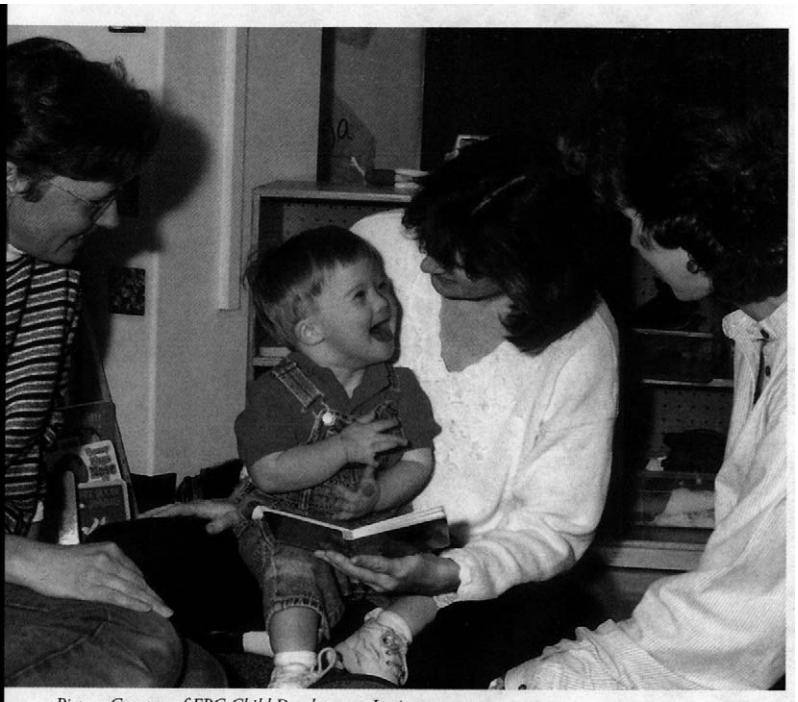

Picture Courtesy of FPG Child Development Institute

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Evidence-Based Practice: What Does It Really Mean for the Early Childhood Field?

In recent years, the words *evidence-based* practice have become part of our everyday vocabulary in the early childhood field. The growing use of this phrase in everything from professional conference presentations and Web sites to journal articles and grant announcements suggests that there are definitive answers to a host of complex practice-related issues. Most would agree in principle that all early childhood professionals should rely on evidence to make important decisions about how services and supports should be provided to young children and their families. Practitioners need valid evidence to help them address the needs and priorities of children and families and to resolve specific practice dilemmas. Researchers rely on evidence to formulate their research questions and to interpret their findings. Policy makers must consider evidence on the effectiveness of specific interventions and programs to make sound policy decisions and to allocate scarce resources.

But what does evidence-based practice mean? How is evidence-based practice different from recommended practices? How did the evidence-based practice movement emerge? What precisely does it mean for the early childhood field? The purpose of this article is to address these questions. We begin with a proposed definition of evidence-based practice and then contrast evidence-based practice with the Division of Early Childhood (DEC) Recommended Practices (Sandall, Hemmeter, Smith, & McLean, 2005). Next, we examine the origins of evidence-based practice in medicine and education. Finally, we discuss some of the key implications of the evidence-based practice movement for the early childhood field.

What Is Evidence-Based Practice?

The early childhood field has not reached consensus on a definition of the term *evidence-based practice*; however, most would agree that a clearer understanding of the term is needed. A recent report of the National Research Council Committee on Research in Education (2005) concluded that the push to use evidence to make informed practice decisions is expected to have a significant impact on virtually everything we do—from conducting research, to making public policy, to providing services to young children and families. In a forthcoming volume, we propose the following definition of evidence-based practice for the early childhood field: a decision-making process that integrates the best available research evidence with family and professional wisdom and values (Buysse & Wesley, 2006a; Snyder, 2006; Winton, in press). The proposed definition for the early childhood field was based on the definition used for evidence-based medicine: "the integration of best research evidence with clinical expertise and patient values" (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000, p. 1).

A key aspect of the proposed definition for early childhood professionals and what represents the most dramatic shift from previous thinking is the notion that evidence-based practice is essentially a process or a way of empowering professionals and families to integrate various sources of knowledge to make informed decisions that directly benefit young children and families. The proposed definition recognizes that knowledge can be represented in multiple forms. Although research knowledge is a key foundation on which to build a knowledge base, a number of scholars have suggested that more emphasis be given to professional wisdom, that is, a particular type of knowledge that is based on experiential learning and situated in practice (Hiebert, Gallimore, & Stigler, 2002). Furthermore, it is generally accepted that wisdom is influenced heavily by one's personal and professional beliefs and values and by those of the families and communities served in early childhood programs (Eastabrooks, 1998; Gallagher, 1998; Hiebert et al., 2002).

Evidence-based practice is essentially a process or a way of empowering professionals and families to integrate various sources of knowledge to make informed decisions that directly benefit young children and families.

How Does Evidence-Based Practice Differ From Recommended Practices?

Several features distinguish evidence-based practice from practice guidelines or lists of recommended practices (Snyder, 2006). First, evidence-based practice refers to a process by which family members and professionals can make informed practice decisions, whereas practice guidelines or recommended practices are tangible products consisting of written recommendations. Second, evidence-based practice requires attention to local circumstances, consumer values, and knowledge about individual children and families. Recommended practices or practice guidelines offer general guidance that might not be appropriate in all circumstances. The DEC Recommended Practices were developed through a process that

Table 1
Terms Related to Evidence-Based Practice

Term	Key Components
Evidence Based	• A process for making decisions • Integration of best available research with professional and family wisdom and values
Research Based	• Associated with the best available research component of evidence-based practice
Empirically Based	• Associated with the best available research component of evidence-based practice
Scientifically Based	• Associated with the best available research component of evidence-based practice • Applies the highest standards of scientific rigor
Recommended Practices[a]	• Systematically promulgated lists of practices or treatment protocols based on scientific and experiential knowledge • Designed to help make practice decisions
Clinical Practice Standards/ Guidelines	• Systematically promulgated lists of practices or treatment protocols based on scientific and experiential knowledge • Designed to help make practice decisions under specific circumstances
Developmentally Appropriate Practices	• Broad-based practice guidelines or philosophical statements that reflect what is known about children's development and learning, their individual characteristics, and their social and cultural contexts

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[a] The term *best practices* is sometimes used to refer to *recommended practices*, but because practices continue to evolve as new evidence is found to support or refute them, the term *recommended practices* is preferable.

included examination of empirical research, the experiences and values of stakeholders, and validation from the field about practices recommended for use with young children with disabilities, their families, and the personnel who serve them (Smith, McLean, Sandall, Snyder, & Ramsey, 2005). Thus, the DEC Recommended Practices represent one tangible source of evidence that might be used in making evidence-based practice decisions.

Currently, confusion exists about the term *evidence-based practice* and how this term differs from other terms such as *research based* or *scientifically based*. *Table 1* provides the key components of terms that are being used in conjunction with the evidence-based practice movement.

How Did the Evidence-Based Practice Movement Emerge?

Evidence-based practice in education and the early childhood field can be traced back to (a) its origins medicine, (b) the gap between research and practice, and (c) the standards and accountability movement.

Evidence-Based Medicine

Evidence-based medicine (EBM) emphasizes the need for practitioners to understand certain rules of evidence to correctly interpret and apply research findings on causation, diagnosis, and treatment (Sackett et

al., 2000). Health care professionals who follow EBM guidelines are expected to make an independent assessment of the evidence by conducting a search of the literature, selecting the most relevant studies, and applying rules of evidence to determine their validity. In addition to research evidence, health care professionals are expected to rely on clinical judgment and patient values to make decisions about applying specific treatments to individual patients.

The Gap Between Research and Practice

The origins of evidence-based practice in early childhood also can be found in the long-standing gap between research and practice. The problem can be summed up as one in which practitioners do not turn routinely to research knowledge to solve practice dilemmas, nor do researchers routinely pose questions or produce findings that are relevant and useful to consumers (Hood, 2002). One way in which the evidence-based practice movement has attempted to bridge this gap is by involving consumers of research (i.e., families and practitioners) in building the evidence base. Although it is not yet clear how consumer perspectives can inform a scientific process, communities of practice offer one promising approach for engaging stakeholders in generating, sharing, and supporting knowledge utilization in the early childhood field (Wesley & Buysse, 2006).

Table 2
Federal Legislation Influencing the Standards and Accountability Movement

1. Government Performance and Results Act of 1993
   - Mandated each federal agency to identify goals and indicators for all of its programs and services
2. Improving America's School Act of 1994
   - Promoted high standards for all children
   - Required statewide assessments to measure student progress in reading and math
3. Head Start Act of 1998
   - Required all Head Start programs to collect data on child outcomes
   - Resulted in the Head Start Child Outcomes Framework: 100 indicators of what children should know and be able to do
4. No Child Left Behind Act of 2001
   - Requires annual yearly progress for all students in grades 3 to 8 with reading and math scores broken out by poverty, race, ethnicity, disability, and limited English proficiency
   - Requires highly qualified teachers
   - Makes major investments in early reading and literacy (including prekindergarten initiatives)
   - Promotes scientifically based research
5. Good Start, Grow Smart Initiative (2002)
   - Proposed that states develop voluntary guidelines for early childhood programs on prereading and language skills that align with K-12 standards
   - Proposed that Head Start develop standards of learning in early literacy, language, and numeracy
   - Provided resources to identify effective prereading and language curricula and teaching strategies
6. Education Sciences Reform Act of 2002
   - Reorganized the U.S. Department of Education to establish the role of the Institute of Education Sciences

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The evidence-based practice movement in early childhood is at an early stage of development, and there are many issues that must be addressed before it can be implemented fully.

The Standards and Accountability Movement

The standards and accountability movement in education is yet another influence that has paved the way for evidence-based practice in the early childhood field. A focus on what works has created a new demand to demonstrate the direct causal linkages between specific interventions and children's progress in learning and development (with far less attention given to family experiences and outcomes; Buysse & Wesley, 2006b). *Table 2* lists some of the key policies and legislation that have defined the standards movement, the primary goal of which is to create measurable standards that set high expectations for all children, including those enrolled in early education and intervention programs.

Table 3
Steps in Practicing Evidence-Based Medicine

1. Convert the need for information into an answerable question.
2. Track down the best available research evidence to answer the question.
3. Appraise the evidence for quality and for relevance to the research question.
4. Integrate the appraisal with clinical expertise and the patient's unique circumstances and values.
5. Evaluate effectiveness of Steps 1 to 4.

Adapted from Sackett et al. (2000).

How Will Evidence-Based Practice Affect the Early Childhood Field?

What guidance can we offer professionals who desire to implement evidence-based practice in their daily work? The evidence-based practice movement in early childhood is at an early stage of development, and there are many issues that must be addressed before it can be implemented fully. At a minimum, however, adopting an evidence-based practice approach will require that the following components be put into place. First, practitioners will need research-based information that is widely available and accessible in different formats and that responds to immediate problems of practice. Second, practitioners will need to become critical consumers of research. This will involve acquiring the knowledge and skills to search, appraise, and interpret the research evidence as well as understanding knowledge from research syntheses. Third, practitioners will need to integrate the research evidence with the field's collective wisdom and values. Fourth, practitioners will need to apply this information to make practice decisions that are tailored to the needs and priorities of individual children and families.

To begin to understand how decisions are made from an evidence-

based perspective, it is helpful to look at the steps in practicing evidence-based medicine. *Table 3* summarizes the five-step process used by medical and health care professionals who practice EBM (Sacket et al., 2000).

We still have much to learn about how the five-step process in medicine could apply to practice decisions made by early childhood professionals; however, the following vignette can be used to examine how an evidence-based practice approach might be used to address issues of practice in which various forms of evidence must be integrated. Consider the situation described below in which a service coordinator must decide whether hippotherapy, a therapeutic form of horseback riding, is an effective practice for a 2½-year-old boy with cerebral palsy.

Margarita is thrilled by her son Juan's reaction to the six therapeutic horseback riding sessions he has had at a local stable. The hippotherapy program is operated by a licensed physical therapist (PT). Juan, who is 2½ years old and has motor challenges as a result of cerebral palsy, loves going to the sessions. Margarita says that she can tell the difference in his balance and posture after each session. His new-found interest in horses has also motivated him to communicate more with others. In addition to the hippotherapy, Juan also receives 2 hours of occupational therapy and 1 hour of physical therapy each week. The horseback riding sessions are very expensive, and money is tight for Juan's family. Margarita has asked the service coordinator if the horseback riding sessions can be written into Juan's individual family service plan. The service coordinator must make a recommendation, but first she needs more information about whether hippotherapy is an effective practice for young children like Juan.

An evidence-based approach to addressing this practice dilemma would require that the service coordinator consider the following sources of evidence: (a) the best available research evidence on the effectiveness of hippotherapy for young children, (b) her professional wisdom and values about the use of hippotherapy (obtained primarily through observation, reflection, experience, and consensus), and (c) the family's beliefs, values, and priorities regarding hippotherapy (obtained through both formal and informal methods). In addition to these sources of evidence, the service coordinator should consider what

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Table 4
Web Resources on Early Childhood Intervention Research Evidence

The What Works Clearinghouse
The official U.S. Department of Education's Web site for finding information on scientifically based educational practices. Research studies that meet quality standards are synthesized and distilled into reports, which are shared on the Web site. Unfortunately, the clearinghouse has no early childhood syntheses at this point in time.
http://w-w-c.org/

The Campbell Collaboration (C2)
C2 is an international nonprofit organization that prepares, maintains, and disseminates systematic reviews of studies of interventions focusing on social, behavioral, and educational topics. The C2 links to the Database of Abstracts of Reviews of Effects (DARE) of the Centre for Reviews and Dissemination. DARE contains summaries of systematic reviews that have met strict quality criteria (i.e., random assignment of study participants to controlled trials or consensus among experienced experts in the field). Each summary provides a critical commentary on the quality of the review.
http://www.campbellcollaboration.org/

Center for Evidence-Based Practice: Young Children With Challenging Behavior
This center has produced a synthesis document on the current state of knowledge related to specific interventions for children with challenging behavior. Five categories of intervention were reviewed: social and emotional learning programs, classroom preventive strategies, applied behavior analysis interventions to promote social interactions, stimulant medication use, and positive behavior support. Nine criteria (e.g., treatment fidelity, treatment generalization, social validity, and so on) were used to judge the confidence with which an intervention could be deemed effective. The report includes confidence ratings for each of the categories of interventions.
http://challengingbehavior.fmhi.usf.edu/index.html

Center on the Social and Emotional Foundations for Early Learning
The center at the University of Illinois at Urbana-Champaign publishes *What Works Briefs* that are summaries of effectives practices for supporting children's social-emotional development and preventing challenging behaviors. The briefs describe practical strategies and provide references to more information about the practice. They do not explicitly state the standards of evidence they use for including research studies in their syntheses. Nor do they appraise the quality of the research design. However, they do report on the kinds of children and settings that were studied in the research they synthesize.
http://csefel.uiuc.edu/

she knows about Juan (e.g., his age, interests, strengths, needs) and local contextual factors such as available and permissible service delivery options. These are some of the key factors that might come into play in making a decision to recommend the use of hippotherapy for Juan and his family.

To find the best available research evidence on the effectiveness of hippotherapy, the service coordinator might consult the research synthesis by Rolandelli and Dunst (2003; available electronically from http://www.researchtopractice.info/). From this synthesis, the service coordinator would learn that the necessary evidence to support claims of the effectiveness of hippotherapy does not exist, particularly for very young children like Juan who are younger than 3 years old.

Because this is a situation in which conventional wisdom conflicts with science, the service coordinator must carefully weigh the research evidence against each of the other sources of evidence (e.g., Juan's characteristics, needs, and responses to hippotherapy; family and professional wisdom and values; the local context). The service coordinator also might consult the DEC Recommended Practices as another source of evidence. She would find that several practice guidelines apply in this situation. These include two of the recommended practices that state,

"C8: A variety of appropriate settings and naturally occurring activities are used to facilitate children's learning and development" and "C9: Services are provided in natural learning environments as appropriate. These include places in which typical children participate such as the home or community settings" (Sandall et al., 2005, p. 81).

It is important to note that evidence-based practice can help the service coordinator consider each of the various sources of evidence, but it cannot help her decide how to weigh the evidence or how to integrate these sources in a way that points to a specific action. To resolve this practice dilemma, the service coordinator must rely on her judgment and the ability to think critically to make an informed practice recommendation that leads to the best possible outcomes for Juan and his family. *Figure 1* displays a conceptual framework to help early childhood professionals think about how to apply evidence to make informed practice decisions (Buysse & Wesley, 2006b).

A number of Web-based initiatives aimed at organizing and translating research-based knowledge now exist to assist early childhood professionals who wish to engage in evidence-based practice (Winton, in press). *Table 4* lists some of these Web sites. It is important to note that these initiatives have adopted

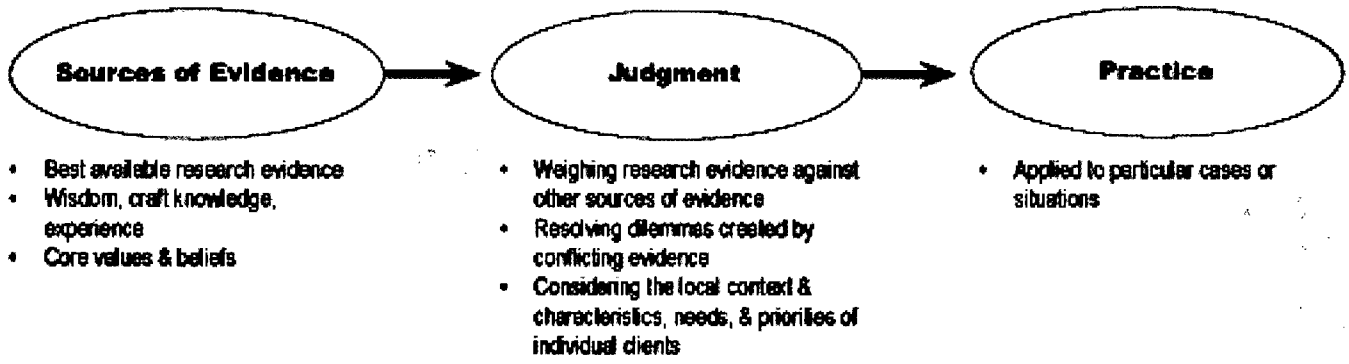
Table 4
continued

Research and Training Center on Early Childhood Development, Center for Evidence-Based Practices
The center at the Puckett Institute has produced a number of documents and research-based syntheses focused on various intervention approaches or practices in 11 domains in the area of early childhood. They include documents at different levels of technical detail and conceptual focus. The standards of evidence used are somewhat different than those used by the U.S. Department of Education *What Works Clearinghouse*, which appraises the quality of a study's research design. The approach taken to evaluating standards of evidence is to examine the relationships between interventions or practices and outcomes and evaluate research on the basis of the strength of those relationships.
http://www.researchtopractice.info/

The Pathways Mapping Initiative
Has a wide array of information from a variety of sources organized in terms of two broad areas: school readiness and family economic success. Within each of these areas, information is provided on goals or intended outcomes, actions that can be taken locally to contribute to outcomes, ingredients of effectiveness, indicators of progress, rationale, evidence, and examples related to actions. Policy makers, intervention planners, administrators, and grant writers are likely to find this Web site helpful, whereas practitioners seeking succinct information on effective classroom strategies might be less likely to find this Web site helpful.
http://www.pathwaystooutcomes.org/

The Promising Practices Network
This Web site summarizes research and is a repository for reports that highlight programs and practices that research indicates are effective in improving outcomes for children, youth, and families. There is no mention of criteria or standards used for appraising the quality of the research. The information offered is organized around three major areas: proven and promising programs, research in brief, and strengthening service delivery. The information pertains to children from the prenatal period to age 18, as well as to the families and communities in which they live.
http://www.promisingpractices.net/

Figure 1.
A Proposed Model for Applying Evidence to Inform Practice Decisions



As we move forward, it will be necessary to shift the focus from gathering and appraising the evidence to helping consumers implement this knowledge in their practice.

different areas of emphasis (e.g., interventions for children with disabilities, child care quality, social-emotional development), employ different standards of evidence or research appraisal systems, and use different methods of producing research synthesis products. Some of these Web-based initiatives are time limited and funded through grants from governmental or private organizations. Although the systematic dissemination of what is known in the early childhood field is a worthwhile goal, more attention must be given in the future to coordinating these efforts and offering guidance and support to consumers about how to utilize the knowledge from research syntheses available on these sites.

Conclusion

We have entered a new era of evidence that demands that we substantiate our claims about which services and supports should be provided to children and families. Becoming an evidence-based field will require that professionals pose questions to make decisions about everything we do on behalf of young children and families including which interventions and services to use, what levels of services to provide, who should provide the services, how progress will be monitored, whether the hoped-for results are reasonable and measurable, and how to involve consumers in generating knowledge that is relevant to practice (Gambrill, 2000). Despite the challenges in adopting an evidence-based practice approach to our work, there is little doubt that this movement has responded to some of our most significant problems by promoting the systematic dissemination of what is known, by drawing attention to the need for more scientific rigor, and by advocating for increased participation among consumers in establishing the evidence base (Trinder, 2000). As we move forward, it will be necessary to shift the focus from gathering and appraising the evidence to helping consumers implement this knowledge in their practice.

Note

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