well operationalized, and “answerable.” Although the previous example draws from micro practice, effective problem definition is equally important to evidence-based mezzo and macro practice, where clear descriptions of the population(s) or problem(s) of interest, policy or other practice interventions under consideration, and outcomes are essential.

Locating relevant evidence. Once an important practice question has been formulated, the practitioner must then select from a host of potential information sources those that he or she believes will yield the most useful and valid information. Among the many information sources that student practitioners should gain familiarity with are computerized bibliographic databases related to their practice areas, codified practice guidelines and “consensus statements,” systematic reviews (such as those published by the Cochrane and Campbell Collaborations—see Howard & Jenson, in press), CD-ROM and Web-based literature digests, newsletters reporting digests of important clinical and policy studies, and evidence-based practice textbooks (e.g., Corcoran, 2000; Davies et al., 2000; Hester & Miller, 1995).

Social work schools have generally devoted little, if any, formal attention to teaching students the knowledge and skills they need to identify and effectively search the many available sources of practice-relevant information. In part, no doubt, this failure is attributable to the relatively recent dawning of the information age in science in general and to the poor training that most professionals have received with regard to computer- and Web-based literature searching. Continued neglect of didactic efforts in this area will seriously hinder efforts to promote evidence-based practice.

Training in computerized bibliographic literature searching is essential to professional-level social work research and practice but poses a number of potential problems. First, is the sheer abundance of such databases. The National Library of Medicine itself includes more than 40 searchable databases potentially relevant to social work practice. Among the other databases relevant to micro, mezzo, and macro practice are Anthropological Index, Anthropology Review Database, BasicBIOSIS, Biology Digest, Columbia International Affairs Online, Congressional Universe, Contemporary Women’s Issues, DataTimes, EconLit, Education Abstracts, ERIC, Ethnic Newswatch, FactSearch, FedStats, GenderWatch, Health Reference Center, Medline, PsychInfo, PubScience, Social Science Abstracts, Social Science Citation Index, Social Work Abstracts, Statistical Universe, U.S. Government Periodicals, and WorldScope.

Many of the bibliographic databases listed previously cover unique data sources and require that users be trained in specific search languages and strategies. Student practitioners should receive application-level training in the use of the bibliographic databases that they are likely to find most useful in their future practice endeavors. Specific techniques for database searching supportive of evidence-based practice are described elsewhere and are beyond the scope of this discussion (cf. Sackett et al., 1997, pp. 37-78; Safranek & Dodson, 2000).

Practice guidelines—codified recommendations for practitioner responses to given practice problems—are another source of evidence-based practice guidance that student practitioners should be exposed to over the course of their professional education. More than 25,000 guidelines can be found in online, CD-ROM, and print formats, many of which are pertinent to social work practice (Howard & Jenson, 1999b, in press). Treatment manuals are additional sources for evidence-based practice guidance that students should become familiar with using (Fraser, in press).

Critically appraising evidence. Although skillfully constructed practice questions and adept literature identification and searching are key and readily acquired components of evidence-based practice, they are of little use in the absence of some sophistication vis-à-vis evidence appraisal. Given that only a small fraction of the empirical studies published in most practice areas are useful to practitioners due to their methodological shortcomings and limited generalizability, practitioners operating from an evidence-based perspective must be able to discern valid and applicable findings from their less useful, and even misleading, counterparts (Begg, Cho, & Eastwood, 1996; Sonis & Jones, 1994). Several useful guides have been published to help practitioners quickly assess the quality of the evidence they find. For example, Gray (1997, pp. 69-102) included helpful checklists for practitioners who were interested in evaluating the validity and pertinence of findings from observational, meta-analytic, survey, cohort, case-control, decision-analysis, qualitative, and randomized controlled evaluations. Sackett et al. (1997) and Miser (2000) also published compact guides to critical appraisal that systematically address the questions that practitioners should raise with regard to validity, generalizability, and importance when they are reading evidence reports with direct practice implications. Assessing the applicability of the identified evidence to a specific practice question involves systematically examining the extent to which the findings of an individual study or set of studies can be “particularized” to the given client, family, organization, or other system problem under consideration (Sackett et al., 1997). At a minimum, as previously discussed, professional social work education should educate

practitioners about the many types of research studies that are commonly conducted and their strengths and limitations, and the methods for quickly ascertaining the validity of their findings and applicability to the particular practice questions of concern.

Once the practice question has been appropriately defined, the relevant information sources identified and searched, and the yield of findings appraised for their utility, the practitioner must then decide whether the search has been successful. Occasionally, further evaluation of a practice question or consultation with additional information sources is required to satisfy practice information needs. With practice, less time is needed to formulate searchable questions, and greater familiarity with useful information sources is achieved. Nonetheless, new questions must sometimes be formulated and occasionally even a well-constructed search will yield little that is useful, if anything. It is important in these circumstances that service consumers be clearly informed that relevant empirical findings are not available on which to base practice judgments.

POTENTIAL LIMITATIONS OF EVIDENCE-BASED PRACTICE

Evidence-based practice offers a promising new premise for social work professional education. However, several important issues and general concerns must be addressed before an evidence-based practice curriculum can be successfully implemented.

One potential drawback of evidence-based practice may be its limited appeal to students. It is possible that evidence-based practice is an approach that will prove difficult for social work students to accept, particularly those interested in direct practice—a core constituent group in most social work programs. Conventional wisdom suggests that most direct-practice students view their research methods course requirement as perhaps the most significant hurdle they encounter in completing their degrees. Asking students to embrace a curriculum that highlights the analysis and application of practice-relevant research might risk alienating some current and future students.

A central concern in developing an evidence-based practice approach is the widespread view that there is little evidence available on which to establish an evidence-based practice curriculum. One senior faculty member observed, during an early formative discussion, “If we teach only those methods with evidence supporting their use, we will have some short classes!” In some areas, substantial evidence exists on which to develop practice course work. For example, group work is built on a solid foundation of techniques

tested with small group behavioral research and includes a variety of empirically tested models (cf. Pollio, Brower, & Galinsky, 2000, for a review). Even in this area, however, considerable gaps exist in the evidence.

Criticism emphasizing the limited body of scientific findings on which to develop an evidence-based practice approach highlights an interesting current tension in social work and other practice professions. Specifically, evidence-based practice appears to incorporate two separate tracks of knowledge development. The first track is the increasing focus on the development of practice guidelines both within social work and across all helping professions (Howard & Jenson, 1999a, 1999b, in press). This research track is extremely useful in that it allows social workers to use available evidence in making treatment decisions for specific problems, such as depression. In this vein, Thyer (2002, in press) has argued compellingly for the establishment of problem-specific, rather than profession-specific, knowledge and practice guidelines. Social work should, from this perspective, take full advantage of all practice-relevant research findings, systematic reviews, and practice guidelines irrespective of their disciplinary and professional origins. However, this track of knowledge development is largely occurring outside of social work; thus, the guidelines are based on other professions' ethics and values and might therefore be of limited use to social workers. Furthermore, guidelines of this type tend to be organized around single issues or diagnoses, ignoring the multisystemic approach that lies at the core of social work.

The second track is the development of greater primary evidence on which to base practice guidelines and an evidence-based practice curricula. This includes examination of the efficacy and effectiveness of specific practice techniques and intervention approaches, and the development of new interventions for diverse client populations. Within social work, empirical work in relation to this second research track appears to be progressing steadily. Development of an evidence-based practice approach, such as that described herein, appears possible given the growing body of evidence in social work and related fields, but continued refinement of the evidence-based practice concept rests primarily on this track of research, which suggests that the full emergence of evidence-based practice may proceed at a frustratingly slow pace.

Misconceptions about evidence-based practice, including the criticisms that it (a) is what we have always done, (b) will replace or seeks to replace practitioner judgment, (c) leads to "cookbook" practice, and (d) requires too much time to be routinely employed in real-life practice settings also might militate against widespread adoption of evidence-based practice (Sackett et al., 1997). The position that evidence-based practice is what social work has always done is undermined by findings that social workers, to date, have

not routinely referred to scientific findings in making their practice decisions (Mullen & Bacon, in press; Rosen et al., 1995). Moreover, even the most committed proponents of evidence-based practice agree that it never will, nor should, replace practitioner judgment because the quality of the identified primary or secondary evidence and its pertinence to the particular client or practice problem of concern must always be determined by a skilled practitioner. The diversity of practice problems and their unique presentations, and the notable gaps in the research literature ensures that practice expertise will always be required to integrate available evidence with informed practitioner judgment and service consumers' wishes. Evidence and practitioner judgment inform one another. Sackett et al. (1997) noted that practice can be tyrannized by external evidence when it is applied without practice expertise, because even rigorous and compelling evidence may be inapplicable to an individual client or inconsistent with their goals. However, without current best evidence, practice rapidly becomes outdated, much to the detriment of our clients. Similar observations hold for mezzo- and macro-practice contexts in social work, where an amalgam of informed practitioner judgment and pertinent evidence of high quality leads to outcomes that best serve the recipients of social services and those who are affected by social policies. Evidence-based practice should never lead to cookbook or formulaic practice, because effective social interventions require that practitioners integrate their professional understandings of focal practice situations with recommendations derived from the best external evidence and service consumers' preferences.

Evidence-based practice could potentially constitute a significant additional time burden to the practitioner, but the emergence of codified practice guidelines, convenient digests of practice-relevant research, structured abstract formats, Web-based practice guidelines, and related developments have reduced the temporal costs of evidence-based practice to practitioners. Moreover, reductions in practitioner uncertainty vis-à-vis assessment and intervention decisions and improved intervention effectiveness should, themselves, eventually yield time-savings. We concur with Cournoyer and Powers (in press) that "effective service is much more efficient than ineffective service" and that "the knowledge gained in becoming 'evidence-based' for one client typically becomes applicable to others within a cluster."

Finally, we believe that many schools interested in evidence-based practice might want to pair this approach with an overarching principle or approach to social work practice, ideally one that is plainly consistent with and expressive of social work's values, ethics, and history, to further guide students and clients in their choice of interventions. At our school, for example, we have chosen to pair evidence-based practice with a capacity-building

approach to social work practice. In pairing this philosophical conceptualization with evidence-based practice, we have chosen an organizing principle around which to present the practice evidence and to develop our curriculum. Certainly, many other practice philosophies could be appropriately paired with evidence-based practice curriculum design.

FUTURE HOPES FOR EVIDENCE-BASED PRACTICE IN SOCIAL WORK

Evidence-based practice is new paradigm for social work professional education and practice that should improve the quality of care social workers provide and help them to remain current with research-based practice developments over the course of their professional careers, and thereby enhance the credibility of the profession. Widespread instruction of student practitioners in skills essential to evidence-based practice also would position the profession well to capitalize on the explosive growth of practice research that will occur during the 21st century. Failure to adopt more scientifically sound practice methods and evidence-based instructional approaches, in the face of a burgeoning database of relevant empirical findings, might eventually marginalize social work itself, and relegate our service customers to substandard professional interventions. Furthermore, we believe that evidence-based professional education can help the profession better realize its social justice ideals. Of course, only rigorous empirical testing can determine whether students trained to practice in consonance with the best empirical evidence actually do so and provide consumers with services that are superior to those provided by social workers adopting other practice approaches. It also is important that social work educators examine current research findings pertaining to the issue of how people best learn and ensure that their instructional efforts fully exemplify these methods.

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